



2021 Pilot of

# GENERAL EDUCATION CERTIFICATE

Manual



basic education  
Department:  
Basic Education  
REPUBLIC OF SOUTH AFRICA

  
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CONSULTANCY



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# DAY 1

## I CARE about the FUTURE of our STUDENTS

I WANT MY STUDENTS  
to be **ENTREPRENEURIALS**



I AM A **WOKE** E<sup>3</sup>  
TRIBE MEMBER



I CARE THAT MY  
STUDENTS ARE  
**ENGAGED**



I GUIDE MY STUDENTS  
TOWARDS THEIR  
**COMPELLING GOAL**

I EQUIP MY STUDENTS  
WITH APPROPRIATE  
**TOOLS & METHODS**



I AM A FUTURE  
**PROOFER**



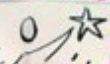
I CARE THAT MY STUDENTS  
SHOULD BE  
**EMPLOYABLE**



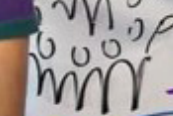
I DESIGN STIMULATING  
**LEARNING EXPERIENCES**



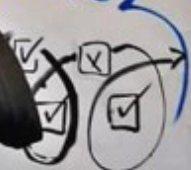
I AM PREPARING  
MY STUDENTS to be  
**ENGAGED in LIFE**



I CREATE  
**POSITIVE  
LEARNING  
SPACES**



I ENCOURAGE MY  
STUDENTS to **GET  
THINGS WRONG**



# 1. Who am I, where am I going and where do I come from?

## 1.1 Who am I?

All of us strive to make our mark on the world and want to feel that our lives are worthwhile. The work we do is a critical component of our legacy. If we believe that our work has meaning and that we are valued for what we do, this encourages us to remain involved and to seek the next level of achievement. This is also true of our learners, and as the GEC year will be for many a life-changing year, we need to ensure that they also feel acknowledged and to encourage them to acknowledge their education and the important decision they will be taking as they possibly consider new career pathways.

According to Dr Roger Martin of the Rotman School of Business in Canada: there are three drivers of teacher /employee happiness (see the image below): they are a valued member of the teaching community, they themselves value and are proud of being part of the teacher community and the education community is valued by broader society. Happy teachers are more motivated, productive and committed.

## GO TO ACTIVITY 1 THE TRIOLOGY OF HAPPINESS



"Teaching is at its core a moral profession. Scratch a teacher and you will find a moral purpose."



## 1.2 The unemployment crisis and E<sup>3</sup>'s compelling goal

As we know, very depressingly, South Africa has an enormous employment crisis with large numbers of people unemployed, resulting in our country being labelled as the most unequal society in the world. Even more distressing is the fact that youth unemployment currently stands at 52.8% (and during COVID is closer to 75% for 16 to 24-year olds). This is a sad prospect for young people's future in South Africa. Schools have a massive responsibility to ensure that the time learners spend at school is a good investment in future-proofing them. Let's make sure learners spend their time at school in a relevant and productive way so that they can become successful and fulfilled citizens.

It is during these 13 years that learners have the opportunity to develop the competencies and skills that will make them an integral part of the new world, that will give them the edge over computers and enable them to develop the problem-solving skills needed to cope with any challenges that come their way.

In light of the youth unemployment crisis, we urgently need to ask if the traditional (let's call this 'chalk-and-talk') style of teaching is relevant. Is it perhaps obsolete and irrelevant? Will 13 years of traditional schooling provide learners with what they need to be employable, start their own enterprises or continue with their studies? In other words, are we future-proofing our learners?

South Africa: Youth unemployment rate from 1998 to 2018



**On the front line** WITH WARDA SALVESTER warda.salvester@ini.co.za

**SA's first Youth Café opens on Cape Flats**

**KEEP BUSY WHILE LOOKING FOR JOB**

**BEING YOUR OWN BOSS**

**JOBLESS YOUTHS ARE LOSING HOPE**

**Mzansi ranked third in world for unemployed youngsters**

**HELPLINES**

## 2. A changing world

### 2.1 A changing world

The Fourth Industrial Revolution (4IR), Artificial Intelligence (AI), catastrophic weather conditions resulting from climate change, and epidemics and pandemics such as Covid-19, have resulted in our world changing at a quicker pace than ever before. There is much uncertainty in our lives, but what is certain is that our children will enter a post-school world that will be very different from ours. In order to cope in this changing world and find their meaningful place in a shifting economy, they will need a different set of skills and competencies.

So what does the future look like in this changing world of ours? What we know is that we are entering, if not already in the Fourth Industrial Revolution. We also know that computers are a huge part of our lives, and that the world as we know it now, in terms of jobs and opportunities - especially for young people - will be changed dramatically by these computers.

We know that computers are already being seen as the source of all knowledge (real and fake). We assume that we can use a computer to find all that we need to know at the touch of a button. We know that computers will bring digital, physical and other systems together that will change our lives and our jobs forever. Computers will be able to do a lot, but there are things, unique to humans, that computers won't be able to do. Computers won't be able to be totally creative - they are not creative beings. They won't be able to form relationships with people and they can't perform unstructured tasks. These are the skills that will not be taken over by computers and which will open up huge opportunities for humans and keep us 'on top of the food chain.'

If we are very conscious of the things that we need and can do that give us the edge over computers, we can stay truly creative. If we can design in a creative manner, we can stay ahead of computers and enhance our creative intelligence. So, if we are to interact with this new changing world as humans, we need to enhance our creative and communicative intelligence. We need to think of ways of being more and more creative. We need to be able to strengthen our communication skills and our relationship intelligence because this is an area where computers can't compete. We need to have the skills and agility that don't necessarily follow structure because we know that computers can only operate in a structured environment. So it is important that we as teachers start to think about what this means for us personally and professionally. What does it mean to be creative, to strengthen communication skills and to have the skills and agility that do not follow structure?





## 2.2 Teachers need to adapt

21st century learners are very different. They have a different way of approaching the world: they are tech savvy, they are impatient, they want to do things. They don't just want to sit and copy from an outdated textbook. They want to be involved and engaged and they want their classroom to be fun. As teachers, we have the amazing opportunity to meet the different needs of our 21st century learners, but for this to happen, we need to be ready to embrace a more authentic way of teaching that is results driven, action-based and relevant.

Teachers need to be able to reflect on whether they are ready for what it means to prepare learners for our changing world. It is comfortable to stay in one's old way of being and it is easy to use one's old teaching notes, but let's ask ourselves what we need to do to be ready to adapt to this new classroom.

As teachers, we are in an incredibly powerful position to impact the lives of learners in a positive way. It is teachers who learners sit in front of, day after day for 13 years, so it is teachers who are the most important frontline people to become agents of change in the lives of their learners. As frontline staff, teachers need to assess their changing role in the 21st century classroom and commit to teaching differently and more effectively. This assessment and commitment may require a shift in mindset and reflection on questions such as: *Am I resilient enough to deal with the new demands of the 21st century classroom? Can I embrace the 21st century skills and competencies I need to help unlock the potential of every learner and help them thrive and become active members of the modern economy?*

We all want to see our learners have the opportunity to become either gainfully employed as entrepreneurs, be employable and find jobs, or pursue an educational journey after school – and as teachers, we are perfectly placed to make this happen.



## 2.3 What kind of learner is envisaged?

We have discussed the entrepreneurial, search and discovery, and solution-seeking mindset that is critical for success in our changing world. Although not all learners will become entrepreneurs, we should think of them all as “entrepreneurials” - a generation of young people with an opportunity-seeking mindset that drives their abilities, actions and purpose in helping others.

In order for an education system (starting at school) to develop these learners, every element of the E<sup>3</sup> approach must be unlocked. This includes the E<sup>3</sup> mindset (self-efficacy, a growth mindset, resilience, an internal locus of control and intrinsic motivation) and 21st century skills (foundational literacies, competencies and character qualities, rooted in life-long learning).

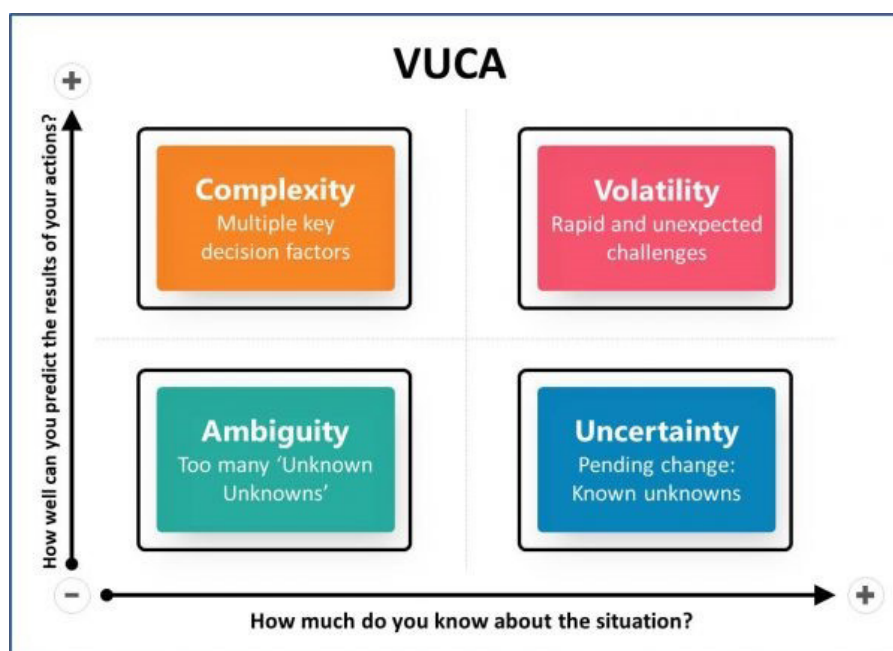
The diagram below, designed by Fadl of the CCR, unpacks the unique qualities needed by 21st century learners in order to thrive in a changing world.

E<sup>3</sup> has synthesised all of the attributes of Fadl’s model on the previous page as well as other key features identified as success factors in the 21st century in a learning model which includes the process (circle) towards achieving the E<sup>3</sup> competencies, character, thinking and connection.

Our learners are different, which means it’s time for a major overhaul of the way in which we teach. Knowledge transmitted from a textbook to a passive learner can no longer deliver good results – our learners are millennials who need to be actively engaged to thrive, and we owe them all the strategies we can offer them to flourish in a vastly different world.

### 2.3.1 Gen Z

The learners in our classrooms are mainly Generation Z (people born from the mid-1990s to the early 2000s). Their mindsets are very different from our own. In a sense, both young teachers (Generation Y) and their learners (Generation Z) are already “entrepreneurials”. Even though they will not necessarily start their own businesses, they share a common mindset. The diagram below sums up mindsets which unlock competencies for a changing world as E<sup>3</sup> has summed them up.





Let us focus on the needs of this generation so that we can understand their learning preferences. Our learners are Generation Z and we need to find a language that communicates the best with them if we are serious about facilitating a career pathway for each of our learners - a pathway that is unique to their competencies and attitudes.

### 2.3.2 What are the characteristics of GenZs?

Teachers often complain about the lack of discipline in their classes and their learners' fascination with their cell phones and subsequent loss of interest in the lesson. Younger teachers have greater tolerance for their learners' attitudes and learning styles, but without a definite plan to engage their GenZ learners, classroom time will not be productive. By focusing on the needs of Generation Z, it will become clear that a whole new approach and a break from chalk-and-talk teaching is the most efficient way to engage the learners in our classrooms.

The learners of today have certain characteristics that make them unique and there are things that excite them. Clearly, knowing what engages them is a huge advantage to caring teachers.



#### Technology

Of course they are technologically inclined! GenZs are known as neo-digital natives. The rest of us are technology immigrants! They cannot imagine a world without technology – and are not awestruck or intimidated by it.

GenZs don't use technology for the sake of using it. For them, it is simply a way to get what they want, be it information, entertainment or connection. Technology immigrants (BBTs – Born Before Technology) found friends on the playground; GenZs find them on social media sites. BBTs used libraries; GenZs use google. BBTs went shopping; GenZs shop online.

There are many, many differences between the generations that all highlight the fact that there is a poor fit between GenZs and traditional teaching. It is not possible or fair to reshape GenZs to fit an outdated educational system. What we need is to shift education so that it 'fits' and meets the needs of these young people.

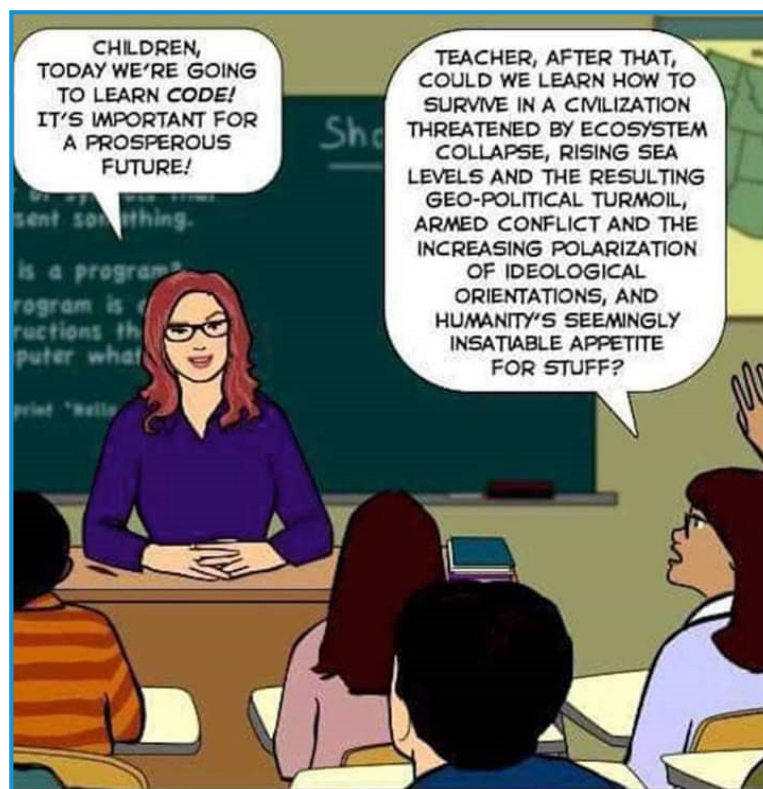
#### Multi-tasking

GenZs know no other way. On the day that they were born, they were probably filmed and pictures and announcements were sent around the world at the press of a button. This is how they were welcomed into the world. Whether multi-tasking is productive or not, which is another topic altogether, we need to accept that this is how they operate: watching TV with headphones, jamming their favourite songs, texting a friend, and telling you how their day went - all at the same time. Life happens quickly.

**What they do should matter**

Their parents tell them that they can become whatever they choose to – and they choose to do things that matter.

GenZs are often criticised for having a close-to-zero attention span, but if they are passionate about something, they can focus on it for hours. Take for example, video games - boredom is not a result of lack of attention; it is a lack of passion. If they understand the value of what they are doing, chances are they will see it through. But don't think that you can con them into "value". They are very perceptive and anything that smells of "plastic" or is fake is a certain no-go zone. They want authentic, they want real, and they want it now. It is no use telling them that they will reap the rewards of what they are doing now sometime in the future. They need to know upfront, otherwise they simply won't commit. Generation Z is passionate about a real and authentic experience, and as a generation, they are more aware of what is happening to their planet and really care about the future.

**Opinion is important**

GenZs' opinions are important. The modern learner wants and needs to be heard and their opinions matter. This goes two ways. Firstly, they want to be heard. They were not brought up with the motto - "children should be seen and not be heard" – they were encouraged to be seen AND heard. Their parents engaged them in discussion about almost everything; they were expected to express themselves. Hence the constant blogging, vlogging, uploading, updating and saying. They believe that their opinion matters and will be heard. They are master negotiators – they've been trained that way since birth. Secondly, since they get immediate feedback at home, they want it everywhere. Not many things are quite as devastating as being ignored or brushed off. They need to be heard and acknowledged. Furthermore, they are especially sensitive to the opinions of their peers.

**Please note**

*Cultural environment does play a role, however. With many young South Africans growing up with their grandmothers or non-literate parents, this may not be true in many, particularly rural, families.*



### **Work and play – in the same day**

Work and play is inseparable for the modern learner. Learners learn through play, and it is critical that we structure our teaching around this fact. Also, they may have watched their parents slaving away to give them everything they want, and they are silently rebelling against the institution of working your life away. They have tasted a fun-loving life, and they want to live it.

GenY are known for having big dreams and aspirations and making them happen - provided they are passionate about them, they are meaningful, and they can accomplish them in a playful way. Generation Z, however, is a little more cynical, and more cautious. They were born during a time of financial recession, a boom in violence and terrorism, and they live in a world that has never felt safe. Unlike previous generations, who have strong opinions about issues like sexuality and diversity, GenZs are more accepting of people who are different. Since they were born, multitudes of people have migrated from their home countries and there is no country that remains homogeneous. The result is multi-cultural classrooms where learners are exposed to 'foreignness' daily.

### **Please note**

*In South Africa, GenZs are a little more serious as they are often the first generation to go on to tertiary education and the sacrifices of their parents and the extended family can be heavy burdens to carry.*

### **Generation “Why not?”**

By no fault of their own, GenZ is not used to the word “no”, simply because they have not heard it that much growing up. This is the ‘why not?’ generation. The modern learner thinks critically and always questions. They want to negotiate and are willing to compromise. Their parents were unlikely to deprive them in the same way they were denied. And whenever “no” was imperative, it was softened with an alternative. They could not have ice-cream, but what about frozen yoghurt? These were also the children who got spared punishment, and served time-outs instead – somewhere on a designated chair or in their rooms. Punishment does not serve them well.



### **DID YOU KNOW?**

Baby boomers are people born between 1946 and 1964. Comically referred to as "helicopter" parents, they can be overprotective and take an excessive interest in the life of their children

### **Up tempo – quick, quick, quick!**

GenZs are racing cars, so to speak. They are used to instant, online everything. They want things to happen quickly, they multi-task and their lives happen quickly, thus their learning needs to be up tempo as well.

### **Structure and instruction**

This may seem like a contradiction – coming from a generation which seems to break all the previous generation's rules, but they were often raised by helicopter parents and thus are used to, and even enjoy, some structure.

### A world in pictures

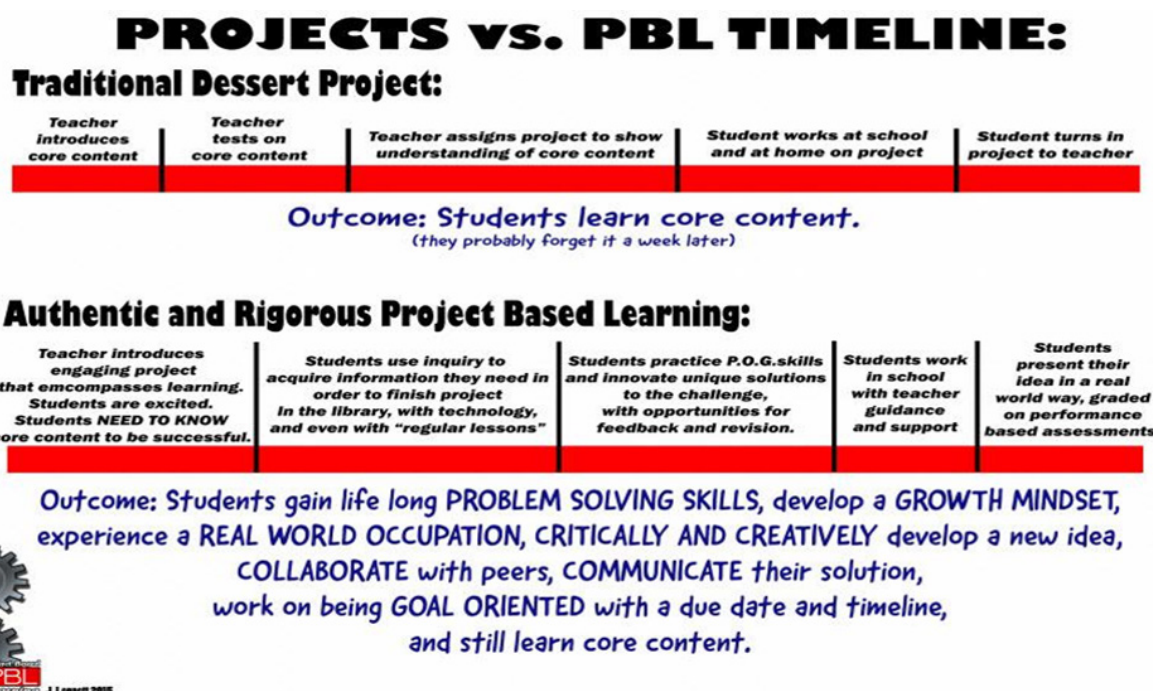
These “screenagers” as GenZs are sometimes called, are naturally more comfortable in image-rich environments. They love pictures, whether posting selfies on the ‘gram or learning through pictures, the visual aspect of learning is imperative for this generation.

### Just do it!

GenZ is the ‘just do it’ generation. The modern learner is hands-on – they want to participate and not just observe. They prefer to try stuff by themselves – to explore the world and their environment on their own. They are actively involved in whatever happens on the screen in front of them. This is why play-/activity-based learning engages them.

### Social connection and team players

Last but by no means least, is social connection. Generation Z needs to collaborate. They do not alienate themselves with technology, but it is actually how they connect. It is not uncommon for two friends sitting next to each other to communicate via texting. That is simply another way they connect. GenZs seamlessly move between physical and virtual interaction and are much more positive about being team players than operating in isolation. They are also much more inclusive than generations before them, as well as more comfortable and more accepting of diversity. This is the generation for whom gay culture and xenophobia are almost not an issue. They are very tolerant of “different-ness”. Their interaction, if data is available, is likely to be mostly virtual and their social circle smaller and more cohesive (“tighter”). They have a strong sense of identity and will even create a virtual image or personal brand to use in virtual communication. How do we equip ourselves for these learners in our classrooms? We have to do things differently – chalk-and-talk is no longer relevant as the only way!



### 2.3.3 Why PPBL is perfect for GenZ learners

Project-based Learning is the pedagogy driving the E<sup>3</sup> programme. GenZs respond very well to Project-based Learning because it ticks many of their satisfaction boxes. In the last section, we discussed the characteristics that are unique to the modern, GenZ learner, and in this section, you will find out how seamlessly Project-based Learning links with these characteristics.





**Technology:** They are ready for the Fourth Industrial Revolution and they are already semi-gearred for the new world of work, which means that they will be more likely to find work. Project-based Learning is a natural learning space for research, and 21st century research is linked to technology.

**Multi-tasking:** The ability to move from one discipline to another and to integrate tasks is key if learners want to flourish in the modern economy. Because Project-based Learning is a series of integrated activities, learners practice multi-tasking in an authentic way.

**The learning should matter:** A Project-based Learning activity is driven by a challenging problem or an important community question, one that has meaning to the learner.

**Their opinion matters:** This is the 'why not' generation. One of the key outcomes of Project-based Learning is the promotion of critical thinking. GenZs fit into the Project-based Learning base naturally.

**Work and play all in the same day:** Project-based Learning is activity based. Learners are involved in purposeful play as they learn and this is exactly what this generation wants.

**Up tempo:** Project-based Learning moves at a pace that is directed by the learners. They determine their own tempo to their own satisfaction.

**Structure and instruction:** Despite being an organic process, good Project-based Learning is highly structured, which is exactly what GenZs need - structured creativity.

**A world in pictures:** Project-based Learning introduces various learning styles as groups try to solve a real-life problem. Visual learning, especially via YouTube and using Google, is a key tool.

**This is the 'just do it' generation:** Project-based Learning expects intuitive action as solutions to challenging problems are being found. Often instinctive trial and error are the beginnings of solutions to complex problems.

**Social connection and team players:** Group work and collaboration is integral to Project-based Learning and for developing 21st century skills. This is exactly how GenZs thrive, by communicating and connecting - and this is not necessarily done face-to-face.

Project-based Learning is the approach driving the E<sup>3</sup> programme. Project-based Learning allows GenZs to thrive and learn in a way that not only challenges them but allows them to develop the skills needed for the changing world of work.

## 2.4 The 21st century teacher

Many teachers are readier than ever to move to more authentic, results-driven, active learning approaches because they know their learners will benefit. As teachers, we need to reflect on what our purpose is as educators. Are we ready for the roller coaster ride? What competencies do we already have, and which competencies do we need to develop so we can offer our learners the best education possible - an education that will ensure they play an active part in the South African economy when they leave school? What do we need to model to help them, in turn, develop purpose as learners?

The E<sup>3</sup> competencies, which you are already familiar with, reflect what both learners and the teachers need to flourish in a changing world and to maximize the benefits of Project-based Learning. 21st century teachers should focus on the three competencies to start the journey of self-development: character, connection and thinking.

### 2.4.1 Character

Character embraces citizenship, curiosity, resilience and mindset - four attributes of the strong character underlying exceptional 21st century teachers. Let's unpack each.

- **Citizenship:** 21st century teachers care about their learners, about their country, and about what competencies their learners need to find their place in society. As citizens of our nation, learners have the right to live here, to work here, start enterprises, and continue to develop themselves, and we as teachers should protect these rights at all costs. We are part of the team of nation builders.
- **Curiosity:** Successful teachers of the 21st century are curious and think, "What can I learn to make my teaching more relevant?" Because learners are tech savvy, teachers need to hone their tech skills too. Computers have taken the place of pens and pencils. Coding, robotics, the use of smartphones in the classroom and digital communication strategies, AI and blockchain, have all become part of the teaching repertoire. Start increasing your vocabulary. And if you don't know enough, find out to satisfy your curiosity. But also be curious about your own emotional development. Who are you as a person? Are you afraid of change? Are you a worrier or a warrior? Do you have the courage to embark into the unknown? Do you fear failure? Are you mindful? Do you stop for a moment to think about your professional purpose?
- **Resilience:** 21st century teachers can adapt to almost any circumstances to satisfy the needs of their learners. They are resilient - when things go wrong they bounce back. They reflect and then change the plan until they are satisfied that what they are offering is what the learners need. They have the mental ability to recover when things do not go according to plan.
- **Mindset is critical:** Keep learning. One of E<sup>3</sup>s driving goals is the promotion of life-long learning. As new tools and new technologies keep emerging, learning and adapting is essential. Develop your growth mindset and believe you can and stop worrying about things beyond your control. Focus on what you can do, and you can do anything! An effective 21st century teacher knows that learning about the latest gadget can truly transform students' education. So stay up-to-date on new trends because you know what your learners need to flourish.

### 2.4.2 Connection

Connection is the second most important competency group. 21st century teachers need to connect with technology but also with warm bodies - other people. They are thus collaborators and communicators, and show empathy as they connect.

- **Collaborator:** Today's tech tools allow us to connect with anyone, anywhere, anytime. Do you have a question for an expert or a colleague? Simply connect via social media, follow, join, ask or tell. Collaborate as a professional. Start or join a PLC. Learning is more effective when you can share ideas and knowledge with others. Sharing your expertise and experience, and communicating and learning from others is an important part of the teaching and learning process, and especially relevant in the 21st century.
- **Communicator:** 21st century teachers are often great communicators. Recent technological advances have affected many areas of our lives, including the way we communicate, collaborate, learn, and of course, teach. These types of tech advances are important but the really challenging skill, ironically called a soft skill, is communicating for personal and professional development, face to face. Develop your confidence; speak up in meetings. Show kindness when dealing with learners one-on-one; show empathy when sharing learner problems with parents. Renew your effort to become a great interpersonal communicator in a century in which the tendency is to hide behind technology. 21st century teachers show empathy. They are aware of their learners' future

and know that good opportunities arise from great education. They strive to ensure that no child gets left behind. So they focus on preparing today's learner for what's to come in the future. They lobby for their learners. Today's classrooms are filled with children who need somebody to look out for them, to give them advice, to encourage them and to listen to them. Empathy is the ability to understand and share the feelings of others. This is not a far step from the entrepreneurial mindset that understands and sees the problems that others are experiencing and then wants to find a solution to help them.

### 2.4.3 Thinking

Thinking, the third E<sup>3</sup> competency, covers creativity, critical thinking and reasoning.

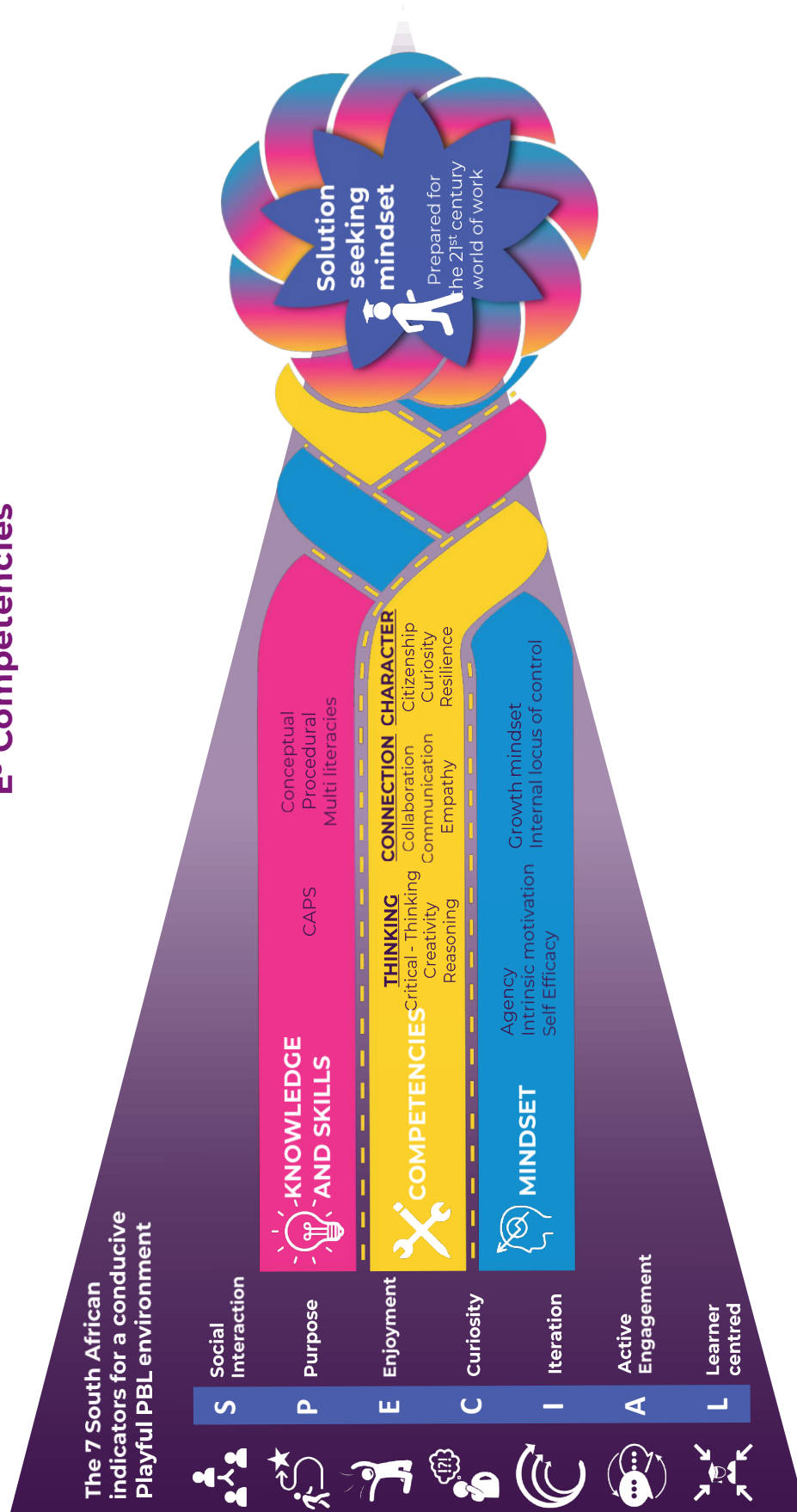
- **Creativity:** Out-of-the-box solutions, fit for purpose groupings and custom-designed activities designed to address specific learner issues, and then linking all of this to the CAPS - this requires teachers to move out of their comfort zones and away from mere tick boxes. We invite you to grow your teaching toolbox and explore creative new strategies you have not tried before. Teach with WhatsApp, have learners start blogs or have them move about their communities, gathering information to share in class. Only then, go back to your textbook.
- **Critical thinking:** If you have ever wondered about the true value of group work, and active learning in particular, then consider this: active learning helps promote higher order thinking such as the application of knowledge, analysis and synthesis. Clearly this is where critical thinking is developed. As a teacher, start engaging in deep rather than superficial learning and know how to apply and then transfer what you've learnt to the real world. Stay relevant by developing your own critical and problem-solving skills. PLCs are the group work of professionals. Join or start one today!
- **Reasoning.** Reason is defined as a cause or an explanation or justification for an action or event. Thus, the competency of reason is the ability of the mind to think, understand, and form judgments logically. Interestingly, there's a close connection between reason and emotion. As a teacher, you should be asking "Why?" - looking for reasons for learner behavior as opposed to making assumptions. No learner is the same, so judgment of the learner should be well considered before creating a label that a learner may have to carry for the rest of their life.

To conclude, 21st century teachers are different from traditional teachers in one huge way: they care - about their learners, themselves, their environments and their nation. They have a compelling purpose to make their classrooms places of discovery and joy, and they are prepared to learn and do almost anything in the service of their learners.





## E<sup>3</sup> Competencies



## 2.5 The PBL facilitator – re-imagining traditional teaching

### 2.5.1 What used to work

Successful teachers in the not-too-distant past were those who were 100% prepared. They took time to study the lessons from the textbook and even made themselves notes so that they would be able to answer all questions. They were strict but fair, and allowed no noise in class. Everyone worked quietly and studiously. They were truly organised and masters at their trade. They also suited learners from that generation and were equipped with the skills needed for that time.

Why is this style of teaching no longer successful today? Reflecting on the above, there are glaring problems which lead to very important questions:

- Can a teacher today ever be 100% prepared? Why? Why not?
- Is the textbook the best driver of a lesson? Why? Why not?
- Can teachers prepare well enough to answer all learner questions? Should they be there to answer their questions? What is their role?
- Is the word 'teacher' still relevant?
- Is a teacher who allows no noise in the classroom fair?
- Is a silent classroom an educationally sound learning space?
- What are the characteristics of teachers who are masters of their trade in the 21st century?

### 2.5.2 What will work in the 21st century?

The Buck Institute of Education has listed a number of standards to describe the successful Project-based Learning facilitator:

PBL facilitator	Traditional teacher
<b>Designs and plans</b> A learner problem arises and a lesson is created around it. She knows her curriculum and this will help her to link the problem to relevant CAPS information/knowledge transfer.	Selects a textbook and writes a lesson plan for that lesson. Sometimes uses scripted lesson plans.
<b>Aligns to standards</b> Knows the CAPS and links lessons to outcomes and expectations from the CAPS.	The textbooks are already CAPS-aligned so teacher does not need to take out her CAPS document at all.
<b>Builds the culture</b> Understands that school culture plays a huge role in modelling appropriate and meaningful relationships.	Classroom culture is not her concern. Who learners are and what they think is not her concern – as long as they do their work and keep quiet. She demands respect. Being kind leads to undisciplined learners.
<b>Manages activities</b> The project is designed around practical real-life solutions. There is very little transmission teaching. Learners are given a task with clear instructions and the teacher observes learners and helps them when needed. She is a class and activity manager.	There are no classroom activities. She presents the lesson and asks learners to summarise that lesson or even do a creative summary on a poster as a project.

<b>Scaffolds student learning</b> She understands that all learners are different and learn in a variety of ways. She sees her role as that of supporter, as each individual learner is helped to climb to the next level because of her one-on-one coaching.	She never allows group work and seldom has a private one-on-one with any of her learners. Once she has taught her lesson, she gives learners work, usually the questions at the end of the chapter, and she goes back to her marking. She has so many exercises to mark.
<b>Assesses student learning</b> In her classroom, there are 3 types of assessment and each is treated differently and has a different purpose: Baseline – Where should we start? Where are the gaps? Formative – How are we doing, every little step of the way? Summative – How did we do when tested on a chunk of work?	The marks that she allocates are used to decide whether a learner is successful or not. Paper and pen tests, she believes, are a solid gauge of learner progress, and knowledge and information are assessed because statistics give the best results.
Intentionally creates an enabling classroom environment.	Her classroom atmosphere was not as important as the facts and information she transmitted.
<b>Engages and coaches</b> Her role is to pay attention to the needs of every learner and to offer them support, not via formal teaching, but by one-on-one coaching, especially as they work in groups.	No activities or homework are done in class. Classroom time is for her lesson, so she has no opportunity to coach learners or observe their progress.

Teachers need to reassess their roles. The time for good lecturing has passed. The time has come to put learner needs and their problems at the centre of lesson and to do everything in our power to make school useful for life after school, to help learners know and believe in themselves and to give them space to become problem solvers themselves, and, of course, to have fun! Learners go to school not to WORK, but to LEARN!







### 3. The DBE plan for GEC and the Three-stream Model

#### 3.1 Why is GEC necessary?

**Every learner needs to belong, irrespective of talent, inclination or aptitude.**

E<sup>3</sup> and the DBE aim to support and encourage the development and effective assessment of South African students' skills, competencies and knowledge to assist them in adapting to a changing world and to help guide their future study and career pathways.

The GEC is a solution to ensuring that all learners have a place in the economy.

E<sup>3</sup>, in partnership with the DBE, have one compelling goal: to ensure that every learner who spends 10 to 13 years at school leaves the system with the appropriate skills, knowledge and competencies to become an active member of the economy. Every learner needs a place in society, irrespective of IQ, skills, or affinity or talent. No learner should have to go back home and idle his or her time after so many years of schooling. They should be able to go onto Tertiary Studies or make a calculated decision about their future based on what they have learnt about their own skills, aptitudes, affinities and talents while at school.

We already know that activity-based learning unlocks competencies and skills, and that authentic classroom scenarios prepare learners for this changing world. A real challenge, however, is to facilitate appropriate career pathways for learners who do not wish to go to university or further their academic skills. What happens to learners whose lifelong dream is to work with electricity or with the fabric needed to design beautiful clothes?

Thus the DBE is piloting a plan to put, eventually, learners through a 3-year programme (Grades 7-9) in which they complete the curriculum, but that the teaching approach is activity-based so that while learners are acquiring the requisite knowledge and skills, they are also acquiring skills and competencies for a changing world. Those who do not wish to continue on the traditional academic pathway will then have the option to switch to an occupational or vocational pathway and be NQF-accredited every step of the way if they join specialised schools or colleges. This special certificate, which will give them access to the next phase, is called a GEC (General Education and Training Certificate).

#### 3.2 The General Education Certificate

##### **A new method of assessment**

The introduction of the General Education Certificate (GEC) as a new method of assessment in the General Education and Training (GET) band is a fundamental approach to improve quality education in South Africa, according to Dr Mark Chetty, Director for National Assessments. Learners who have no inclination to continue with traditional schooling will, after the next few years of pilots and trials, have the option to choose a more suitable, personally customised career pathway after earning a Grade 9 or GEC certificate.

The GEC is an important national initiative that will support and strengthen the effective assessment of South African learners' 21st century skills and knowledge to help guide their future study and career pathways.

The GEC at the end of Grade 9 acknowledges a broad foundation of knowledge and skills as a basis for further learning and study, which could happen in a range of further education institutions.

### **Offers learners more customised pathways**

Offering a GEC is not an indication of the exit of learners from a learning pathway in schools but provides *better decision-making for and access to further learning after Grade 9*. "The GEC will further afford parents an opportunity to obtain a balanced scorecard on their children's academic performance, with a clear focus on their achieved subject specific competencies and skills, broader developmental skills, and inclinations and talents".

### **A report card that is meaningful**

Thus, at the end of Grade 9, learners will receive a report which not only gives the CAPS marks (i.e. the traditional pen and paper exam), but also an inclinations assessment as well as an activity-based project which will help them unlock the competencies they need to face the challenges of a changing world. The learner thus stands a better chance of knowing him-/herself, as do their parents and teachers. This will lead to better and more well-considered decision-making at the end of Grade 9. This course focuses on equipping teachers for the competencies and mindsets they need to manage the process of Project-based Learning (PBL).

### **3.3 Three-pronged assessment**

Currently a learner "graduating" from Grade 9 receives a report card which is focused on the achievement of CAPS knowledge and skills. This view of the learner is one-dimensional and the goal of the 2021 pilot is to try to form a more three-dimensional, holistic profile of the learner, thus the three-pronged assessment approach of the 2021 pilot:

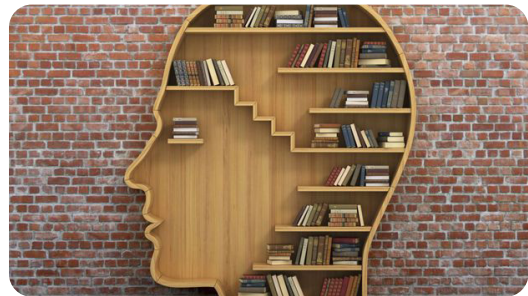
1. An aptitude, inclinations or talent assessment or learner profile which measures aptitude and inclinations, e.g. leadership, empathy, etc.
2. An activity-based and authentic learner-centred project which exposes learners to real-life situations in order to measure their ability to unlock/develop problem-solving and other skills. An authentic project, integrated into the CAPS, which is learner-centred and activity-based, has a better chance of giving learners, teachers and parents a picture where the learner will flourish based on evidence harvested in the classroom.
3. A traditional benchmark test written in Term 4 to ensure that the curriculum expectations are achieved, i.e. a CAPS-aligned "test".



## Current emphasis

The current emphasis is on the following subject specific knowledge and skills encapsulated in the CAPS:

Languages  
Mathematics  
Life orientation  
Economics and management sciences  
Social sciences  
Natural sciences  
Technology  
Creative arts



The new emphasis is on broadening this CAPS foundation by focusing on broader learner skills and capabilities (which a well-designed project will unlock) and aptitude and inclinations assessments which will create a profile of learner affinities and talents, and thus lead them to a career pathway customised for their individual talents and abilities. The following two circles offer information on what these broader learners skills and capabilities and aptitudes and inclinations could look like:

### Broader learner skills and capabilities

(Project unlocks)



### Aptitude and inclinations

(Online career profiling)



## Assessment needs to be more diverse

Diverse assessment is fairer in forming a holistic picture of the learner. Let's unpack each of the three types:

### Assessment 1: The project (a choice of three)

A decision was taken to learn as much as possible from the project and thus schools will be trying out three different project implementation plans.

These projects are fully prepared - they are assessment activities (similar to a PAT) which cover a series of competency-development activities for learners covering Term 3. They will be provided in 3 formats and your school will choose/be nominated to implement one which suits you best:

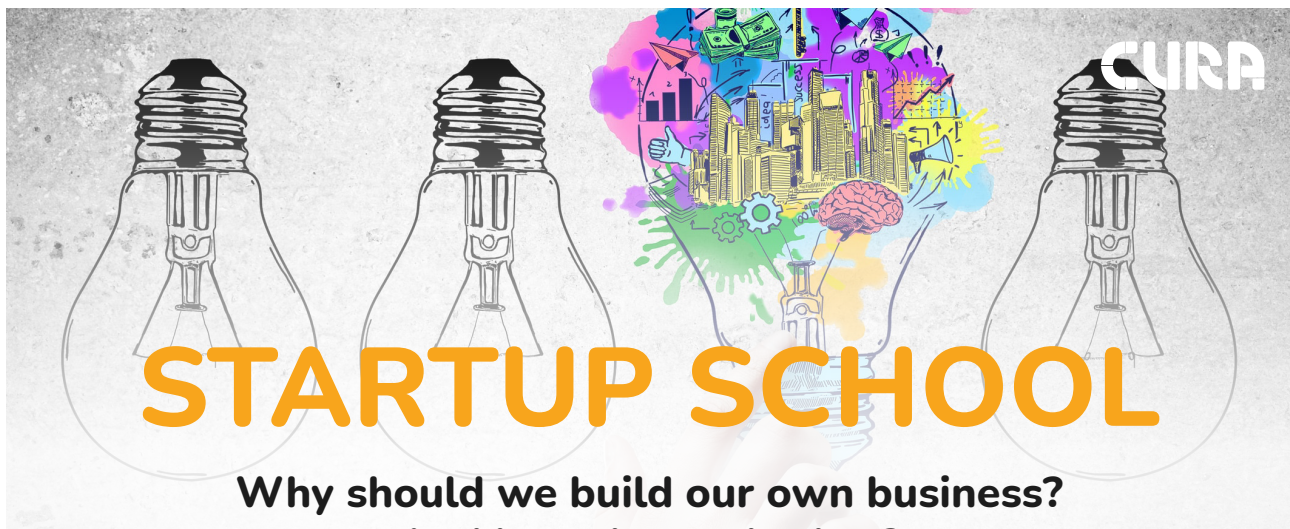
**Type 1:** An assessment activity aligned to EMS prepared as the SBA for Term 3 EMS which includes a project.

**Type 2:** An online version of an EMS Grade 9 project aligned to EMS and Term 3 ATPs.

**Type 3:** Like type 1, this will be an assessment activity but different in that it integrates other subjects like EMS, LO and FAL. You will be informed on how to upload your marks by the Assessment Co-ordinators in due course.



The online project (**Type 2**) will take on the following form:







Learners are set the challenge of creating a business idea and then ‘building’ a business and a minimum viable product which they can market and sell. They will explore the role that small businesses play in the economy and the importance of innovation in improving the lives of the communities in which they live and work. Learners must pitch their business idea through a market day at the end of the project to win customers!



### Curriculum Map - Skills & Competencies

The Startup School unit does more than provide an engaging and real-world application ground for Grade 9 EMS curriculum content.

Across the unit, students learn critical **competencies** like problem solving, collaboration, and creativity. These skills are developed and assessed through:

-  **Collaboration.** Students learn key collaboration skills which they enshrine in their own team contract. Students are then given the autonomy and the skills to regulate their work as a team across the unit
-  **Creativity.** Students are taught and must use divergent thinking skills to develop and then build on their startup ideas before ultimately choosing one
-  **Critical thinking.** Students learn key convergent thinking skills to choose which startup idea is the most promising
-  **Ethical thinking.** Students must balance the ethics of offering sales on credit to those who might not be able to pay it back with the need to generate sales for their startup

### Assessment

-  **Formative** assessment rubrics are provided for all key tasks across the project. Learners can be assessed on how well they apply EMS content knowledge to the project and to the creation of their own startup. The accumulation of the marks for these tasks can be used as the assessment for the unit
-  Alternatively, the final market day can be used as a **summative assessment**. Learners can be assessed on their final product and on the application of EMS content knowledge in the recording of financial transactions that occur across the market day

## Curriculum map - EMS

This unit has been designed to align with the Grade 9 EMS curriculum. The graphic below outlines the project's key tasks and how they map to the 2021 EMS CAPS Annual Teaching Plan (ATP).

PROJECT KEY TASK	CAPS ATP TOPIC	REQUISITE PRE-KNOWLEDGE
Explore the role of entrepreneurship and its importance to the economy	Entrepreneurship & the sectors of the economy	The primary, secondary, tertiary sector; types of businesses found in each of the three sectors; the interrelationships of the three sectors
Research & interview entrepreneurs; explore what makes a successful entrepreneur		
Brainstorm to identify a problem; market research to validate that problem		
Decide how startup will make accept payment	Financial literacy & credit transactions	Credit sales: Debtors, National Credit Act (NCA), Accounting cycle & effect of transactions on the accounting equation
Define which role each team member will fulfil in the startup	Entrepreneurship & the functions of a business	The different kind of business functions; role and importance of business functions
Analyse how startup will manage finances	Financial literacy, debtors, and creditors	Recording transactions in the Debtors Journal (DJ); recording receipts from debtors in the Cash Receipts Journal; posting to the General Ledger and Debtors Ledger; recording of payments to Cash Payments Journal and Creditors Ledger
Choose price for startup's product or products	Economy & price theory	Laws of demand & supply; demand & supply curves; equilibrium point
Create business plan and 'establish' business (brand, marketing activity, product, website, etc)	Entrepreneurship, business plans, & SWOT analysis	Concepts, components and format of a business plan; SWOT analysis, description of the product of the product or service offered by the business, production plan, marketing plan, management plan and financial plan
Pitch and 'sell' product at final market day	Financial literacy, debtors, creditors, & credit transactions	Revision – record all financial transactions from people 'buying' the product at market day

Generally, the above key tasks can be used to help explicitly teach the content that they relate to. Each task contains resources which explain key concepts to students. Students are then given a hands-on way to apply what they just learned to help them grow their startup idea.

In some cases, content must be applied to the project before it is scheduled to be taught per the ATP. In these instances, the explicit teaching of this topic should be brought forward so that learners have the requisite knowledge before being asked to apply it to the project.

## Assessment 2: An aptitude profiling programme to assist with career pathways.

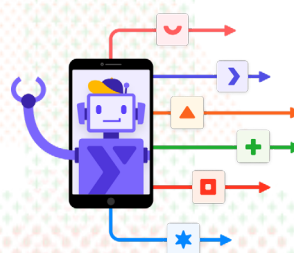


### Yenza GEC Pilot Program

e-Cubed as part of the GEC pilot program will be utilising Yenza, a highly innovative career guidance app to determine Grade 9 career inclinations. The Yenza app will also benefit learners in raising their levels of self and career awareness as well as provide additional career services to develop career readiness and increase employability.

### Yenza Assessments

The Yenza assessments provide summative evidence across vocational aptitude, personality, emotional and cognitive ability, which will then inform further project based and formative learning.



### Worker Types

The Worker Type assessment is based on the highly reputable Holland Code framework, which will be used as the primary indicator to determine career inclinations.

### Mapping to Competencies

Assessment will be carried out at the start and possibly end of the pilot program. In either case, data from the Yenza assessment will be used to map onto the e-Cubed competency framework, measuring for Thinking, Connection and Character.



### Reporting

Yenza will develop a reporting dashboard that will clearly highlight student inclinations and scoring across e-Cubed competencies. The dashboard will also highlight career preference, personality traits and areas of development. The ultimate goal in our reporting will be to easily identify the correct students for the correct career path tracks of either academic, occupational or vocational.

## Assessment 3: A benchmark pen and paper test (Term 4)

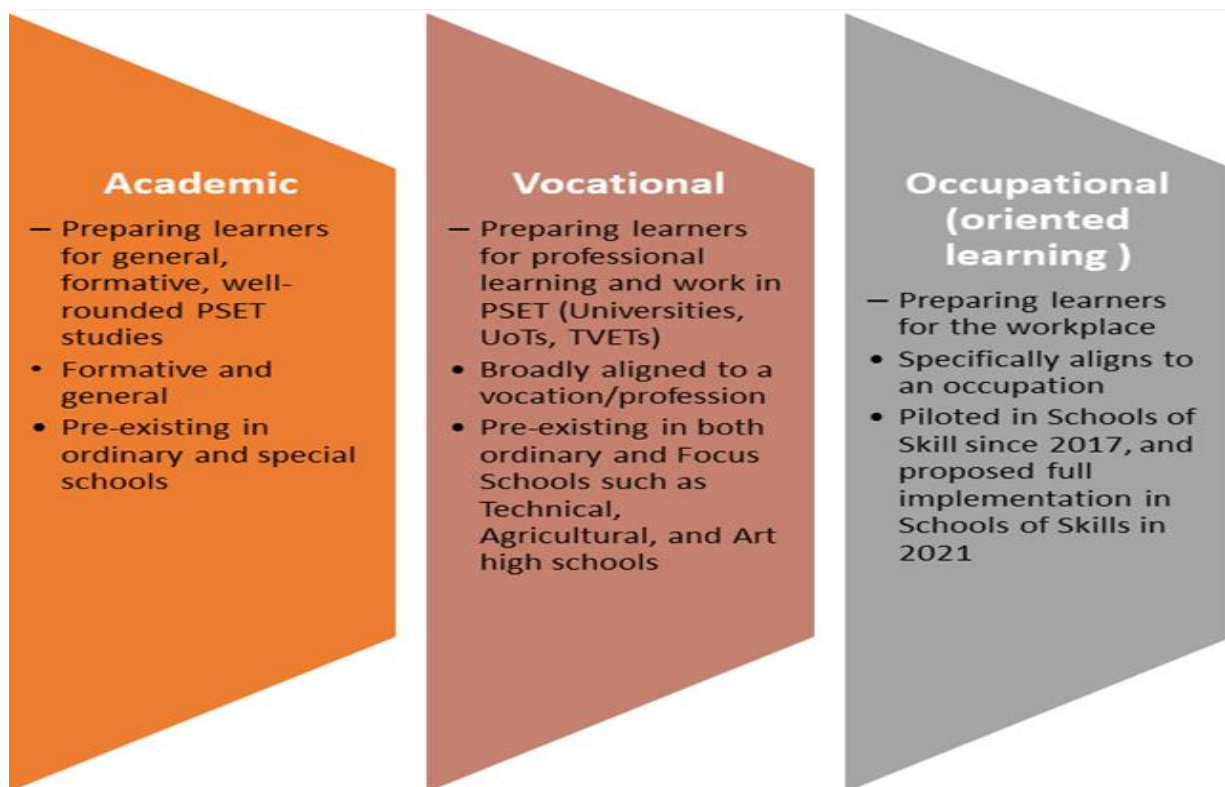
**TO BE ANNOUNCED BY YOUR ASSESSMENT CO-ORDINATOR.**



### 3.4 The three-stream model

What choices will learners have after Grade 9? Where does the learner who has decided that the traditional FET (academic) stream is not a good fit go? Where does he/she go without leaving education? Where and how do these learners specialise?

Not all learners have an affinity or an ambition to go to a university. Society has ingrained a certain type of thinking, i.e. that a university degree is the ultimate accolade.



In 2018, the Department of Basic Education (DBE) presented its plans for the implementation of a three-stream model in the South Africa curriculum and how it was gearing up the school system to deal with the technological challenges of the “Fourth Industrial Revolution”.

E<sup>3</sup> was accepted as part of the MTSF (Medium Term Strategic Framework) of the DBE in 2018 to address the new world of work, but also to express its desire to see each learner actively involved in the economy, either in the academic lane, or employable in a vocation, or occupation or as an entrepreneur equipped to start a small enterprise.

### **Academic pathway historically outdated**

Historically, the South African education system had focused mainly on the academic pathway, to the detriment of the other pathways. It still reflected appendages of the colonial era, where it had essentially been a platform to produce white collar workers as opposed to covering all aspects of an education system. This led to the high failure, drop-out and repetition rates, and too many learners that had been pushed to go to universities. With the Three Stream Model, the Department believed that it would provide differentiated offerings to learners which would respond specifically to the diverse needs of South Africa and the country's youth. It would also respond to the skills needed for the changing world.

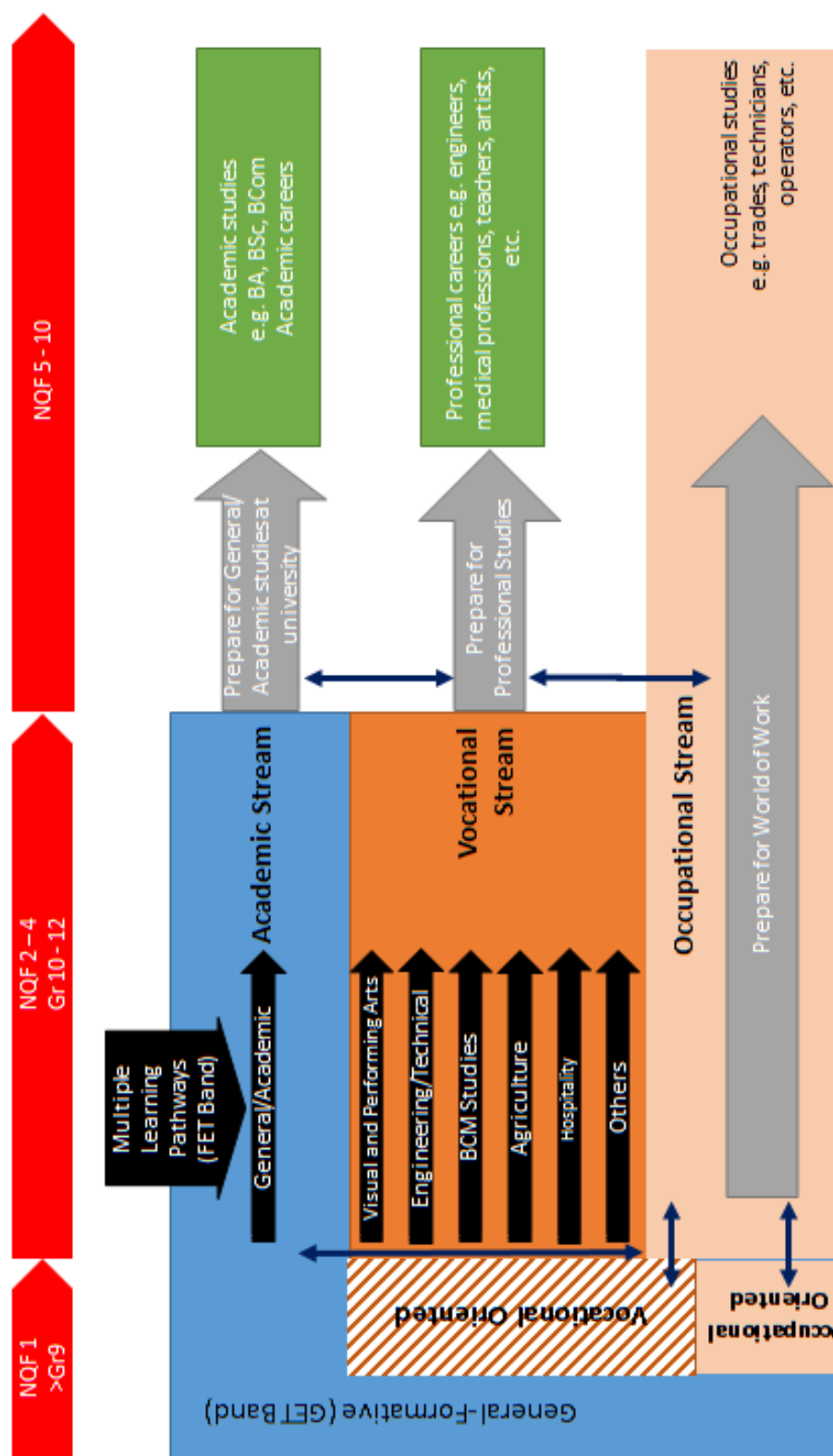
The Three-stream Model was delineated into three pathways:

- Academic
- Technical vocational
- Technical occupational

### **Producing artisans - part of NDP**

The DBE's intention with the technical vocational stream was to improve in producing artisans as part of responding to the National Development Plan (NDP). Technical and Vocational Education and Training (TVET) colleges had made an effort to produce artisans, but the foundation started with schooling. The Department has now heightened its relationship with industry, and industry has assisted in developing the curriculum, and are now on board in terms of sponsoring and funding the activities of the subjects related to preparing learners for the world of work.







### 3.5 The 2021 pilot

The Assessment and E<sup>3</sup> unit at the DBE decided to pilot a model of assessment which is hypothesised will:

- Unlock skills for a changing world
- Assist learners in developing competencies for the new world of work
- Cover the content required by the CAPs
- Through aptitude and inclinations' assessments give a more holistic view of the learner's capabilities
- Test the efficacy of online learning and assessment in a South African school scenario
- Offer a more holistic profile of who the learner is/what s/he can do and what s/he has an affinity for doing.

*Your school was nominated and has accepted the challenge to be part of the trial of the GEC. You have also agreed to do everything in your power to create an enabling learning environment for the best possible outcome of the trial of the GEC. Thank you for your commitment to this important intervention.*

#### 3.5.1 The E<sup>3</sup>'d commitment to reducing youth unemployment

E<sup>3</sup> (Entrepreneurship, Employability and Education) is a unit within the DBE whose work is guided by a compelling goal: to reduce unemployment substantially by 2030. This unit has been implementing Playful Project-based Learning in 340 schools in all 9 provinces since 2018 as research globally shows that a learner-centred, hands-on approach and authentic real-life projects provide an excellent opportunity for learners to acquire skills for a changing world as well as prepare them to access the economy (either as entrepreneurs, or as "entrepreneurial" employees or as problem-solving tertiary learners).

#### 3.5.2 What will be provided by E<sup>3</sup>?

- a) Three projects (assessment activity similar to a PAT) which cover a series of competency-development activities for learners. Project 1 will be anchored in EMS and linked to ATP assessment for project 3, 2021. Project 2 will also be linked to the 2021 ATPs, but will be an online version for schools with no wi fi challenges. Project 3 will be a project which will not be anchored in EMS, but integrated as far as possible. Your school will select **ONE** of these projects, depending on the profile of your school.
- b) Regular chats to 1 or 2 designated staff members from your school to liaise with province assessment co-ordinators and E<sup>3</sup> on GEC progress.
- c) Remote planning meetings with principals and designated staff members in trial schools to discuss what E<sup>3</sup> would appreciate to manage the efficacy of this intervention:
  - Willingness to take decisions about timetabling, integration of EMS and other subjects, team teaching, etc. We need to ascertain what it takes to roll out the roject successfully.
  - On-the-ground action research on what is going well/what needs strengthening. (E<sup>3</sup> will provide a reflection journal to guide weekly inputs by designated teachers.)
  - Willingness of staff involved to form a PLC and conduct solution-seeking meetings.
  - Ideas on how to capture learner inputs on their experiences as they engage.

- d) Training and coaching support. Training in PBL (Project-based Learning), the running of efficient research-oriented PLCs and how to access the TeacherConnect WhatsApp programme for additional resources for GEC teachers and designated staff members.
- e) Co - planning for communication to parents and other stakeholders.

### 3.5.3 What is expected of your school?

Identification of 2 designated staff members would act as an E<sup>3</sup> liaison/on-the-ground Trial Project Manager (a member of the SMT would be an advantage). E<sup>3</sup> will provide adequate guidance and support.

Availability of a representative of the SMT and liaison people to attend monthly meetings remotely.

Designated staff availability for regular meetings with the E<sup>3</sup> coach allocated to the school, completion of reflection journal, etc.

#### Project Plan – activities

##### **Phase 1 – Pre-implementation**

DBE and E<sup>3</sup> managers meet and agree to trial PBL in a select number of schools.

1. Meeting with DBE Provincial Assessment Co-ordinators and E<sup>3</sup> Provincial Co-ordinators to discuss:
  - The project unpacked
  - Province's role in the Implementation Phase
  - Role of E<sup>3</sup> in the Implementation Phase
  - School selection criteria
2. Meeting with E<sup>3</sup> coaches and M&E team to plan process monitoring instruments.
3. E<sup>3</sup> R&D develop the Project Assessment Activity and present to GETAC for approval.
4. 3 to 4 afternoons of training at the beginning of Term 3.

##### **Phase 2 – Implementation Phase**

Meeting with schools when they open to ensure that everything is clear and to answer last minute questions.

1. Project rolls out.
2. Weekly and then monthly feedback sessions with designated teachers who are completing Weekly Reflection Journals.
3. Coaching support harvesting learnings.
4. PLC meetings to strengthen implementation.
5. A mid-project training session.

##### **Phase 3 – Post Implementation Phase (October 2021)**

1. Harvesting of all the data (Reflection Journals, PLC minutes, Learner Feedback).
2. Analysis of SA SAMS results of designated schools.
3. Meeting of all stakeholders to discuss the way forward.

### **3.5.4 Project plan - activities**

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3. Meeting of all stakeholders to discuss the way forward.

##### **Phase 4: November 2021**

1. Writing of Benchmark Test
2. Creation of report assimilating project, Inclinations and Benchmark Assessments

## 4. Unlocking competencies using Project-based Learning

### 4.1 Project-based Learning and the E<sup>3</sup> Learning Model

#### 4.1.1 What is Project-based Learning?

Project-based Learning (PBL) is a progressive approach which promotes individual and small-group learner involvement in solving real-life problems by developing rigorous research strategies. It's learning by *doing* and focuses on developing specific curriculum knowledge and skills while inspiring learners to question actively, think critically, and draw connections between their studies and the real world. Put differently, Project-based Learning is a *collaborative* – which refers to teamwork, learner-centred learning activity in which learners integrate *knowing* and *doing*. They apply what they know to solve REAL life problems and produce results that matter.



#### 4.1.2 Why choose Project-based Learning?

In the first phase of learning about how learners acquire competencies, E<sup>3</sup> decided that activity-based learning was critical and that Project-based Learning should be the vehicle for organising these activities. Project-based Learning is useful for various reasons.

- **Project-based Learning equips learners with 21st century skills.**

Solving highly complex problems requires that learners have essential skills - reading, writing and maths - and 21st century skills - teamwork, problem solving, research gathering, time management, analysis, and the ability to use high-tech tools.



- ***Learning becomes more relevant and meaningful in PBL.***

Bringing the real world into the classroom provides a very powerful learning experience. A teacher committed to the principles and passionate about the PBL approach will encourage learners to be critical and independent thinkers, and since the projects will mirror the real world, learners will see value and be more committed.

- ***Assessment is more meaningful in PBL as it is authentic.***

The assessment in PBL is more diverse and includes almost all forms of assessment - from the traditional test to observation of research practices. Authentic assessment also involves assessing learners' development while they work in pairs, groups or individually. This is less stressful for the learner and allows for repetition and another chance if the learner was not on point on a specific day.

- ***Project-based Learning accommodates diversity in the classroom.***

Globally, classrooms are becoming more diverse and teachers are faced with the challenge of trying to ensure that learners are all treated equitably. Group work ensures that teachers can customise tasks for individual learners and settle individual queries as they arise.

- ***Project-based Learning accommodates learners struggling with English (and any other LOLT)***

Above learners are provided with more options for speaking if the leader is empathetic and well-briefed.

A limited ability to communicate, in English particularly, is a key obstacle to many learners' academic success, especially from grade 4 onwards. If teachers group learners purposefully, they can ensure that each group has a strong and empathetic lead speaker from whom they can model conversation. Of course, the assumption here is that English is the LOLT (the language of Learning and teaching – if another language is the LOLT, a language-strong leader will perform the same leadership task). Thus, learners not comfortable in speaking English (or their LOLT) can do so in the low-risk group environment with peers who can help them.

- ***PBL supports group work and collaborative learning as a 21st century skill.***

Much learning is social and learners acquire many new skills from their peers in well-structured group work, especially if teachers organise groups intentionally for the outcome they wish to achieve.

- ***Research supports Project-based Learning.***

A growing body of international research supports the use of PBL. Schools where PBL is practised show a drop in absenteeism, an increase in co-operative learning skills and improvement in learner achievement. The marks actually improve. When technology is used to promote critical thinking and communication, these benefits are further strengthened.

- ***Projects are the formal assessment task in term 3 of the CAPS***

The projects are written to meet the CAPS requirements. Teachers can thus reach the curriculum outcome simply by changing their teaching method. The same information but packaged differently. Project-based Learning is not about the 'what' but the 'how'.

#### **4.1.3 What is the difference between a project and Project-based Learning?**

Traditionally, projects were a once-off poster or a flip file consolidating knowledge or content at the end of a chapter or a section of the syllabus. Thus, a project was a product. While Project-based Learning could also feature projects in the traditional sense, in PBL, the focus is more on the process of learning and learner/peer/content interaction than the end product itself. Thus Project-based Learning is not the dessert at the end of a chunk of information but rather a series of structured events that lead to authentic and impactful learning. The following diagram from the Buck Institute summarises the differences well.

# PROJECTS vs. PBL TIMELINE:

## Traditional Dessert Project:

Teacher introduces core content	Teacher tests on core content	Teacher assigns project to show understanding of core content	Student works at school and at home on project	Student turns in project to teacher
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**Outcome: Students learn core content.**  
(they probably forget it a week later)

## Authentic and Rigorous Project Based Learning:

Teacher introduces engaging project that encompasses learning. Students are excited. Students <b>NEED TO KNOW</b> core content to be successful.	Students use inquiry to acquire information they need in order to finish project. In the library, with technology, and even with "regular lessons"	Students practice P.O.G. skills and innovate unique solutions to the challenge, with opportunities for feedback and revision.	Students work in school with teacher guidance and support	Students present their idea in a real world way, graded on performance based assessments.
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**Outcome: Students gain life long PROBLEM SOLVING SKILLS, develop a GROWTH MINDSET, experience a REAL WORLD OCCUPATION, CRITICALLY AND CREATIVELY develop a new idea, COLLABORATE with peers, COMMUNICATE their solution, work on being GOAL ORIENTED with a due date and timeline, and still learn core content.**



### 4.1.4 How does PBL work in the classroom?

According to the Buck Institute, learners engage in a project over an extended period of time - from a week up to a term or more - that engages them in solving a real-world problem or answering a complex question. In the GEC, the project will run over 2 months. They demonstrate their knowledge and skills by developing a public product or a presentation for a real audience at the end of the project. Importantly, this approach creates many opportunities for teachers to embed 21st century skills for learners to pick up in a real-life way. The educational focus in Project-based Learning is on both the learner and the curriculum. It is an approach through which learners develop drive, empathy, self-efficacy and 21st century skills like creativity, communication, critical thinking and collaboration. This type of learning is activated by experience, not learnt from a textbook. Because it is real, it has purpose for the learner and subsequently for the teacher.

## 4.2 The E<sup>3</sup> essential project design elements

### 4.2.1 Project design

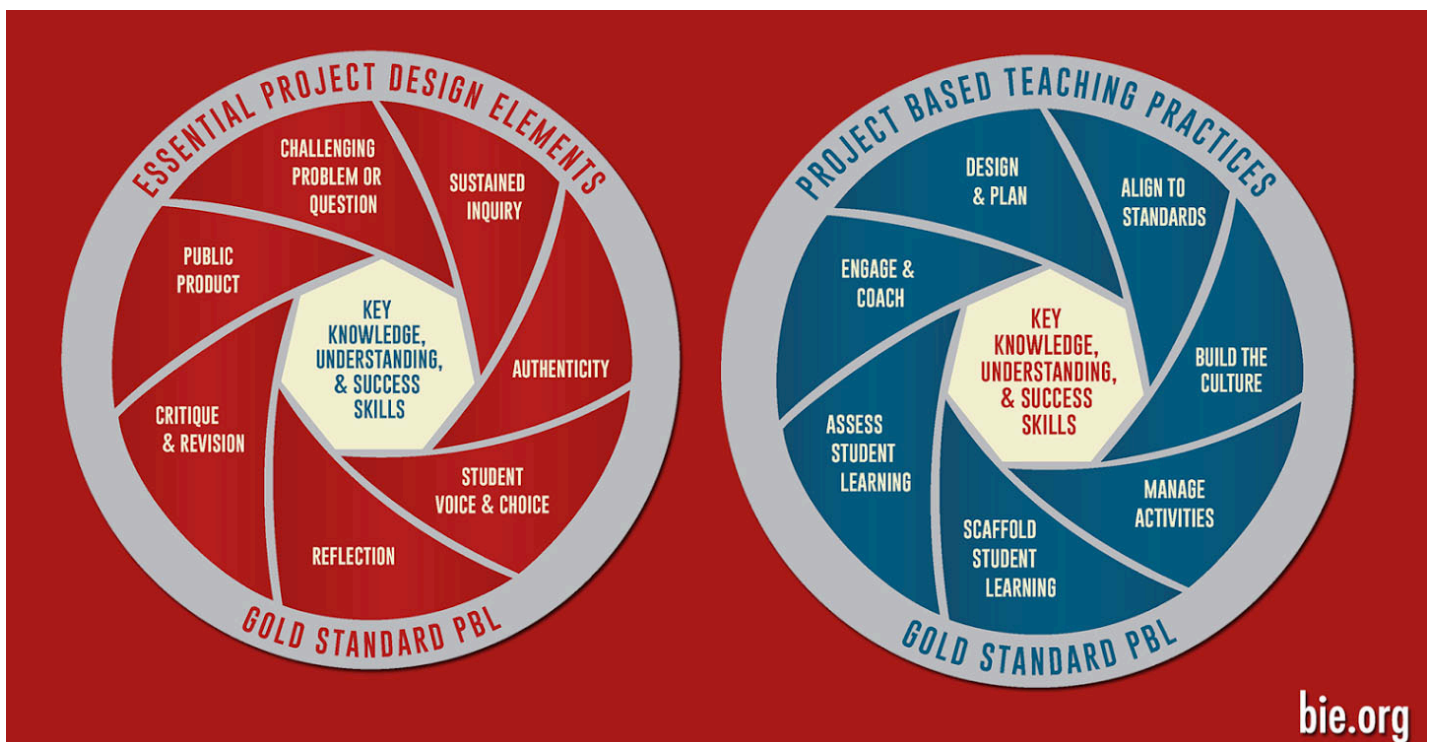
Instead of teaching content, projects should be designed so that the activity allows learners to discover fundamental concepts and key learnings from school subjects and apply them to the real world.

PBL helps learners practise these key learnings by using them to solve problems, answer complex questions, and create complex products.

To assist teachers implement good projects, the Buck Institute created a set of criteria to be used as a checklist in Project-based Learning design. E<sup>3</sup> began using the Buck Model in 2018, as it provided a good foundation to start from. Since 2018, E<sup>3</sup> has been developing its own unique South African model of Project-based Learning.

How do we create successful projects? Building on the Buck Model, E<sup>3</sup> created an acronym, SPECIAL, which lists a number of criteria that contribute to achieving a sound project design. The model has evolved to deepen the conceptual understanding of South African learning.

See page 37 for the South African E<sup>3</sup> PPBL characteristics. You will see that it is much more comprehensive and well suited to the South African context. The original Buck model has been adjusted.



To ensure an excellent PBL process, we need the following minimum requirements to be integrated in the project design (which we originally implemented as part of the Buck Design), but which has been adjusted for the South African teaching space:

- **Challenging problem or question.**

This is a concrete or abstract problem which is real to the learners, in other words, the PBL is centred on a research-type cycle in which a problem is identified, research is undertaken, investigations are done and some or other solution is the result.

- **Sustained enquiry.**

PBL is different from the projects we are accustomed to. Merely looking up information and summing it up is not enough. It is too shallow and does not demand active follow-up and testing that leads to deeper learning. Sustained enquiry takes time, is taken seriously, and teachers ensure that the activity is iterative, i.e., repeated until learning has taken place. The updated model places more weighting on the iterative element.

- **Authenticity.**

Authenticity is critical if we are to keep learners involved. The project must be real and start with a genuine problem that the school or community needs to solve.

- **Student voice and choice.**

If learners have a say in the selection of the project's problem, they work harder because they feel they own it. They also feel they are contributing to solving the world's problems.

- **Reflection.**

Learners and teachers should be reflecting on various questions during the process. What is being learnt? Why is this learning important and how is this learning being presented? We do not learn from experience; we learn by reflecting on experience.

- **Critique and revision.**

The outcome of good PBL is work of a very high standard, but this may not happen in the first cycle as teachers and learners grapple with typical challenges. How deep is a good project? How do we integrate the anchor subjects with other subjects? What are we learning? What can we do better?

- **Public performance.**

The learners' solutions or projects are presented to as wide a public as possible for a few reasons. The work is generally of a higher standard if open to a larger audience. Public products and performances are a way for the learners and the school to communicate with all role players. Launching the project at school level is important for buy-in. Schools involved should announce the launch of all their projects at the start of term 3 or earlier and also the culmination of the projects in a specified project week towards the end of term 3. Each grade will manage its own launch. Example: a school competition in which the winner is announced in a project week; an entrepreneurship quiz or an appropriate civvies day. Be creative during project culmination week - all the products and solutions delivered by each grade's projects are up for public display. The broader the community involvement the better for the learners. Schools will be encouraged to send YouTube videos of the best launch and other celebratory moments to be published on the E<sup>3</sup> website and on the WhatsApp group. Have fun!

#### 4.2.2 A uniquely South African PBL Model

As mentioned above, E<sup>3</sup> has begun work on creating a uniquely South African model of Project-based Learning. Being iterative is really important to E<sup>3</sup> and so we will be testing and developing this model over time to ensure that it is the best model for South Africa and makes the biggest impact on learner achievement.

Our model merges 3 important parts:

- Inquiry-based Learning
- Problem-based Learning
- Design-based Learning



### ***Inquiry-based Learning***

In the Inquiry phase, learners focus on investigating an open question or problem by practising their problem-solving skills. In the process, learners generate and answer their own more focused questions, and as a result develop their conceptual and procedural knowledge of a given topic. Teachers encourage learners to ask questions, scaffolding them through the investigation process and moving them beyond general curiosity into the realms of critical thinking and understanding.

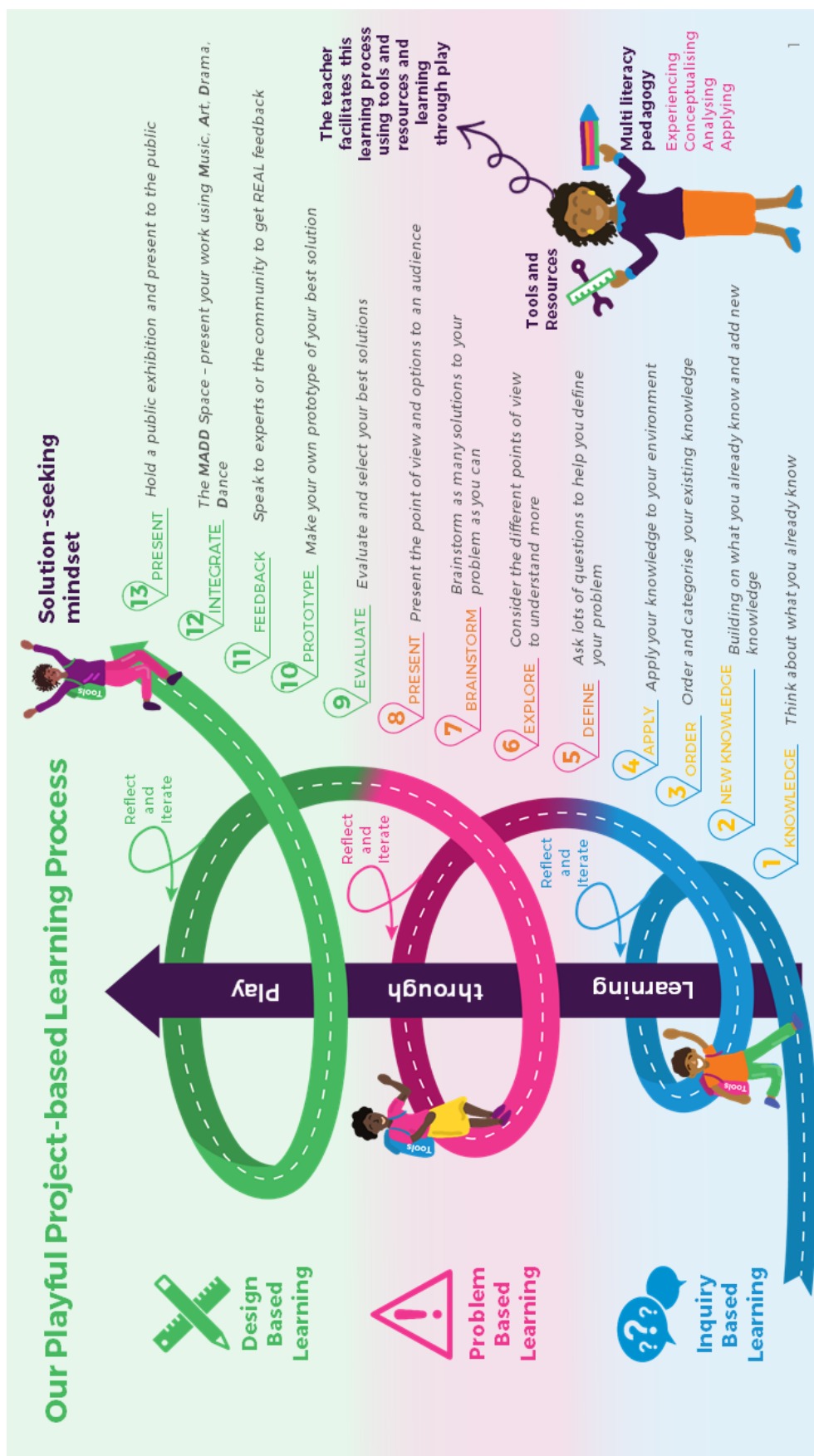
### ***Problem-based Learning***

Learners work in teams to formulate real-world problems and propose possible solutions. Following a learner-centred approach, teachers scaffold the development of learners' ability to work collaboratively, be self-directed, and to think critically - promoting critical thinking skills, communication skills, and cooperation.

### ***Design-based Learning***

In the design phase, learners come up with solutions to complex problems by designing, building and testing prototypes that solve some of the problems they identified in the problem phase. The process requires learners to establish goals and constraints, generate ideas, and create prototypes through storyboarding or other practices.

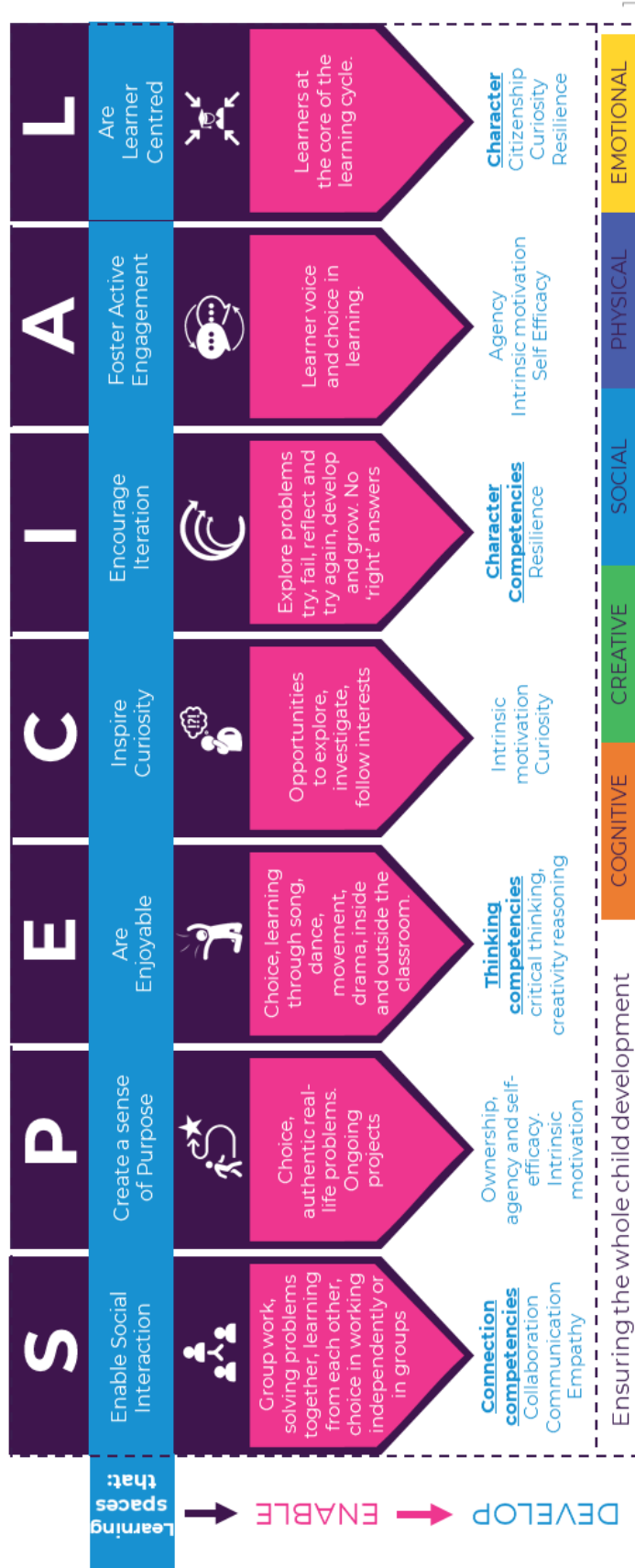
See the image below for more information about what a South African Playful Project-based Learning project might look like.



## What does play look like in South Africa?

### The 7 Essential Characteristics of Playful Project-based Learning

Building on the work of Harvard's Project Zero, Pedagogy of Play in South Africa and the work of The Lego Foundation, we have developed a framework for guiding teachers to become more conscious about what play looks like in classroom. This remains to be tested and we anticipate that it will need continued iteration as it is carried out across diverse classrooms throughout South Africa. This is a place for us to start.



### 4.3 My maths project

In this session we hear from an E<sup>3</sup> teacher who implemented PBL in 2019 before the pandemic.

#### 4.3.1 Getting started with my maths project

I am Michelle van den Nieuwenhof and I teach at Brebner Primary School in Bloemfontein. I started experimenting with Project-based Learning after I was introduced to it at the 2019 E<sup>3</sup> conference. I realised that I had to make maths more realistic and alive in my class, as that was the only way the learners were going to start to achieve.

My first step was to find a real-life problem, which was quite a challenge. One day, I was attending a sale of repossessed vehicles when the idea came to me. So many vehicles get repossessed in our country, and I thought I should do a lesson on how to buy a car. This was amazing because 1) it was a real-life problem and 2) I was having more problems in my class with the boys - and as you know cars and boys - well, they were hooked immediately.



Once I had the real-life problem, I needed to get permission from my principal. Thankfully, I have a principal who is really open-minded. I got halfway through my story and he said to me, “Michelle, you go for it. Just remember one thing, you have to make it successful because my neck is also on the line.” We decided that I would just do it with my two classes, and the other grade 6 classes would carry on with the normal CAPS. The only condition was that we all had to write the same assessments. The next person I went to was my learning facilitator, who thankfully is also very open-minded, and he also said to me, “You know what, go ahead. The only thing I would like is to see all your worksheets and your ideas and you need to just run it by me.” - just so he could cover me if there was something that I wasn't doing properly or if there were any queries. So that is where I started.





### 4.3.2 Keeping learners motivated throughout

The next step was to make sure I covered all the design elements. So I used the design element logo that E<sup>3</sup> gave us at our training. It was important that everything I did was CAPS aligned, so all my academic planning and all my worksheets were CAPS aligned. I also had to make sure that I covered the design elements. So the first thing I did was pose a challenging problem or a question. Then I had to work out how to sustain inquiry. I decided to introduce a new aspect to buying a car regularly. The first thing I did was visit a car dealer with learners. There the learners got prices and they were all excited. As soon as their interest waned and they weren't quite as inquiring anymore, I introduced insurance, and then I introduced building a garage, and then I introduced fuel consumption. So to sustain inquiry, I kept on introducing new things or new points about buying a car.

For authenticity, it wasn't too difficult, because I chose a real-life problem, and buying a car is a reality to most people and none of our kids had ever been to car dealers or gone with their parents. So the fact that we visited a car dealer and the bank visited us just made it more authentic.

The next thing I had to look at was the students' voice and the students' choice. Well, here they had a voice because they could ask questions. Part of the project was to design questions to ask the car dealers or to ask the insurance or to ask the bank. My final part of the project gave them a lot of voice and a lot of choice. With buying the car, they also had to make a decision - I actually gave them payslips and then they had to choose which car would suit their budget.



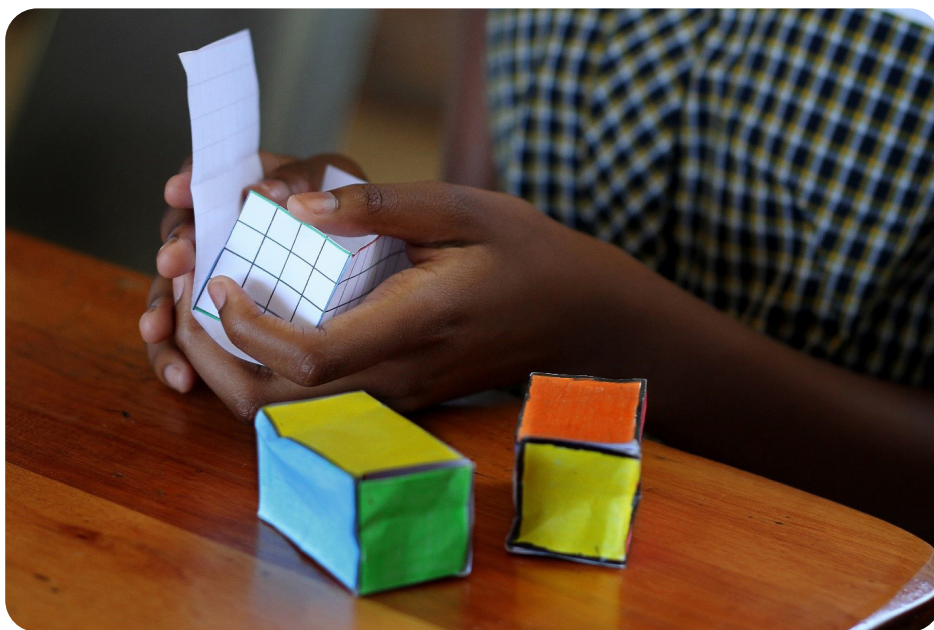
Reflection initially was a problem for me because I wasn't quite sure how I would get the learners to reflect on everything. I worked with the English teacher and we used English reports as part of the reflection for the project.

For critique and revision they had to give a report back.

The public product – well, here the one thing was that we had to report back on. We had a final evening where we invited the parents, the school governing body, the learning facilitator, the car dealership who helped us, and then the banks. So in the report back, there was a lot of public product involved and the learners could thank the companies. A lot of their creativity was exposed in the report back right at the end of the project. For public product, you need to use businesses around you. I used a local car dealer and a local bank. The local car dealer was really open to everything and made it very, very easy. The bank was happy to come and speak to the learners and also give them information about the insurance section of the project. Once I had gone through the whole design element circle, I saw that I had everything covered and I then just linked this to the CAPS.

### 4.3.3 Overcoming my challenges

Like with all new things, a person does experience various challenges and I really experienced quite a few. I think the biggest challenge for me was that I was the “lone wolf” on the staff. People thought I was really weird because I had these crazy ideas, and it was difficult for me to keep my energy going because I didn't have much support initially. Later on it got better, and thankfully my principal backed me. The other challenge was that PB is noisy and it is messy and I'm quite strict in my class. My class is always relatively neat and the desks are all in a row. And my class was transformed into group work and suddenly there were a lot more papers because we were cutting out things, and it was noisy because we were discussing things.



But I got used to that quite easily. The other problem was to start getting the learners to move from traditional talk-and-chalk and traditional teaching to a more dedicated or a more disciplined approach. The learners had to learn to be more disciplined and work, and so that initially was a problem, but towards the end of the project, I didn't even have a problem with that. The other problem, and this is an amazing challenge, I know when I say this you will think, “Oh no, how is this a challenge?” It was a challenge for me to get my learners to leave after maths. They were coming late for all the other classes because they just didn't want to leave the maths class. The classes I had before break used to sit the whole of break and argue and discuss the work. So it was a challenge but it was also a positive.

One of the things that surprised me about the project was 1) that the learners really started enjoying maths and they didn't want to leave the maths class - that was really great. 2) the learners' marks improved. It was really interesting to note that the weakest learners marks really, really improved. The middle, average learners also improved but, on the whole, the top learners didn't improve. Maybe they didn't improve because they had reached their ceiling, but I also found that a lot of the top learners really struggled socially. They struggled with the group work. It was frustrating for them that there were people who couldn't do some of the work and I think that it was a really important social experience for them. They had to learn that there are learners who find maths difficult. What was nice was that eventually they were helping the weaker learners, especially with a lot of the direct operations. I found that their direct operations really improved because the stronger learners in the group helped the weaker learners individually. One of the other things that surprised me was the

creativity of the learners. I was actually shocked because we as teachers really stifle that creativity, because we are so syllabus bound. When I gave the learners the opportunity for creativity, initially they were a bit wary, but once they got going it was really amazing - it was amazing to see at the report back evening the creativity the learners came up with. I gave them freedom and I said to them, "You know what, this is the topic you have to report back on. But you can do just what you want to. You can decide to do a blog, you can decide to do an interview, you can do a play, you can do whatever you want to."

Another positive for me was that there was definitely a deeper understanding of maths and a deeper understanding for the need for maths. What was also great was the parental involvement. Right from the beginning, I involved the parents. I sent them little notes and little photos of everything and I was surprised with the parent involvement. And what was nice as well was the learners were going home and explaining all this to their parents and they would engage with their parents. So these were a few of the really positive things that came out of the PBL that we did.

#### **4.3.4 Seeing real excitement**

The PBL project caused a lot of excitement amongst the parents and amongst the learners, especially the young teachers that came on board. There were a lot of people saying, "can't we make this bigger", and there was a lot of involvement from various stakeholders. So with all this excitement, we decided that we were going to start a Parents' Academy and the Parents' Academy would basically be where we engage the parents. We would get together two or three times a term and we would get a speaker speaking about real-life problems that the parents have. At our first engagement with the parents, we involved the Lego Foundation and we got an amazing lady to come and speak to the parents. The 6 bricks approach was followed and parents were shown how to work with the Lego to help their kids in all kinds of ways. From that, we then moved on and we asked the parents what they would be interested in. At our next engagement, we got an old learner from our school to speak about nutrition, we got a teacher to speak about routine, and then we also discussed sleep. And we did all this in one session. Then, to keep the parents going and to keep the momentum going, we started a newsletter. What happened is we had about 250 parents at our first meeting, which then grew to about 300 at our second meeting, and we wanted to engage even more people. So that is when we started with the newsletter. We sent all that out. Something else we planned (unfortunately because of Covid we couldn't go ahead with it) was an Earth Day PBL, and we started with the initiative to get that going. Unfortunately, we couldn't, but I'm sure we will be able to do it at a later stage. Another spinoff that emerged from the energy of the PBL was that everyone was more excited about everything and we could initiate a really nice World Read Aloud Day. We got all the learners to read to each other, for example, the grade 7s read to the grade 3s, the 6s to 2s, the 5s to 1s and for the grade 4s, we had a different programme. There were many spinoffs from the excitement of the PBL.

#### **4.3.5 Would I do it again, ABSOLUTELY!**

All done and dusted, the question is, would I do this again? Yes, definitely, definitely, definitely. Was it a lot of work? Yes it was! Was it hard? Yes it was. But the spinoffs and the energy that came off this project was just worth so much. It created a great excitement towards learning. For the first time, learners were really positive about learning. They sometimes didn't even realise they were learning. They were discussing things young kids would never normally discuss. So for me, I would definitely do it again. The learners today need a different approach towards teaching and I think the most difficult challenge is the majority of teachers just don't realise that. We still teach how we were taught. Remember the learners have changed completely. The learners today can go to Google, they can get the information they want immediately, but they still need to learn certain skills, and I feel that with the project, I gave them more skills, I equipped them with skills that they need in society. So yes, I definitely would do this again and I would encourage any teacher to really try this.

On reflection of the project, I think I need to question what would I have done differently, and what would I maybe keep the same. I think what I would have done differently is definitely go across the curriculum. When doing this project, I saw great opportunities to

go across the curriculum. And especially in our country where a lot of our learners are not English-speaking learners and we teach in English, I think projects like this can improve the language. And I think PBL projects give the opportunity to incorporate English or Afrikaans or Sesotho into their projects and create a bigger academic language for the learners.

Another thing that I would advise any teacher to do is before you engage in a big project like I just did, rather introduce your learners to smaller PBL projects. Introduce them to the PBL way of teaching and use smaller projects to get them used to it so they can develop the skill and the discipline that they need for PBL. The other thing is that I definitely would have used PBL as part of my assessment. Obviously I couldn't because of the agreement I had with my principal - I still had to do traditional assessment. So that I think would have been a plus point - is if I could have used the PBL as my assessment.

Another thing is I tried to engage all of the learners all of the time. No matter what method of teaching you use, you're not going to engage all the learners all of the time. You're always going to have disinterested learners. So I think when I do this again, I would definitely focus more on the interested learners. The disinterested learners took quite a bit of my energy and I think it's better to rather put my energy into the interested learners. I had a lot fewer disinterested learners, so that was a plus point. And yes, I think one of the big things I definitely would do different is I would worry less. I was so worried that this wasn't going to work. The learners were working and they were receptive to the change. What I would keep the same is definitely to continue with PBL. I would continue with group work. I would continue with the little bags that I had for each group. Each group had a specific coloured bag. This made the distribution of learning material easier. I would, however, make more mental changes. I would worry less. I would go across the curriculum and try not to want to engage all of the learners all of the time. That is what I definitely would have done differently.

Has this experience changed me as a professional teacher and as a person? Yes, definitely. One of the things that amazed me about myself in this project was it unlocked my creativity. I always thought I didn't have much creativity, but it just unlocked my creativity and now I just see projects popping up. I also had the opportunity to engage with a lot of stakeholders through this project. I worked closely with a local car dealer and also a local bank, and professionally, this also gave me confidence as a person and as a teacher, and it also made me realise that us as teachers really need to up our professionalism and we need to be proud of being teachers. Another thing that came out of this is lifelong learning. I'm doing a lot of studying regarding PBL. I'm even thinking of possibly going back to university and completing my Masters. So these are all things I experienced as a person and as a teacher. Another thing that was really pushed to the limit was my skill. Because I wanted to incorporate various things in the project, I had to up my skills. I had to up my IT skills, I had to up my presentation skills and I had to up my people skills. So that was really a very good outcome. And then lastly, the big thing that changed was I was a happy teacher, and happy teachers give you happy learners, which ultimately gives you happy parents. So the experience changed me as a professional, as a person, and it was a magnificent experience that I wish for every teacher.

## 4.4 Assessment in Project-based Learning

In this session, we will look at the following; the goal of assessment, the importance of product versus process, peer assessment, self-assessment, and the integration of various subjects to form one deep assessment.

### 4.4.1 The goal of the assessment

Ensure you know what the goal of the assessment is:

- Baseline – where are we before we start? Where do we need help?
- Formative – how are we doing after each small step?
- Summative – how did it go after a large chunk of work was completed?

Also: reflect on whether you are assessing the process or the product.



After each of these assessments, the teacher reflects and analyses how the assessment went. If it went well, s/he continues; if not, the weak areas need to be addressed before s/he move on. In other words, assessment is not merely a judgement of the learner's ability, but evidence of learning and understanding. The professional teacher sees the results as research evidence to which s/he reacts.

#### 4.4.2 Product versus process

Assessing the product	Assessing the process
Measuring the quantity and quality of individual work in a group project.	Evaluating individual teamwork skills and interaction.

Another important consideration when assessing is to reflect on whether you are assessing the process or the product. Often we try to assess too many aspects, both product and process at the same time, and very often just the product and the assessment becomes messy and unfair. Assessing process is key to Project-based Learning. We all understand the assessment of products, for example, a test, a poster project, a homework assignment. These are second nature to us when assessing. We have been trained to collect marks and often the 21st century skills get left behind. Knowledge and curriculum coverage is not negotiable. We all agree on that. But a 21st century teacher will pay attention, special attention, to how learners are learning.

#### 4.4.3 Group work

Group work is an excellent opportunity to measure the quantity of work and the quality of individual work in a group project. An engaged teacher will use the time when learners are working in groups to make notes on individual teamwork skills and how individual learners interact with others. These are the competencies we need to spend more time on developing. These are the processes we need to be observing.

#### 4.4.4 Peer Assessment

Learners should be given the opportunity to assess each other's contributions. Consider providing a rubric to foster consistent peer evaluations of participation, quality and quantity of work. Good and solid peer assessment is very powerful and may reveal participation issues that the teacher might not even know about. Learners who know that their peers will evaluate their efforts may contribute more to the group and have a greater stake in the project. Ensure that the rubric you create is easy to understand and fair. Even better, create the rubric with inputs from the class. This is real learning.

#### 4.4.5 Self-assessment

Give learners opportunities to evaluate their own performance. Help learners reflect on what they have learnt and how they have learnt it. Consider asking learners to complete a short survey that focuses on their individual contributions to the group, how the group interacted together, and what the individual learner learnt from the project.

#### 4.4.6 Integrate assessment throughout the process

Ensure that groups know how each member is doing by integrating assessment throughout the project: baseline assessment at the beginning to ascertain what they knew before they started. Groups need to know who may be struggling to complete assignments, and members need to know they cannot sit back and let others do all the work.

#### 4.4.7 Assign specific roles in group work

The roles most often needed for group work include:

- a. Facilitator / Team Leader
- b. Recorder
- c. Presenter
- d. Timekeeper
- e. Artist / Illustrator
- f. Wild card (assumes any role if another role-player is absent)
- g. Human Resources (keeps the peace)
- h. Resource manager (ensures that all members have all the tools and resources they need to complete the project.)

When you first introduce roles, provide clear instructions for the responsibilities that come with each project. Filling out a rubric for each member of the group can help teachers assess individual contributions to the group and the individual's role as a team player. Here is an example of a group work assessment rubric.

Example of a Group Work Assessment Rubric				
Skills	Advanced - exceeds expectations	Competent - meets expectations	Progressing - does not fully meet expectations	Beginning - does not meet expectations
Contributions & Attitude	Always cooperative. Routinely offers useful ideas. Always displays positive attitude.	Usually cooperative. Usually offers useful ideas. Generally displays positive attitude.	Sometimes cooperative. Sometimes offers useful ideas. Rarely displays positive attitude.	Seldom cooperative. Rarely offers useful ideas. Is disruptive.
Cooperation with Others	Did more than others. Highly productive. Works extremely well with others.	Did own part of workload. Cooperative. Works well with others.	Could have shared more of the workload. Has difficulty. Requires structure, directions, and leadership.	Did not do any work. Does not contribute. Does not work well with others.
Focus, Commitment	Tries to keep people working together. Almost always focused on the task. Is very self-directed.	Does not cause problems in the group. Focuses on the task most of the time. Can count on this person.	Sometimes focuses on the task. Not always a good team member. Must be prodded and reminded to keep on task.	Often is not a good team member. Does not focus on the task. Lets others do the work.

Team Role Fulfilment	Participates in all group meetings. Assumes leadership role. Does the work that is assigned by the group.	Participates in most group meetings. Provides leadership when asked. Does most of the work assigned by the group.	Participates in some group meetings. Provides some leadership. Does some of the work assigned by the group.	Participates in few or no group meetings. Provides no leadership. Does little or no work assigned by the group.
Ability to Communicate	Always listens to, shares with, and supports the efforts of others. Provides effective feedback. Relays a lot of relevant information.	Usually listens to, shares with, and supports the efforts of others. Sometimes talks too much. Provides some effective feedback. Relays some basic information that relates to the topic.	Often listens to, shares with, and supports the efforts of others. Usually does most of the talking. Rarely listens to others. Provides little feedback. Relays very little information that relates to the topic.	Rarely listens to, shares with, or supports the efforts of others. Is always talking and never listens to others. Provides no feedback. Does not relay any information to teammates.
Accuracy	Work is complete, well-organized, error-free, and done on time or early.	Work is generally complete, meets the requirements of the task, and is mostly done on time.	Work tends to be disorderly, incomplete, inaccurate, and is usually late.	Work is generally sloppy and incomplete, contains excessive errors, and is mostly late.
TOTAL MARKS (24)	COMMENTS/FEEDBACK:			

In conclusion, assessment is a key driver of good Project-based Learning, but each assessment, be it peer, individual or group, should have a purpose - ultimately to consistently develop learners who are well equipped for the new world after school. This can only be achieved if the process of learning is respected. Product important, process critical!

## 4.5 Supporting deep learning within Project-based Learning

Because our pilot process is iterative, every year of M&E and every classroom observation undertaken by the E<sup>3</sup> team, delivers information which will help us deepen the projects and to strengthen, process and develop teacher skills.

What follows are four strategies to deepen learning in the implementation of Project-based Learning (PBL):

- the importance of recognizing diversity and being able to scaffold to address inclusivity;
- an appreciation of the value of collaborative learning;
- an understanding of the LOLT and the recognition that every teacher is a language teacher if learning is to be embedded deeply;
- the recognition that general classroom management enhances deep learning.

In this section, we look at two key tools for ensuring deeper learning.

1. Recognizing diversity in the classroom.
2. The importance of recognizing that whatever we teach, we will always be a language teacher first.

#### 4.5.1 Diversity and scaffolding

##### *Diversity*

In South Africa, the curriculum and education system as a whole still face huge challenges in responding, in an adequate way, to the diverse needs of the learner population. Overcoming these challenges will contribute to the reduction of the massive numbers of drop-outs, push-outs and failures (White Paper 6, p8).

White Paper 6 (DBE, 2001) is the policy framework that directs the building of a single, inclusive system of education and training, built on the principles of human rights and social justice for all learners. The policy framework states that the education and training system should promote education for all and foster the development of inclusive and supportive centres of learning that would enable all learners to participate actively in the education process so that they can develop and extend their potential and participate as equal members of society.

The South African Constitution (Act 208 of 1996) ensures the fundamental right to basic education for all South Africans. Section 29 states that “everyone has the right to a basic education”. This requires the development of a system that accommodates and respects diversity, including departmental, institutional, instructional and curriculum transformation. In order to develop such a system, it is important that all teachers develop knowledge and skills to enable them to enact inclusive practice in the classroom.

Part of our responsibility as teachers is to make sure we think of ways to enhance our inclusive practice to ensure all learners in our classes are learning.

##### *Scaffolding*

A core component of supporting learning by all is to provide effective scaffolding when required by learners. The term “scaffolding” is a metaphor taken from the building industry – where a scaffold is a temporary structure that is taken away when the building can stand alone (English, ESL and more 2006).

Scaffolding must begin from what is near to the learner’s experience and build to what is further from their experience, i.e., moving from the known to the unknown. Vygotskian theory shows that learning starts from the concrete and moves through the representational to the abstract (Woolfolk, 1998). Scaffolding starts with a learner getting a lot of support while they tackle a task, to teachers slowly removing support as the learner masters the task and can cope independently.





### How to scaffold: differentiated Instruction for Project-based Learning

A good way to start differentiated instruction is by recognising that every learner is worthy of individual attention and that you should adjust, as far as possible, to accommodate individual needs by scaffolding to support each learner.

Consider the following steps when planning your differentiated approach to teaching.

#### Step 1: There are different approaches in lesson delivery

In Project-based Learning, learners have many chances to understand the content, so capitalise on the opportunity to get to know learners individually. Before you start planning a PBL cycle, have a goal in mind:

- What skills do you want them to practise?
- What do you want them to show in the end?

Plan questions for “low” and “high” learners before you start Project-based Learning.

Here are some easy things to incorporate into PBL to deliver your lesson in different ways:

- Videos
- Reading selections
- Writing assignments
- Building a 3D model
- Discussion

#### Step 2: Different learning styles

One of the essential elements of PBL is student choice and voice. Not only do learners have a choice in how to show what they’ve learnt in the project they turn in, but they also have several choices throughout the project.

Everyone must do a project in Life Skills, but it can be done with the strategies and tools that work for the individual student.

PBL gives learners a chance to learn through technology, text, art, multimedia, and much more.

#### Step 3: Grouping to differentiate

During PBL, strategically shuffle groups around often. Not only does it keep it fresh and new for learners, but it allows for the teacher to implement differentiated instruction through grouping.

- Different groups to try in your classroom:
- Create similar groups and pool a small group of struggling learners.
- Group these mixed groups.
- Group learners by interests.
- There are a lot of choices during PBL, so get some learners together that make the same choice!
- Try groups of 2, 3, or 4 people.
- Try partnerships of 1 boy and 1 girl.
- Allow time for learners to work independently but provide a space if they want to work in a “whisper group”.
- Give group members roles based on their talents and affinities.

#### Step 4: Using a rubric to differentiate

Create rubrics for each PBL activity and give them to learners before you even start the activity so that they know what you expect to see by the end of their project.

### Step 5: Enrichment for advanced learners

Create extra challenging activities as part of differentiation. Challenging advanced learners is equally important as helping those who struggle. Build varying challenges into your Project-based Learning because it allows you to differentiate for those learners without having to do anything extra during the actual activity.

#### 4.5.2 Every teacher is a language teacher

In the South African context, you are likely to find many learners in your classroom being taught in a language that is not their home language. This means that it is every teacher's responsibility to support the language development of learners regardless of whether you are a language teacher or not. Teachers of every subject need to understand that the learners' ability to access subject content is enabled or limited by their language proficiency.

Teachers play a critical role in supporting language development. Beyond teaching children to read and write in school, we need to help children learn and use the academic language related to the various school subjects. We need to help them become more aware of how language functions in various modes of communication across the curriculum. As teachers, we need to understand how language works well enough to select materials that will help expand our learner's language competencies and to plan instructional activities that give learners opportunities to use the new language they have learnt.

Teachers need to understand how to design the classroom language environment so as to optimise language and literacy learning and to avoid linguistic obstacles to content area learning (Wong, Fillmore & Snow, 2000, p. 7).

Teachers need to have a basic understanding of the order of language acquisition and how to support each stage. Research has identified stages of language acquisition. Every teacher should be aware of what these are and know some simple strategies for supporting learners in each of these stages. The table below unpacks signs of each stage. This will help you better understand and assist struggling learners.

Language Acquisition Stage	Description of stage	General Support Strategies
<b>Pre-Production</b>	Silent period, Absorbing not speaking	Emphasise listening. Use visuals. Speak slowly, shorter words, gesture.
<b>Early Production</b>	Learner uses short words and sentences but is still doing more listening than speaking.	Develop new vocabulary. Use visuals. Pair work.
<b>Speech Emergent</b>	Speech more frequent, words and sentences are longer. Context clues. Vocabulary begins to increase.	More academic vocabulary. Use visuals and make connections with learners' background knowledge as much as possible.
<b>Beginning Fluency</b>	Speech is fairly fluent in social situations with minimal errors. Academic language is challenging.	Work in pairs and groups to discuss content and process the new language. Ask critical questions. Model academic language. Visual support and vocabulary.

<b>Intermediate Fluency</b>	Commenting in the social language is fluent, and is beginning to offer opinion or analyse a problem.	Identify and model key academic vocabulary and phrases. More academic skills, brainstorming, prioritising, category summarising, compare and contrast.
<b>Advanced Fluency</b>	Fluent communication in all contexts. Comfortable when exposed to new academic information.	Continue with visual support, building on background knowledge, pre-teaching vocabulary and making connections between content areas. Offer challenging activities to expand vocabulary.

A learner with poor language ability in the LOLT may be misunderstood as “slow” or uninterested. It is critical that teachers recognise that learners who are not engaged or participating in class may be experiencing a language barrier or maybe they just need more time. A basic understanding of language acquisition would help teachers understand that if, for example, a new language learner is “silent”; this is not because s/he is “slow”, but because s/he is absorbing and listening deeply. (I.e., s/he is in the Pre-production Period of Silence and this is normal and actually an extremely important stage.)

## 4.6 Supporting deeper learning in PBL: Classroom management and group work

### 4.6.1 Classroom management strategies

Project-based Learning can demand different and often unpractised skills from more traditional teachers. Teachers need to try to create conditions in the classroom for PBL to thrive. This requires classroom management strategies and positive behaviour management techniques that allow for a learner-centred classroom.

Classroom management strategies need to support collaboration and a productive group work environment. This requires careful planning and defined roles for each member of the group. Opportunities should be created for individual tasks, group work and reflection. How do we manage our classrooms during PBL? Here are some considerations to assist you in managing your classroom:

#### a) Keep learners busy

If learners are engaged, they are less likely to misbehave. Use Project-based Learning activities that have printable guides and sheets to help learners organise their work, and have easy access to “Just-in-time” information either from textbooks, the internet or printed out information sheets which you can later collate and use to form a generic toolkit. Textbooks take on a different role in PBL: they are useful for research and no longer drive the lesson.

Take the time to plan each day of your PBL with a fresh activity that will have learners asking many questions, because this is the beginning of critical thinking. Each day should have a specific task or topic, but different learners might be working towards it in a different fashion - probably very different from your own strategy. Allow them the freedom to explore different ways of solving a problem.

#### b) Teacher involvement is critical

In the past, some teachers have used projects as a chance to let the learners “get on with it on their own” and would be unavailable to learners. This is not Project-based Learning!

In PBL teachers take on the role of facilitator. Take the time during PBL, to walk around and talk to your individual learners. Because everyone is very busy, this is an excellent opportunity for one-on-one conversations with the learners in your class, especially those who shy away from attention.

Don't wait for the "usual suspects" to raise their hand and ask for help. Engage each learner in discussion and ask them questions about the topic. Groups are a safe space for shy learners to find their voice. This allows you to build relationships with your learners and let them know that you're nearby and paying attention to what they're doing.

**c) Engage struggling learners by selecting suitable tasks which will empower them.**

Target the learners that you know struggle in class. Diversify the activities so that every learner is working on something s/he is good at!

Plan out the questions you'll ask these learners and be prepared to listen to what they have to say. Don't be afraid of silences. Learners sometimes take time to formulate their answers. Give them space and do not give in to the need to fill the silence with your own words. Let them take responsibility for filling that space.

**d) Have a variety of topics for learners to explore**

During Project-based Learning, we want learners to ask questions and dive deeper into the topic. If possible, have computers, books and other media available so that no learner has ever really completed the task. Expect more from learners. They should be working against time. This will force the group leader or timekeeper to manage time, encourage creativity and result in high productivity. If learners are really "into" a topic, they won't stop engaging. They will look for more information on their own. This is a part of learning that needs to be instilled in learners because they aren't always allowed the freedom to explore a topic.

**e) Universal classroom management strategies**

- Model ideal behaviour.
- Let learners help establish guidelines.
- Document rules and consequences.
- Avoid punishing the class.
- Encourage initiative.
- Offer praise – catch the positive.
- Use non-verbal communication.

These are links to online resources about classroom management.

<https://performingineducation.com/classroom-management-and-project-based-learning-20-Classroom-Management-Strategies/> | [Prodigywww.prodigygame.com](http://Prodigywww.prodigygame.com) › [blog](#) › [classroom-management-strategies/](#)

#### 4.6.2 Group work and assessment of group work

Collaboration is meaningful for different types of learning. Incorporating collaborative Project-based Learning during class time is an excellent way to help learners develop and practise problem-solving skills as well as teamwork and collaboration.

Collaborative learning refers to learning in and through groups by interaction and dialogue. Mirroring one's own beliefs and ideas is a process that creates inter-subjective and meaningful knowledge. Collaborative learning enables you to negotiate and create new meaning. It is part of our active engagement in the world and is shaped by our dynamic relations with the world.

Learning in Project-based Learning is fundamentally a social process that involves participation in group learning. This collaborative work in the group can be the most



rewarding and productive part of learning, as people work together and help each other to understand what was uncovered in research and how it can be applied to the problem presented. This applies to teachers and learners. Collaboration allows you to develop the security and authority needed for taking responsibility for your own learning and is an essential skill you need in your career as you will be invariably working as a team member.

### Step 1: Purpose

- Think carefully about how learners will be physically arranged in groups. Think about how the layout of your classroom will impact the class activity. Will learners be able to hear one another clearly? How can you moderate the activity to control volume?
- Insist on socially appropriate conduct between and among learners to respect people's differences and create an inclusive environment.
- Share your rationale for using group work. Learners must understand the benefits of collaborative learning.

### Step 2: Introducing the group activity

- Decide on group size. The size you choose will depend on the number of learners, the size of the classroom, the variety of voices needed within a group, and the task assigned.
- Decide how you will divide learners into groups. Randomly assign learners to groups by counting off and grouping them according to a number. Another idea is to hand out coloured cards and group learners according to the colours they choose.
- Allow enough time for group work. Recognise that you won't be able to cover as much material as you could if you lectured for the whole class period. Cut back on the content you want to present in order to give groups time to work.
- Have learners form groups before you give them instructions.
- Explain the task clearly. This means both telling learners exactly what they must do and describing what the final product of their group work will look like.
- Set ground rules for group interaction. Especially for extended periods of group work, establish how group members should interact with one another, including principles such as respect, active listening, and methods for decision making.
- Encourage the learners to ask questions. Even if you believe your instructions are crystal clear, learners may have legitimate questions about the activity. Give them time to ask questions before they get to work.

### Step 3: Monitoring the group task

- Monitor the groups but do not hang around. As learners do their work, circulate among the groups and answer any questions raised. Facilitate more than teach.
- Avoid interfering with group functioning. Allow time for learners to solve their own problems before you get involved.
- Be slow to share what you know. If necessary, clarify your instructions, but let learners struggle — within reason — to accomplish the task.

### Step 4: Ending the group task

Provide closure to the group activities. Learners tend to want to see how their work in small groups was useful to them and/or contributed to the development of the topic.

Oral reports: Have each group give one idea and rotate through the groups until no new ideas arise.

Written reports: Have each group record their ideas and either present them yourself or have a group member do so. One variation on this is to have groups record their conclusions on a section of the blackboard or on flipchart paper that is then posted on the wall.

To conclude session 6, successful PBL depends, in part, on confident classroom management – especially the ability to structure and manage groups. Group work is not simply a rearrangement of desks, it is much deeper. Group work should be about collaboration and participation of all learners as they focus on accomplishing a task. As learners actively work together, they engage with information and concepts far more deeply than if they were merely sitting and listening to you talk. Group work is also one of the best strategies to stimulate 21st century competencies such as connection and thinking.

Group work and all that goes with it can be a huge shift, especially if straight lines and quiet classes are the norm in a school. Learning to structure and manage groups and plan effective group work tasks is a process, it will take time and there will probably be some bad days as you and the learners adjust to all the newness. But please continue to try, because eventually you will see such huge and positive results in your learners that you will never go back.





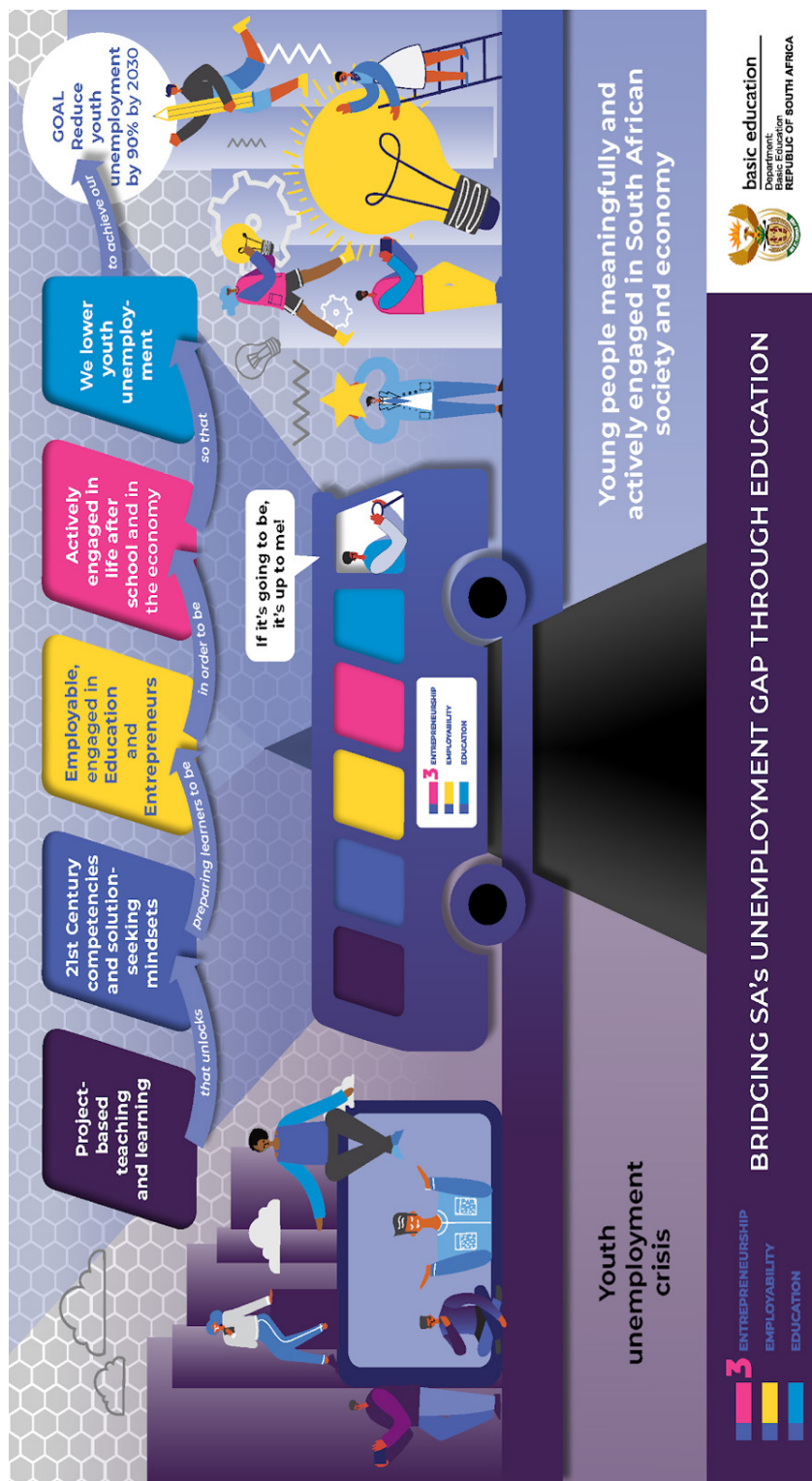
## 5. The E<sup>3</sup> programme and the GEC

### 5.1 Alignment between E<sup>3</sup> and GEC: Future-proofing learners by unlocking competencies

At the end of 2019, the E<sup>3</sup> monitoring and evaluation team analysed the results of their data. They found that there was an outcry for more teacher support toward helping children become more actively engaged in the classroom and better prepared for the 21st century and the challenges of the Fourth Industrial Revolution. As a result, the team decided to appoint co-facilitators and coaches who could assist provincial master trainers to train teachers as well as to visit and support schools during the implementation of the third term active learning projects. The role of the coaches included five areas. Planning, observation, support, reporting and reflection.

AREA	
<b>Planning</b>	To meet the Provincial co-ordenators (both curriculum and assessment) and be assigned co-training sites with the DCEs.
	To engage with Principals and SMTs to set expectations.
	To create a space for dialogue with the teachers to plan how to implement the PBL project in the classroom in terms of logistics and mindset.
<b>Observation</b>	To encourage teachers to form study buddy groups and observe each other's classes of even team teach.
<b>Support</b>	To ensure SMT support (informing, information gathering, etc).
	To identify challenges and brainstorm solutions with teachers after observation visits.
	To listen to, acknowledge and document learner stories in terms of the overall goals.
	To utilise WhatsApp group communication with their teachers as part of the support process (once a week).
	To initiate PLCs and create a sustainable plan for PLCs (also in order to achieve SACE points).
<b>Reporting</b>	To E <sup>3</sup> (verbal, videos, voice notes, written reports).
	To provide Website uploads
	To participate in Coaches' WhatsApp group.
<b>Reflection</b>	To conduct a reflection process at the end of term 3 with their teachers during the last PLC.
	To attend an E <sup>3</sup> reflection session with E <sup>3</sup> .

## 5.2 SA: today -The bus from darkness to light



"PLCs are communities that provide the setting and necessary support for groups of classroom teachers, school managers and subject advisors to participate collectively in determining their own development trajectories, and to set up activities that will drive their development." (ISPFTED, p.14)



### **5.3 Support for GEC (PLCs, classroom observation, remote coaching, TeacherConnect)**

#### **5.3.1 School visits**

##### **Your facilitator will visit schools in four provinces**

There are two types of visits to school – ‘Celebrate and Support’ visits and Monitoring and Evaluation (M&E) visits. The visits are very different in terms of function.

Annual school visits are planned to a sample of E<sup>3</sup> schools with the purpose of celebrating success and offering developmental support.

The impact of the pilot is being measured by a professional monitoring and evaluation team. Their processes measure the mindset and competency of teachers and learners, as well as the development of schools and surrounding stakeholder communities towards the goals of E<sup>3</sup>.

This formal monitoring and evaluation process rigorously engages with key stakeholders and conducts classroom observations to inform the teacher development model.

#### **5.3.2 What are professional learning communities and why are they important to E<sup>3</sup>?**

##### **PLCs and the power of PLCs**

##### **What are Professional Learning Communities?**

Professional Learning Communities are groups of professionals in our present context, such as teachers, who decide to come together to learn with and from each other on needs they themselves have identified.

PLCs are communities that provide the setting and the necessary support for groups of classroom teachers, school managers and subject advisors to participate collectively in determining their own developmental trajectories and to set up activities that will drive their development. PLCs are fully embedded in South African policy, as cited in *the integrated strategic planning framework for teacher education development*.

##### **Why are PLCs important to E<sup>3</sup>?**

E<sup>3</sup> teachers will be at the forefront of changing teaching and learning in South Africa. In order to be the trailblazers and tone setters of change, E<sup>3</sup> teachers need to become reflective practitioners who engage in lifelong professional development and action research. This includes engaging with likeminded teachers on the implementation of Project-based Learning in classrooms.

PLCs offer the platform for this engagement and E<sup>3</sup> has chosen PLCs as one of the key mechanisms so support teachers. Global research confirms that exchanging experiences and learning from each other directly is a form of support most appreciated by teachers.

The very nature of PLCs allows teachers to direct and take charge of their own professional development. The following characteristics of PLCs confirm this. PLCs are driven by the needs of teachers and focus on content and real classroom issues. They allow for the sharing of materials and teaching strategies and support innovation by infusing new ideas into teaching practice. PLCs support collaboration and create a safe space for teachers to share ideas and collaborate in their learning. They allow teachers to profile models of best practice to provide guidance to fellow teachers and create a platform for coaching and expert support. They provide opportunity for feedback and reflection and create the opportunity for teachers to meet regularly to discuss teaching and learning.

PLCs are the perfect professional model to support the change we want to bring. E<sup>3</sup> hopes to encourage and support teachers to establish PLCs to plan and reflect on the implementation of Project-based Learning and the activation of 21st century competencies in learners. When establishing your own PLC, consider the following essential ingredients of effective PLCs:

- There must be mutual trust and respect amongst members, in other words, a safe environment to openly share.
- Members, in this case teachers, must set the agenda. Members must be motivated by a sense of collective responsibility for student learning.
- PLCs need to be supported by the school management and successful PLCs need to be skilfully facilitated. When necessary, input from external experts must be sourced.

### What can you expect from the E<sup>3</sup> team?

The E<sup>3</sup> team will support teachers to establish PLCs. The E<sup>3</sup> coaches will play an ongoing supportive role to the PLCs. Some PLCs will be facilitated using technology where teachers will connect with other teachers at a distance while other PLCs will rely on more direct forms of face-to-face dialogue.

In conclusion, peer learning and collaboration among teachers is amongst the highest indicators of effectiveness in teacher development. It allows teachers to learn from colleagues, transfer that knowledge to their classroom practice, and be reflective about what they have learnt.



### 5.3.3 Classroom observation

A PBL rubric is being developed to help teachers.

### 5.3.4 Remote coaching

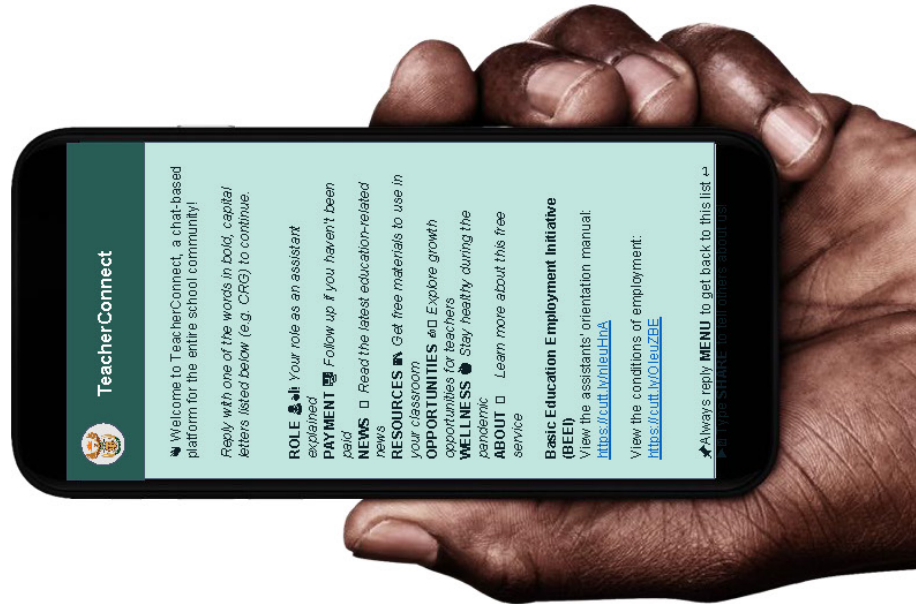
Your facilitators are available as you need them.

Dr Ria de Villiers	- 083 453 9365 / <a href="mailto:ria@ecubed-dbe.org">ria@ecubed-dbe.org</a>
Ricky Ioannou	- 072 693 9857 / <a href="mailto:ricky@ecubed-dbe.org">ricky@ecubed-dbe.org</a>



### 5.3.5 TeacherConnect

E<sup>3</sup> has developed a WhatsApp messaging system that helps all teachers become part of the DBE and a professional teaching community.



## Educator Support

On TeacherConnect, Educators are supported with a wealth of available, free, resources.

- Professional development learning materials
  - E<sup>3</sup> methodology materials
  - E<sup>3</sup> info sheets
- Professional development training
  - Numerous types of resources such as teaching online, learning a new language, health and fitness (delivered by external stakeholders)
  - E<sup>3</sup> methodology training (delivered by E<sup>3</sup>)
- Teaching resources
  - E<sup>3</sup> learner materials - workbooks, planners, notes
  - ATPs
  - Learning materials
  - Guides to support learners
  - Reading materials
  - Curriculum recovery
- TeacherConnect has been used to assist the DBE in their support and communication efforts:
  - School opening and closing dates, term timetables and relevant, breaking news
  - Information around Matric results and the 2nd chance programme
  - Dipstick surveys run on a daily basis
- Health and Wellness
  - COVID-19 Self-assessment, HealthCheck
  - Vaccine information
  - Psychosocial support through journaling and other resources
- BEEI Support
  - Surveys, information and more



## Our highpoints

*Major growth on TeacherConnect*



### 148,665 Users

TeacherConnect has grown to just under 150,00 users with tremendous uptake over the last 6 months.



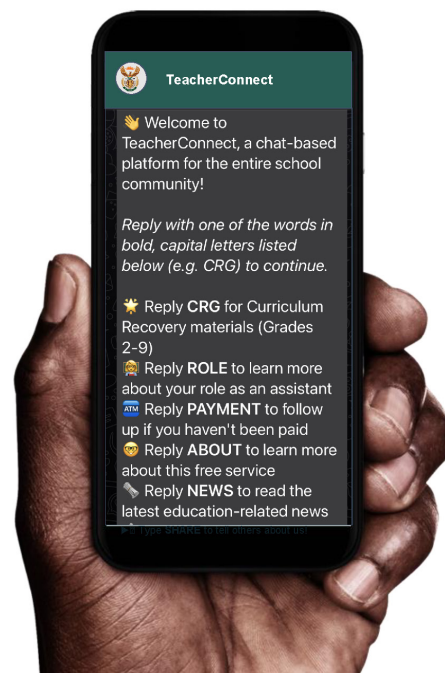
### 80% Are Registered Users

120,295 of the users are registered, allowing for greater and richer engagement like personalised Menus per Cadre.



### Representing Multiple Cadres

The registration database includes information on all cadres in the sector with the largest cohort being Education Assistants (54,173), Teachers (22,678) and Principals (12,776). Learners, Parents and other stakeholders make up the additional cadres.



## Our highpoints

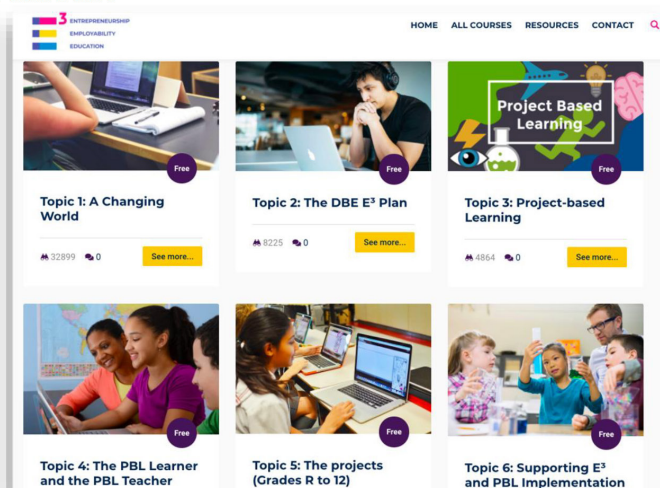
*Free online learning platform for educators*

Supporting teachers in their changing roles, **LearnDash** is a **zero-rated**, online learning tool for teachers, where the E<sup>3</sup> Playful Project-Based learning-methodology is taught.



### 4,580 Educators

Have registered for LearnDash courses.





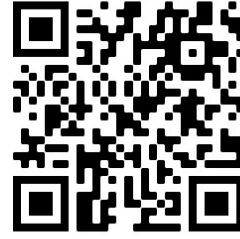
# TeacherConnect

*Providing reach and scale*

**E3's TeacherConnect** initiative was established to provide principals, teachers, parents and learners with tools to teach and support the implementation of a playful, project-based methodology.

Using the most ubiquitous chat application, we're able to reach Educators in the same place that nearly 50% of South Africans go every day- WhatsApp.

WhatsApp the word **HI** to  
060 060 33 33 to chat to **TeacherConnect**.  
Or scan this QR code and start chatting





## 6. Quick overview of Grade 7 and 8 Projects

### 6.1 The Grade 7 and 8 Projects (as the preparation for the GEC will run over three years ideally)

**6.1.1 Grade 7:** The problem we are solving in Grade 7 is that of organising a successful Entrepreneurs Day to raise money and leave a legacy for the school. The E<sup>3</sup> project solution is to conduct an entrepreneurially-driven Entrepreneurs Day. It starts with a journey of discovery and research into what entrepreneurship is, what characteristics entrepreneurs display, and what skills are needed to succeed in the world of business. The end-of-project display of work is an Entrepreneurs Day which the Grade 7s organise and where their different groups will sell their products or present services at their stalls. The CAPS outcomes for term 3 integrated into the project include among other aspects of entrepreneurship, the characteristics and skills of an entrepreneur, a SWOT analysis, principles of advertising, budgeting for the Entrepreneurs Day, and an income and expenditure statement, as well as the actual hosting of the Entrepreneurs Day. The assessment for term 3 includes a project for 50 marks, thus there is no extra load on you. The project has been set out and even includes a rubric.

Let's unpack the project itself. Grade 7 learners will form groups and these groups will take the form of a small business. The groups brainstorm ideas for a product or service they can present and will then start generating ideas of how to run a profitable stall at the Entrepreneurs Day. Throughout the term, the groups/small businesses will work on various aspects of entrepreneurship, such as advertising and budgeting, to ensure that they prepare their stalls for the Entrepreneurs Day.

**The public event:** Organising the Entrepreneurs Day can be a challenging experience for younger learners, but with the guidance of their teacher, this can be a rich and fulfilling experience which not only involves learning, but also provides them with first-hand experience of the entrepreneurial world and allows them to feel a sense of pride in fundraising for their school.

**The competencies and skills in this project:** The fact that the learners have used entrepreneurial skills to run a business is a great way of feeling accomplished and will start stimulating their minds to think critically and creatively about the possibility of becoming entrepreneurs in the future. These skills are aligned with the competencies promoted by E<sup>3</sup>. Collaboration and teamwork, communication and critical thinking, and the formation of a resilient, self-reliant and driven character that seeks to solve local problems.

**6.1.2 Grade 8:** The problem that we are solving in Grade 8 is the importance of identifying socially relatable role models in developing entrepreneurship and leadership skills. The E<sup>3</sup> project solution is to identify and do research on an inspirational role model. The end-of-project event is the celebration of this local hero where learners will provide visual representations of the hero. The CAPS outcomes for term 3 integrated into the project include, among other aspects of entrepreneurship, the forms of ownership and how small businesses and entrepreneurs play a role in sustainable job creation and the sustainable use of natural resources. The assessment for term 3 remains a case study that is provided.

Let's unpack the project itself. Grade 8 learners will form groups and these groups will identify a local hero in their community that they would like to interview. The group prepares questions for the hero and then conduct the interview. The heroes could come to

the school or can be interviewed on video. The groups then capture this information and prepare a visual presentation of their local hero for a public display.

**The public event:** The sky is the limit and depending on what is manageable by the school, there are many possible opportunities for a public event. There could be a gallery where presentations of local heroes are showcased in a type of walk of fame. Also the local hero could be invited to the school for a fireside chat.

**The competencies and skills in this project:** the learners have used and acquired numerous research, interview and writing skills as well as the skills that are aligned with the competencies promoted by E<sup>3</sup> - collaboration and teamwork, communication and critical thinking that seeks to solve local problems.

### 6.1 The Grade 7 and 8 Projects (as the preparation for the GEC will run over three years ideally)

**6.1.1 Grade 7:** The problem we are solving in Grade 7 is that of organising a successful Entrepreneurs Day to raise money and leave a legacy for the school. The E<sup>3</sup> project solution is to conduct an entrepreneurially-driven Entrepreneurs Day. It starts with a journey of discovery and research into what entrepreneurship is, what characteristics entrepreneurs display, and what skills are needed to succeed in the world of business. The end-of-project display of work is an Entrepreneurs Day which the Grade 7s organise and where their different groups will sell their products or present services at their stalls. The CAPS outcomes for term 3 integrated into the project include among other aspects of entrepreneurship, the characteristics and skills of an entrepreneur, a SWOT analysis, principles of advertising, budgeting for the Entrepreneurs Day, and an income and expenditure statement, as well as the actual hosting of the Entrepreneurs Day. The assessment for term 3 includes a project for 50 marks, thus there is no extra load on you. The project has been set out and even includes a rubric.

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**The public event:** The sky is the limit and depending on what is manageable by the school, there are many possible opportunities for a public event. There could be a gallery where presentations of local heroes are showcased in a type of walk of fame, also the local hero could be invited to the school for a fireside chat.

**The competencies and skills in this project:** the learners have used and acquired numerous research, interview and writing skills as well as the skills that are aligned with the competencies promoted by E<sup>3</sup>. Collaboration and teamwork, communication and critical thinking that seeks to solve local problems.





## 7. Selection of one of three projects - Grade 9

### 7.1 Type 1: Face-to Face "Dragon's Den"

**Grade 9:** The problem we are solving in Grade 9 is how starting a business and creating self-reliance can be a solution to problems such as poverty and unemployment. The E<sup>3</sup> project solution is to identify a viable business idea, create a business plan and present the business plan to a panel of judges. The end-of-project events are the showcasing of their businesses through a display and also a business presentation. The project runs over two terms and thus the CAPS outcomes for term 3 and term 4 integrated into the project include, among other aspects of entrepreneurship, the functions of a business and the various components of a business plan. The assessment for term 3 remains the analysis of business functions through either a presentation or a poster with all the rubrics provided.

Let's unpack the project itself. Grade 9 learners will form groups and these groups will identify a viable business idea. The groups will then work through the components of the business plan and create a business plan that they will present. The groups will then showcase their businesses through a display and also do a business presentation to a panel of judges.

**The public event:** The public event is twofold. Firstly, the groups will showcase their businesses through a display where people can walk around and see what the various businesses do. Secondly, the groups will present their business plans to a panel of judges taking the form of a Dragon's Den.

**The competencies and skills in this project:** The learners have used skills that are aligned with the competencies promoted by E<sup>3</sup>. Communication and collaboration to work together to create and present a business plan, and critical thinking and creativity to identify a business that can solve local problems.

The projects for Grades, 7, 8 and 9 EMS all aim to solve local problems. They have meaning for our learners, they are fun and most of all, they develop the skills that our learners need for changing the world of work.

### 7.2 Type 2: Online project

Already discussed on page 21-22.

### 7.3 Type 3: Face-to-Face "Dragon's Den" integrated with other subjects

Currently with curriculum team



## **8. The Grade 9 Project (Type 1) EMS-based**

### **8.1 Perfect Entrepreneur Game**

#### **Role play**

#### **Materials needed**

To play this role play game, the following resources are required:

- a flipchart or board in the classroom on which to write
- every learner must have a pen or pencil and paper to make notes
- DVD with demonstration lesson

#### **Procedure**

The methodology of the game centres on learners performing in pairs during 2 role play sessions of limited duration. One session is dedicated to identify the characteristics of a “Not so Perfect Entrepreneur” and the other to identify the characteristics of a “Perfect Entrepreneur”. Each learner in every pair gets the opportunity to share information and make notes in a particular role play session. These role-play sessions are then followed by a group discussion.

#### **Play the game**

- A learner could be appointed to write on the board during the classroom discussion session. However, a teacher can also perform this role.
- Divide the learners into pairs.
- Let the learners in each pair decide who is Player 1 and who is Player 2.
- In the first role play session, have Player 1 in each pair give reasons why he or she thinks he or she would be a “Not so Perfect Entrepreneur”.
- Player 2 in each pair must write down all the reasons provided by Player 1.
- After 3 minutes, Player 1 and Player 2 swop roles. Now Player 2 in each pair must give reasons why he or she thinks that he or she would be a “Not so Perfect Entrepreneur”, while Player 1 in each pair writes down all the reasons provided by Player 2.
- When another 3 minutes have lapsed, learners proceed with the second role play session in which they now give reasons why they think they would be a “Perfect Entrepreneur”.
- Exactly the same procedure is followed as in the first role play session with regards to the swapping of roles after 3 minute intervals.
- At the end of the second role play session, a classroom discussion on the characteristics of a “Not so Perfect Entrepreneur” and a “Perfect Entrepreneur” is conducted.
- The teacher or learner appointed as scribe gets feedback from the class and compiles a list on the board or flipchart indicating the characteristics of a “Not so Perfect Entrepreneur”.
- Ensure that each pair gets the opportunity to contribute to the list and discussion.

- Thereafter, the teacher or learner appointed as scribe compiles a list on the board or flipchart indicating the characteristics of a “Perfect Entrepreneur”.
- Again ensure that each pair gets the opportunity to contribute to the list and discussion.
- As a summary, the teacher reviews both lists on the board or flipchart and facilitates a discussion with learners using the following questions regarding learning points below.

### **Debriefing**

- a) Do all learners have the potential characteristics to become an entrepreneur?  
 Discuss.

Discussion points: All of us have some entrepreneurial characteristics. The point is that many entrepreneurial characteristics can be learnt and improved with practice - even perfected. Even though a person possesses entrepreneurial characteristics, it does not mean that they need to become an entrepreneur. We can all practise entrepreneurial characteristics in our personal life, family life, in our community, working in a business or as a business owner. As in most businesses, entrepreneurs hire people who possess those entrepreneurial characteristics and business skills that they don't have, but are needed for a business to be successful.

- b) Is it a negative if some learners do not possess the characteristics to become an entrepreneur?

Discussion points: In any class of 30 learners, only 5 to 10 learners will be self-employed or run businesses of their own at some time in their lives. The purpose of the course is for young learners to determine if they have the qualities necessary to become business owners at some time in the future. Please ensure that you reinforce the point that all skills, whether they be the stereotypical ‘masculine’ skills like aggression and winning and the more feminine attributes, like caring, reaching consensus and customer focus, are equally valuable in developing an enterprising attitude to life and business. The course still has great value for those who decide not to become self-employed or run their own businesses. They will avoid the possibility of failure in terms of time, money and reputation.

- c) What have you learned from this exercise?

Discussion points: All of us possess entrepreneurial skills and, with practice, we can develop and use these skills in all phases of our life.

- d) Which entrepreneurial characteristics do you need to develop to run a business?  
 Discuss them.

Discussion points: There will be a variety of responses. Those that give positive responses are more likely to become entrepreneurs in the future. Also, learners who have good self-knowledge and are prepared to develop skills are also more likely to go into business.

## 8.2 Boat-making game

### Resource 5: Background Information on the Boat-making Game

Your city is very close to a large dam. Boat building is a very good business and some crafts people, like you and your family, have been making boats for generations. However, building boats is very competitive and you have to work very hard to make a profit. As in any family business, everyone involved must do their best to make the best possible boats.

Making boats is an art as well as a craft. Some people are better than others in designing and building boats in various shapes and sizes. There is a timber company in the city that specialises in the types of treated plywood needed to make the best boats. All the boat builders buy sheets of plywood from this timber company because they know they will receive the best quality at reasonable prices. The cost of one sheet of plywood is R50. Because the city is known throughout the country for making high quality boats, there are two major boat-buying companies in the city. They buy boats and then transport them to other areas of the country and province to be sold.

The first company, Premier Boats, is a fairly strict company and buys only boats that meet their high standards. They are very careful in choosing the boats they are going to buy. This company has a set price of R80 when buying boats from the builders. Only once in the past four years has Premier Boats paid more than R80 for a large Sea Boat, and that was because of the demand from the fishing industry.

The second company, Batho Boats, is owned by the Mokoena family who have lived in the area for a long time. Batho Boats is not as strict in evaluating the quality of the boats they buy, but the price may vary based on demand (the price may go up or down).

### Playing the Boat-making Game

You need to buy plywood, make boats and sell the boats. Boats can be sold at any time to either one of the two boat-buying companies. The money received from the boat buyers can then be used to purchase more sheets of plywood, and make and sell more boats. You need to record all transactions (income and expenses) in the General Journal.

#### During the game you need to:

- save some of your money for unexpected expenses
- pay each worker in the business a salary of R10 on the Friday of each week. All wages are deposited into the workers' savings accounts
- pay rent for the factory building. The rent is R100 per month and this is payable on the third Friday of the month.

Your company has a starting balance of R200 in its bank account. You also know that you cannot count on all workers being at work all the time. Workers may get hurt, get sick or miss work for other reasons. Make sure you plan carefully. If you don't sell all of your boats by the end of the month, you will have to pay a storage fee of R5 for each boat. Therefore, be careful to have only a few boats in stock at the end of the month.

Extra plywood that is not used in making the boats, can be used in making attachments or decorations. You may also make smaller boats and try to sell them. The boat buyers may pay a little more for a well-designed and decorated boat. You may use some extra colours to make the boat look more appealing.



## 8.2 Boat-making continued

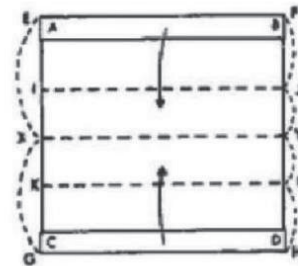
### HOW TO MAKE A BOAT

#### Pleasure Boat

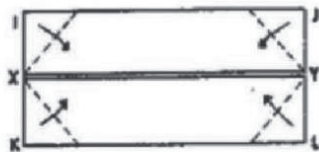
1. Valley-fold the top and the bottom about 1.5 cm from the edges



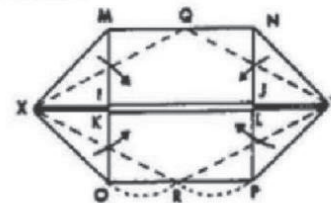
2. Valley-fold the paper from top to bottom and unfold. Valley-fold EF so that it rests along the center fold line. Repeat with GH



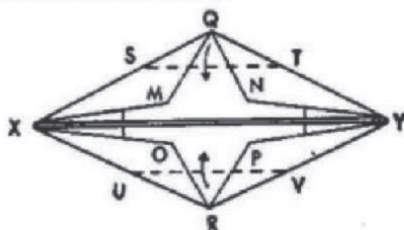
3. Your paper should look like this. Diagonally valley-fold each corner to meet along the center line XY



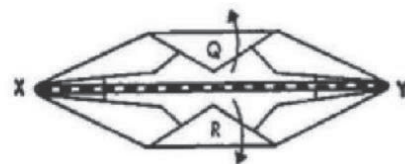
4. Valley-fold along the lines indicated. You will need to use your thumbnail to achieve a sharp crease



5. Valley-fold point Q and point R forwards so that they meet approximately 1.5 cm from the center line XY



6. Mountain-fold the entire boat along line XY



7. Pick up the boat and gently pull the sides out



8. Insert your thumbs between the inner pockets formed by XY and gently turn the entire boat inside out. Do this by starting on the left side and working from the center to the tips. Then work on the right side. Work slowly to avoid tearing, and pinch and flatten as you go.





### **8.3 Risk-taking game**

#### **Play the Risk-taking Game**

##### **Materials needed**

To play the risk-taking game, you need the following:

- A container of some sort
- A number of paper balls - 3 will be used at a time
- A roll of masking tape
- A marking pen

##### **Preparations**

Preparations for the risk-taking game include:

- a) Place the container on the floor.
- b) Take two steps away from the container.
- c) Use the masking tape to mark off 15 intervals (about the length of a shoe) from the container.
- d) Each interval is numbered by using the marking pen. The interval line closest to the container is marked number 1 and the farthest interval line from the container is marked 15.
- e) Divide learners into teams of about 5 members each.
- f) Teams can name themselves according to animals found in Africa, e.g., The Lions, The Elephants, etc.
- g) As part of a practice run, allow each learner 3 opportunities to throw the paper balls into the container to develop a feel for the game.
- h) Appoint a learner as a Referee to ensure that contestants do not overstep an interval line while throwing.
- i) Appoint a learner as a Score Keeper to write the scores of each contestant and team on the blackboard.

##### **Procedures**

The risk-taking game is played as follows:

- a) Each member of a particular team is given 3 opportunities to take position behind an interval line and then try to throw a paper ball successfully into the container.
- b) Each contestant decides for him- or herself the distance or interval line from where he or she wants to attempt a throw.
- c) Contestants may vary the distances or interval lines from where they throw. For example: contestants may start off close to the container and then move further away after a successful throw, or they may use all 3 opportunities from exactly the same position. This decision is entirely up to the individual contestant. Do not influence their decision in any way.

## Calculation of scores

Scoring in the risk-taking game is done as follows:

- A successful throw from an interval line close to the container obtains a low score.
- A successful throw from an interval line further away from the container receives a higher score.
- An unsuccessful throw receives a score of 0.
- The score of a successful throw simply corresponds with the interval line number from where the contestant threw. For example, a successful throw from interval line number 3 achieves a score of 3, while a successful throw from interval line number 9, achieves a score of 9.
- The idea is that those successful throws incorporating higher risk taking (because they have to cover a longer distance to the container) are rewarded with higher scores.
- Throughout the game, the individual scores of all team members are recorded on the blackboard.
- When the individual score of a team member for a particular throw is indicated, the first number refers to the interval line from where he or she has thrown, while the second number reveals the actual score obtained.
- When all the members of a particular team have completed their opportunity to throw, the individual scores of the members are added to obtain an overall score for the team as a whole.
- The team with the highest overall score, wins the risk-taking game.

## Debriefing

After playing the game, have the learners on the risk-taking teams discuss and respond to the following questions. Then lead a class discussion of their responses, after which answers are transferred to their Informal Assessment Portfolios.

- How did the members on the winning team decide on how far to stand from the basket and how many times did they change the distance for their throws?  
Answer: The team that takes reasonable risks and changes their distance from the basket based on experience (their experience and the experience of success of other teams who have already thrown) usually wins the game.
- What problems did those who scored the lowest encounter and what changes did the team make while they played the game?  
Answer: Low scoring teams usually take gambles and throw from a far distance. They also don't learn from experience and the experience of other teams.
- What approach to risk-taking did learners with the highest scores use?  
Answer: The team members usually encourage each other and help determine from where each of their teammates should throw, i.e., there is visible team motivation.
- If the game were to be played again, what changes would the learners make to improve their scores?  
Answer: They would probably practise before playing the game again. They would take reasonable risks. They would review the scores of the previous game and learn where to take a reasonable risk.

- e) If the game were to be played again in teams, how should the teams be selected?  
Answer: The group might vote for a person to be leader of the team. A flip of a coin might decide which leader chooses first. Then team selection would alternate between the two leaders.
- f) Why is it essential to be aware of the scores as the game is being played?  
Answer: Knowing the scores of previous players is like gaining market information before making a decision.
- g) Why would it be an advantage for a team to be the last team to throw?  
Answer: The longer you can wait to make a decision, the more input you can receive regarding the current scores of the other teams. Throwing last will inform you as to what score you need to win the game.
- h) Should the best scores be considered the best entrepreneurs? Explain your view.  
Answer: No, not necessarily, although team members may have developed their skills through practice. All entrepreneurs have different entrepreneurial characteristics.
- i) Based on what you know about entrepreneurs, list 5 entrepreneurial characteristics that are useful in playing this game successfully.  
Answer: Strategic planning, teamwork, cool-headed approach, inspirational leadership, coaching and mentoring, taking calculated risks, managing the team, etc.
- j) What have you learnt about taking risks in all phases of your life as a result of playing this game?  
Answer: Find out as much as possible before the time, analyse what you have and know, minimise the risk.

#### **ACTIVITY 4**

##### **Analysing your moves**

After the discussion in Activity 1.1 (Part 1), have learners complete this activity in their Informal Assessment Portfolio.

- a) What preparations did your team make before playing the game and what were your reasons?  
Answer: Not all learners would have prepared in the same way. The tactics in preparation are dependent on the group dynamic and leadership style but could include all or some of the following:  
groups practise and decide on role-players (leader/coach, best athlete, support team, etc.)  
the practice round helps them to rate their throwers, sequence the turns and strategise on the best distance per thrower.
- b) What information did you have before taking your turn in the game?  
Answer: Answers could include: I knew that my best distance was 5 and that I could only take a risk and move to 6 if my first 5 was in. The coach/leader and the group dynamic obviously plays a role (if indeed there was leadership!) The lesson to be learnt is that before taking a risk, gather information, discuss with your team, and practise. The eventual lesson will be reasonable and achievable risk taking.
- c) Did the information regarding the scores of previous throwers guide you when you took your turn? Explain.  
Answer: If information was available, e.g., how many times to throw from a certain distance, the sequence of the throwers, it would have guided the thrower.
- d) What personal fears did you have before playing the game and while playing the game?  
Answer: Learners may be afraid that they will let themselves and the team down or that they may be teased and even bullied (depending on the personality profile of the thrower).

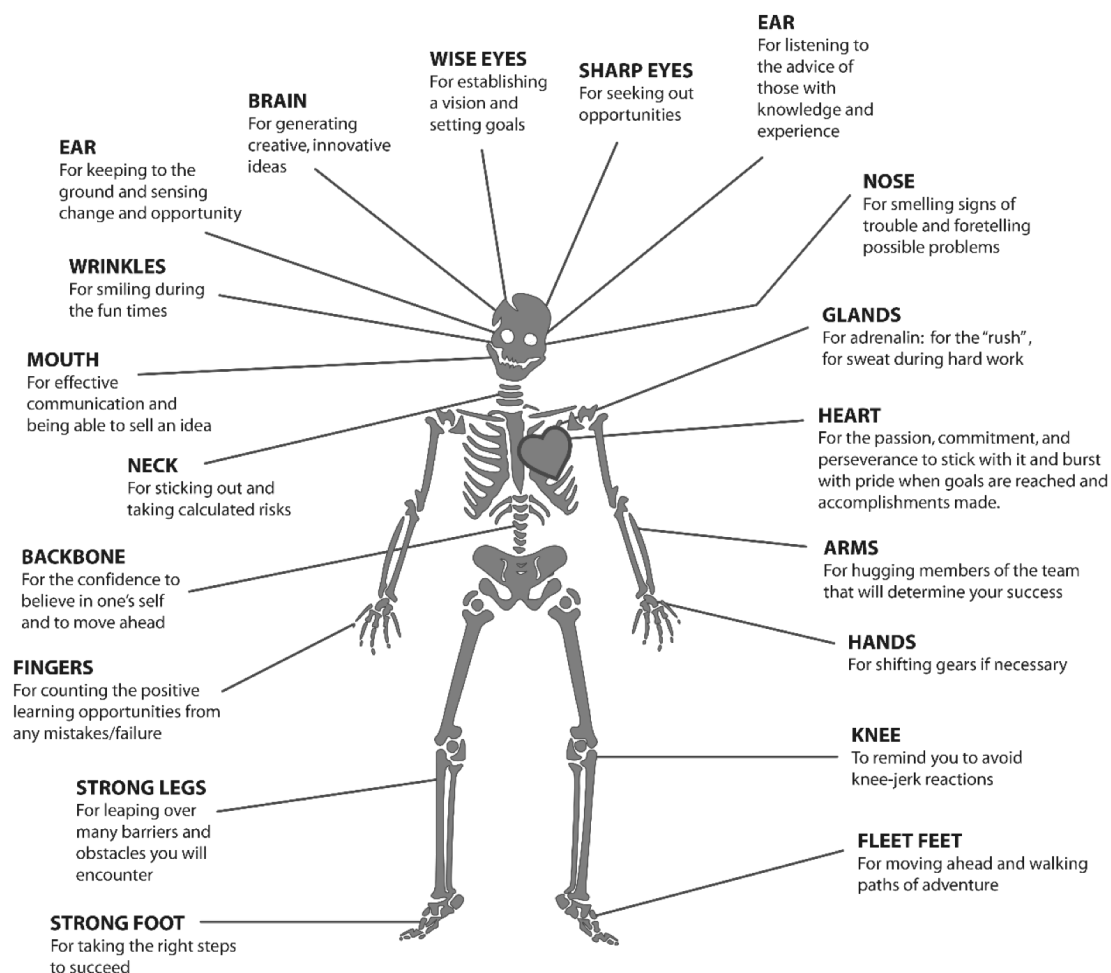
- e) What were the biggest obstacles to your success in playing the game?  
Answer: Again, this is quite subjective. Answers could include: I do not throw well, however hard I practise; My fear that my throws would be a flop stood in my way, etc.
- f) Why did you try your best to score points?  
Answer: I wanted our team to win. I didn't want to disappoint the team.
- g) What do you consider the most important factors when taking the risk while playing the game?  
Answer: Acting without thinking; personal fear of failure; a lack of knowledge and practical tools for minimising risk.
- h) What can you do to minimise your risks in playing the game?  
Answer: See (b) above.
- i) Explain why you have the potential to be an entrepreneur as a result of the personal lessons you learnt after playing the game.  
Answer: I showed courage, commitment, a willingness to learn new tools to work with a team, etc. I know how to minimise risks.
- j) Which of the following E3 (superscript) competencies did you practise in these two games? Explain where and why:

Competency	Where? Why I say so!
Communication	
Collaboration	
Critical thinking	
Creativity	

## 8.4 Entrepreneurial Profile Game

Play the Entrepreneurial game:

Learners draw a picture of a human skeleton on paper and label the body parts with entrepreneurial qualities, e.g. eyes – for seeing or recognising opportunities.







## 9. MINDSET CHANGE AND TEACHER AGENCY

### 9.1 Growth and a Fixed mindset

#### 9.1.1 Are we ready for change?

We at E<sup>3</sup> are motivated by a huge compelling goal – that every young South African must be gainfully employed, active as an entrepreneur and be educated for life after school. And we, as teachers, have an enormous role to play in this compelling goal.

As teachers, we need to consider our personal attitude towards change. Do we fear leaving our comfort zone? Or are we just too comfortable? Are we fixed in our ways or are we prepared to grow and adapt?

And so, the question is: Do you have a fixed mindset or a growth mindset? You are in an enormously powerful position to influence the future of learners if you are just willing to embrace change: change in the world around you and change in your own classroom.

So here is a quick checklist for you. Ask yourself the following:

- Do my students have opportunities to be creative?
- Are my students allowed to display their learning in different ways?
- Can my students document and reflect on their learning, exchange ideas and collaborate with others through, for example, *blogging*?
- Do my students have digital portfolios where they can display their progress and archive their work?
- Do I invite guests into our classroom, either live or virtually, to broaden our knowledge and global perspective?
- Are my students aware of how to be safe online and how to be good digital citizens?
- Do I myself model good digital citizenship by being present online and by connecting with others on social media?
- Do I make an effort to connect face-to-face or online with other educators at conferences?
- Do I model a growth mindset by stepping out of my comfort zone and trying new things?
- Do I believe that I would enjoy being a student in my own class?

#### 9.1.2 A fixed versus a growth mindset

Why do some of us succeed and others not? Carol Dweck did a study to show that there are two mindsets which direct our lives: a *fixed mindset* or a *growth mindset*.

##### Fixed mindset

Many of us spend our lives trying to prove ourselves. In everything we do, we look for acknowledgement and confirmation: Am I OK? Will people think I am stupid? Am I a loser? Are the talents I have been handed sufficient for success?

The world is changing every day. The days of being an expert because you were “handed” certain talents or specialised in a specific field, e.g., teaching, are over. If you are not prepared to accept occasional failure and change with every setback, and thus learn from your mistakes, you will not be open to growth. Your mindset is fixed.

*“A fixed mindset assumes a static stance towards intelligence, character and creative abilities – people with fixed mindsets believe their talents and intelligence are fixed at birth and therefore cannot be improved upon.”*

As a teacher, you are at the start of a new professional journey. There will be hurdles, but see them as tools for developing professional muscle and personal resilience. You need to keep on growing so that your learners will thrive – success is a personal choice. 'If it's going to be, it's up to me!'

## What Kind of Mindset Do You Have?



I can learn anything I want to.  
When I'm frustrated, I persevere.  
I want to challenge myself.  
When I fail, I learn.  
Tell me I try hard.  
If you succeed, I'm inspired.  
My effort and attitude determine everything.



I'm either good at it, or I'm not.  
When I'm frustrated, I give up.  
I don't like to be challenged.  
When I fail, I'm no good.  
Tell me I'm smart.  
If you succeed, I feel threatened.  
My abilities determine everything.

Created by: Reid Wilson @wayfaringpath © ① ② ③ Icon from: thenounproject.com

### Growth mindset

The other choice (and it is in your hands!) is to accept the following:

- Although I have certain talents, they are merely the starting point of who I can become.
- I believe that I can learn and be an expert at anything if I put in the effort.
- I appreciate feedback and know that making mistakes is part of growth.

“The growth mindset argues that talent and intelligence can be developed over time and with effort. Those with growth mindsets tend to thrive on challenges and embrace failure as a mechanism for learning and development.”

### 9.2 The Circle of Influence versus the Circle of Concern

Not only mindset, but also the manner in which you deal with your day-to-day frustrations can affect successful teaching in the 21st century classroom. Some problems can be managed, but others are beyond the control of teachers.

What about focusing on the things you can control and “parking” the situations you cannot control? Why waste time and energy on areas which you cannot influence? According to Steven Covey, every one of us operates in two circles, the Circle of Influence and the Circle of Concern. These circles represent the two areas in which you focus your time and energy. The inside circle represents situations in which you can influence or control, while the outer circle represents situations over which you have no, or very little, control.



Most people waste a great deal of energy and time being concerned about issues that they cannot change. In other words, they spend too much time in their Circle of Concern. Steven Covey believes that successful people think and do things within their Circle of Influence and do not waste time on issues that they like to complain about but over which they have no control.

To make a real difference, rather focus on things you can influence. Make a difference, but by focusing your energy on being effective and changing unhappy situations. By doing so, you will be entering a cycle of success: by doing more and more things that you have control over, you are increasing your Circle of Influence and are entering a positive cycle of earning more respect and power.

Where do you spend most of your time and energy? Whenever you're getting worked up over something, ask yourself, "What can I do to change this situation for the better?"

Figure out some good ideas and act on them. If you really can't think of anything, realize that you're wasting valuable time and energy worrying about the issue. Let it go, and redirect your resources to an area where you can actually make a difference.

Some tips:

- Stop worrying about other people. Stay within your Circle of Influence.
- Stop worrying about something that has happened or will happen that you cannot control. Worrying paralyses you.
- Plan your actions. Be organised to avoid situations that will land you in your Circle of Concern.
- Practise staying in your Circle of Influence so that it grows bigger.
- As it grows bigger, the Circle of Concern grows smaller. You will feel more in control. You will be less stressed and become happier.

### 9.3 New knowledge and mindset are the gateway to change

But, without considering new knowledge about how we react to change, we may never open ourselves up to new beliefs, and maybe our behaviour will never change. And so a growth mindset is one whereby talent and intelligence can be developed over time and with effort. With a growth mindset one thrives, challenges and embraces failure as a mechanism for development. People with a growth mindset listen to new information. They are willing to change beliefs and assumptions and to start behaving differently.

*"My effort and attitude determine everything. And so, If it's going to be, it's up to me. It is up to me and my growth mindset to change the world and to be part of E<sup>3</sup>'s compelling goal."*

## 9.4 If you think you can, you can!

### If You Think You Can, You Can

*Denis Waitley*

You can be a total winner, even if you're a beginner  
 If you think you can you can, if you think you can you can  
 You can wear the gold medallion, you can ride your own black stallion  
 If you think you can you can, if you think you can you can  
 It's not your talent or the gifted birth  
 It's not your bank book that determines worth  
 It isn't in your gender or the color of your skin  
 It's your attitude that lets you win  
 You can redirect a nation, make each day a celebration  
 If you think you can you can, if you think you can you can  
 Even if you're hesitant, you can be a woman President  
 If you think you can you can, if you think you can you can  
 It doesn't matter what you've done before  
 It makes no difference what the halftime score  
 It's never over 'til the final gun  
 So keep on trying and you'll find you've won  
 Just grab your dream and then believe it  
 Go out and work, and you'll achieve it  
 If you think you can, you can  
 If you think you can, you can.

