

**Requisite supervisory behaviours in support of
a workplace learning intervention: A capability
approach to build HERO mining teams**

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ABSTRACT

TITLE: Requisite supervisory behaviours in support of a workplace learning intervention: A capability approach to build HERO mining teams

KEYWORDS: Psychological capital, positive psychology, positive institutional practices, supervisory behaviours, team interventions, South African Mining Industry (SAMI)

HERO mining teams are a workplace learning intervention, designed and implemented to develop and cultivate positive levels of hope, efficacy, resilience and optimism. The intervention refers to the psychological capital construct, commonly referred to as HERO, a resource-based view of personal inner resources (Luthans & Youssef-Morgan, 2017:339). The research is conducted within the field of positive psychology, as founded by (Seligman, 2010:5), and focuses on the application of positive psychology through interventions in the context of a platinum mine in South Africa. The intervention was co-created between employed stakeholders at the platinum mine and facilitators of SMLsolutions, the provider.

This research aims to close the gap between knowing, and doing psychological capital interventions, specifically as applied in the mining context. The six (6) research questions led the journey; the first four questions clarify the HERO construct and theoretical foundation proved by positive psychology; the development of HERO through an intervention approach. The literature concludes with a contextualisation HERO for mining and the importance of positive institutional practices in support of HERO.

The last two research questions are answered through an empirical research design employing qualitative, semi-structured interviews and focus groups. The research explores the current intervention, and how HERO is developed. Requisite supervisory behaviours to support and sustain HERO, are identified. These supervisory behaviours are believed to support the HERO teams intervention and the institutional practices, the sustainability of the mining team's improved levels of hope, efficacy, resilience and optimism. Based on the evidence, the study then provides recommendations of future HERO interventions and supportive supervisory development towards building a positive institutional practice.

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LIST OF ABBREVIATIONS

HERO	Hope, efficacy, resilience, optimism
MCSA	Minerals Council of South Africa
Industry 4.0	Fourth Industrial Revolution
NDP	National Development Plan
PCI	Psychological capital intervention
PGM's	Platinum group metals
POB	Positive organisational behaviour
PP	Positive psychology
POS	Positive organisation scholarship
PsyCap	Psychological capital
RBV	Resource-based view
SAMI	South African mining industry
SMLsolutions	Supervisor, management and leadership solutions



1 CHAPTER 1 – NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

HERO mining teams refer to a workplace learning intervention designed and implemented to develop and cultivate the personal resources of underground mining team members. The personal resources are psychological capital (PsyCap), commonly referred to as HERO. The building blocks of PsyCap include hope, efficacy, resilience and optimism (Luthans, 2002b:57). Through developing and cultivating the internal HERO resources of mining team members, the delegates attending the HERO mining teams intervention are believed to be better resourced to more positively deal with their workplace realities. Seligman (2010) founded positive interventions as an approach to enable individuals and institutions to flourish, through the optimal expression of personal resources within a positive-oriented workplace. The HERO workplace learning intervention implemented at the platinum mine is founded on this positive approach.

The participants of the intervention are the mining teams, who contribute to the mining value chain by delivering the core product, namely PGMs (platinum group metals) through safe production practices. The workplace of the mining teams is in the underground work environment and requires a team approach to complete the daily mining production cycle. The workplace learning intervention initiated at the platinum mine in Rustenburg provides a four-day focused intervention to a mining team (average of 20 team members). The foundational approach of the intervention will be described in this study from a positive resource-based view, as clarified in the next paragraph.

Lazenby (2018:114) states that resources are those assets needed to conduct business and, are the foundational characteristics of a business. Physical resources commonly deal with the tangibles (*what you have*) in the form of finance and tangible assets. The intangible resources are in the form of human capital (*what you know*), including experience, education, knowledge, skills, ideas; social capital (*whom you know*), including networks, relationships, and friends; positive psychological capital (*who you are*), having hope, efficacy/confidence, resilience and optimism (Luthans, Luthans, & Luthans, 2004:46).

Psychological capital or PsyCap is concerned with 'who you are', but, more importantly, and from a developmental perspective, 'whom you are becoming'. PsyCap describes the positive levels as "a state of development that is characterised by hope, efficacy, resilience, and optimism" (Luthans, Youssef, & Avolio, 2007b:20).

Table 1 below illustrates the strategic resources within institutions integrated as tangible and intangible resources, highlighting the elements of HERO, the psychological capital (PsyCap) resource consisting of hope, efficacy, resilience and optimism.

Table 1: Tangible and intangible resources (Luthans *et al.* 2004:46)

STRATEGIC RESOURCES			
TANGIBLE	INTANGIBLE		
<i>Economic capital</i>	<i>Human capital</i>	<i>Social capital</i>	<i>Psychological capital (PsyCap)</i>
WHAT YOU HAVE	WHAT YOU KNOW	WHOM YOU KNOW	WHO YOU ARE
Your finance and assets	Your experience, education, knowledge, skills and ideas	Your networks, relationships and friends	Positive levels of Hope, Efficacy, Resilience, and Optimism

This study is completed within the context of positive psychology as a theoretical base, a body of knowledge around human functioning described by Seligman (2002:10) to study positive emotions, positive traits and positive institutions. (Seligman, 2002:11) recommends that, during difficult times or times of problems, it is of utmost and immediate importance to understand and pay attention to positive institutions.

This chapter states the research problem, research objectives and questions. The rest of the chapter confirms the scope, research design and method, and deals with limitations and significance. The chapter concludes with some ethical considerations and a layout of the study.

1.2 PROBLEM STATEMENT

HERO mining teams are a workplace learning intervention, designed and implemented at the Bafokeng Rasimone Platinum Mine in Rustenburg, South Africa. The programme is strategically positioned to support operational excellence and contribute to the culture of safety, productivity and sustainability. The managerial team at the mine made a conscious decision to design and implement a positive-oriented intervention, to build and unlock the internal resources and capability of the people working in underground mining teams. The agreed name for the intervention reflects the intention of investing in the building blocks of psychological capital, namely hope, efficacy, resilience and optimism (HERO).

The HERO mining teams as intervention was co-designed and initially implemented with twenty (20) teams, scheduled to attend during the last quarter of 2018 (September, October, November 2018). During the implementation period, it became evident that the mining operation planned to continue with the rest of the underground teams during the 2019 financial year to train more than 80 teams. The commitment to continue with the implementation towards 2019 provided the opportunity to explore the current process and to identify ways to support and sustain the newly acquired knowledge, skills and behaviours.

Within the context of managerial commitment to workplace interventions, problems do arise during implementation. Chapman, Best, Van Casteren, and van Casteren (2003:115) refer to 'post-event disappointment' after executive coaching sessions. Mager and Pipe (1997) identified obstacles to performance that prevent the application of newly acquired learning attributed to systemic failures, and Fisher (1993) worked diligently on factors that will prevent or support teams to perform after implementing empowerment interventions. One of the risk factors identified by Fisher (1993:226) was the exclusion of supervisors in an empowered-drive directed to self-directed work teams.

Empirical studies indicate that levels of psychological capital or HERO do get affected by supportive supervisory behaviours, to either sustain or ensure engagement (Palo, 2015:47). Liao and Liu (2015:576), in an educational environment, found that abusive supervision negatively impacts on the building of HERO resources. Further research conducted by Li, Wang, Yang, and Liu (2016:142) indicated that high levels of stress at supervisory level negatively impact on teams; levels of HERO resources. Du Plessis (2014:45) identified that negative leader behaviours impact their followers to have negative levels of hope, efficacy, resilience and optimism, and tend not to follow the leader. The level of trust between supervisors and a team, the quality of relationships and the lack of psychological needs satisfaction all impact on members' intention to leave an institution, as found in the South African agricultural sector (Rothmann, Diedericks, & Swart, 2013:11).

Several research initiatives document the importance and the impact of supervisory behaviours on subordinates and specifically on levels of HERO. Du Plessis (2014:45) reflects on PsyCap as a unique construct that offers a positive perspective on human potential, rather than a focus on dysfunctional workplaces and counterproductive organisational practices. Rego, Sousa, Marques, and e Cunha (2012:427) confirm the positive findings of the research and identified positive, authentic leadership to facilitate positive levels of HERO in teams. In the South African platinum mining environment, Palo (2015) identified the positive impact of supportive supervisory behaviour (competence, relatedness and autonomy) on levels of psychological capital, and the positive levels are indispensable for job performance.

Apart from supervisory behaviours, Redelinghuys, (2019:69) concluded that positive institutional practices influence people in organisations at various levels of functioning, from increased positive affect and positive behaviour and that a positive work environment plays a decisive role in the flourishing of employees in the workplace.

A strong case is made to invest in interventions to increase the level of hope, efficacy, resilience and optimism in the South African mining industry in conjunction with a supportive climate. (Palo, 2015:118). Knowing what typical supportive behaviours within the mining context are, is elusive, and a practical approach will clarify what specific behaviours supervisors should be displaying to support and sustain HERO. Closing the gap between knowledge (knowing) and application (doing) necessary for the implementation of the HERO mining teams workplace learning intervention will enable the mine to mobilise the requisite supervisory behavioural support.

A positive orientation as provided by Ludema, Cooperrider, and Barrett (2012:189) will be followed to solve the research problem. The focus is to ensure a shift from identifying what is wrong, what is it that supervisors are not doing, or what prevents, or blocks improved performance. This deficit approach will place interventions in a defensive mindset. Positive psychology provides the methodology towards identifying strengths and then building on these strengths within a varied and creative context. The theory, research and practice provide the ideal approach for a study of this nature to explore a positively-oriented workplace learning intervention. The research opportunity is to explore the HERO mining teams workplace learning intervention, and to identify the supervisory behaviours required to support the HERO teams workplace learning intervention.

1.3 OBJECTIVES OF THE STUDY

1.3.1 Primary objective

The primary objective of this research is to explore the workplace learning intervention implemented to develop and cultivate HERO mining teams and identify the supervisory behaviours required to support and sustain the levels of hope, efficacy, resilience and optimism.

1.3.2 Secondary objectives

The research has four secondary objectives to achieve:

- To clarify how the HERO construct, the theoretical foundation and developmental interventions are conceptualised in literature;
- To highlight the importance of a positive institutional practice for HERO support;
- To learn from the workplace learning intervention implemented for HERO teams and;
- To identify the supervisory behaviours required to support and sustain the intervention.

1.3.3 Research questions

Maree (2007:3) advises that a good research question will direct you to the appropriate literature resources and provide the focus for data collection. A research question should also be provocative, engaging, current and stimulating. The positive psychology research paradigm also urges research towards a bias of more positive questions. Whitney and Cooperrider (2011:277) provide guidance towards a more appreciative inquiry method or research. This requires a bias towards identifying the strengths in a setting, identifying what to build on, and shifting from problem analysis towards a positive core analysis; this is seen as at the heart of positive change.

Six (6) research questions are formulated to achieve the objective, and are listed below:

Question 1: What is HERO?

Question 2: What are the theoretical foundations of HERO as contextualised in positive psychology?

Question 3: How is HERO developed?

Question 4: Why is the adoption of a positive institutional practice beneficial for HERO?

Question 5: How are HERO mining teams developed and cultivated at the platinum mine, and what are the important lessons that were learned from the implementation?

Question 6: Which supervisory behaviours are requisite to support and sustain the HERO mining teams' workplace learning intervention?

The research objectives and research questions will guide the exploration process and the identification of requisite supervisory behaviours needed in order to support and sustain the impact of the workplace learning intervention. The research journey will provide the knowledge (knowing) and empirical data that will strengthen the application (doing) of workplace learning intervention implementation. The research findings will contribute towards understanding the importance of developing and cultivating HERO in mining teams through interventions, and the requisite supervisory behaviours required to support and sustain HERO mining teams. The contextualisation of positive institutional practices will support future implementation.

1.4 SCOPE OF THE STUDY

1.4.1 Field of study: Positive psychology

Positive psychology provides a holistic paradigm to focus on the positive, strengths-based human assets rather than the deficits and weaknesses that dominated the research paradigm following World War II (Kelloway, Nielsen, & Dimoff, 2017:256). Positive psychology directs the focus to the positive orientation of people and institutions and helps to establish the nature of the intervention

and research approach. Positive psychology as a specialised field in psychology provides the opportunity to research the internal resource base of the people involved, specifically with regard to positive emotions and strengths-based constructs within an organisation, and moves away from focusing on deficits (Snyder, Lopez, & Pedrotti, 2011:8). Three key areas are included in positive psychology research, namely the study of positive emotions, positive traits and positive institutions, which include the study of positive organisation behaviour (Rothman, 2015:222). Conditions and processes that contribute to the optimal functioning of people are added in the definition of Gable and Haidt (2005:104), as “Positive psychology is the study of the conditions and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions”.

HERO mining teams, as a workplace learning solution, will be conceptualised from this theoretical base of positive psychology. The study will facilitate an appreciation of the personal intangible resources and the value to build and unlock these personal resources as a capability. The benefit of HERO resources to optimise team functioning within the mining workplace with the necessary support from institutional practices is documented.

1.4.2 Scope of empirical study

Unit of analysis

The study is limited to a specific mine located in the Rustenburg Platinum Belt in South Africa. The selection of the platinum mine is due to their current implementation process of HERO mining teams workplace learning intervention, to capacitate underground mining teams. The intervention at this specific point in time provides the ideal research environment to identify the requisite supervisory behaviours that are essential in order to support the HERO mining teams intervention.

Mining context

The context, challenges and realities of the mining industry are shared to highlight the contribution of workplace learning interventions within the optimisation of both the tangible and the intangible resources. Furthermore, a case will be made for the industry to intentionally adopt a positive resource-based view and instil positive institutional practices to build, support and sustain HERO resources and capabilities within mining teams.

HERO team intervention

Exploring the current intervention, content, process and implementation follows an appreciative rather than an evaluative approach in order to identify the strengths of the intervention as well as the positive intent.

Supportive supervisory behaviours

Before identifying the behaviours required to support the HERO workplace learning interventions, the participants will be knowledgeable and informed about the intervention being implemented at their mine.

1.4.3 Demarcation of the HERO workplace learning intervention

HERO mining teams were structured around the building blocks of PsyCap, namely hope, efficacy, resilience and optimism, as informed by Luthans and Youssef-Morgan (2017:339). Positive interventions with specific reference to psychological capital interventions have specific criteria to impact on the resource-base of hope, efficacy, resilience and optimism, and are foundational to the current intervention. The learning intervention, therefore, should address specific content and process areas, to qualify it as a positive intervention as well as a psychological capital intervention (Rothman, 2014:228).

Content of programme: The designing of the content and examples used in the learning programme are for the specific mining population of Bafokeng Rasimone Platinum Mine. The content follows an integrated approach of mining and PsyCap contents. The company has three operational mining units or shafts. The intervention is being presented at two of those operational units, and the content reflects the needs as identified by these two operational units.

Mining team: A mining team consists of various occupations, including rock drill operators, winch operators, a team leader, a miner's assistant, and supportive night shift operations. Supervisors include the miners and shift supervisors and management includes the mine overseers, and mining managers' roles.

Participants for research: The identified target population for this intervention are fulfilling specific roles towards supporting the mining teams in their quest. The participants include the facilitators of the intervention, and the managers and supervisors directly managing the underground mining teams. These participants are knowledgeable in the mining industry and fulfil specific roles and positions in the production mining cycle. Mining teams attending the workplace learning intervention do not form part of the research participants.

Intervention design: The design process of the programme was completed before the research initiation. The initial design process is not discussed in detail or used as the focal point, but it is the impetus for the research that focuses on the academic underpinnings the knowledge (knowing) and implementation (doing) process.

Supervisory role: Supervisory support is believed to impact significantly on the sustainability of the HERO mining teams intervention; the requisite supervisory behaviours will be identified and documented for current as well as future workplace learning intervention opportunities (Rebelo, Lourenco & Palácio, 2018).

1.4.4 Role of the researcher

The researcher and SMLsolutions facilitators designed the contents of the HERO mining teams workplace learning intervention, through a co-creation process, which also involved the managers and stakeholders at the specific platinum operation. The researcher is fulfilling the role of change management advisor throughout the implementation process. The SMLsolutions facilitators are presenting the learning programme weekly and report to the change manager.

1.4.5 Methodology

The research will explore the ontology, clarifying what the nature and reality of this intervention are, and attention is given to the epistemology, clarifying what is possible to know about HERO mining teams and the requisite supervisory behaviours. Finally, the research methodology needs to answer the question: How can we generate meaningful knowledge?

Mouton (2008:148) provides guidelines for qualitative research methods and focuses on a variety of research options. The basic framework indicates the importance of identifying the methodology for data and information gathering, a theoretical framework for the data analysis, and the sources of data require confirmation. Context is always important when conducting qualitative research, and is acknowledged throughout. Knowledge will be created through a literature study, in the form of a literature review, followed by an empirical study, as described in the next two paragraphs.

1.4.6 Literature review

The literature review explores the elements required to:

- a) Understand HERO principles and the theoretical foundations of positive interventions
- b) Clarify how HERO is developed
- c) Seeking an understanding of the mining context
- d) Actively formulate and record the benefits of adopting positive institutional practices in support of HERO

The purpose of the literature review, as stated by Mouton (2008:86), is required to ascertain what has been done in any study field. The literature review will reflect on previous research work in support of the importance of the development of HERO elements. This includes consideration of interventions, the importance of the resource-based view, and the influence of supervisory practices on HERO levels and mining contextual literature.

The databases consulted are listed below:

- Search engines used for the literature review included Google Scholar, EBSCOHost and Sabinet;
- Catalogues of books from the NWU Ferdinand Postma Library (Potchefstroom Campus);
- Journals and articles;
- Research reports and dissertations;
- Internet publications and industry websites;
- North-West University's online library;

Empirical study

The first part of the empirical research explores the implementation of workplace learning interventions focused on developing HERO mining teams, as well as how the learning intervention develops and cultivates the personal HERO resources within the team context.

- This phase of the study requires the insights of the facilitators as they are in the best position to highlight the various aspects of the implementation process.
- Learning material and documents from SMLsolutions will be used during the empirical research phase.

The second phase of the empirical study identifies the supportive supervisory behaviours that will support the HERO elements of the teams.

- This phase of the study requires the insights of the managers and the supervisors as they are in the best position to identify the supervisory behaviours necessary to support and sustain the levels of hope, efficacy, resilience and optimism within their local working environment.

The study will be based on current methods, focus groups and interviews. Both methods will be using semi-structured questions conceptualised from a positive and appreciative inquiry framework. The participants, inclusive of facilitators, managers and supervisors (the ontology), experience a specific reality or social setting, which embraces the workplace learning intervention among their teams (epistemology), and this will be explored through the empirical research process to ensure that the participant's view of the reality is understood.

1.5 LIMITATIONS AND SIGNIFICANCE

1.5.1 Limitations

During the focus groups and interview sessions, new concepts that are not well known to the target population will require both an understanding of the intervention and an experiential knowledge of the industry and the target population.

The managerial and supervisory participants require a pre-engagement discussion to confirm their understanding of the concepts of the HERO mining team intervention before the qualitative interviews will be able to commence.

The timeframes for these discussions are natural to the working context of mining, at times commencing at 4:00 am, or late in the evening, which remains a challenging reality within the mining industry. HERO facilitators will be available after their normal facilitation day.

1.5.2 Significance

- The study will provide insights into the application of positive psychology and move from knowing the theory towards the activation of interventions.
- The study provides the ideal opportunity to understand the resource-based view and the value of building and unlocking the intangible resources.
- Confirm the SAMI dependency on people's resources and how to develop, support and sustain HERO through the adoption of positive institutional practices.
- The desired provision of a much-needed shift, which will reinforce acceptance of the inclusion of positive psychology interventions in the mining industry, where the execution of modernisation strategies is always dependent on people, will take place. References are made to current efforts to modernise the SAMI in preparation towards the 4th industrial revolution
- The learnings identified from the implementation of the workplace learning intervention of HERO mining teams, and associated documentation, will benefit similar, future interventions.
- The study will lead to the identification of a set of supervisory behaviours required to support and sustain levels of hope, efficacy, resilience and optimism. This will provide learning points for future HERO mining team interventions.

1.6 ETHICAL CONSIDERATIONS

- Four main areas are classified regarding ethical principles in business research, as listed below (Bryman & Bell, 2015:120): Whether there is harm to participants
- Whether there is a lack of informed consent
- Whether there is an invasion of privacy
- Whether deception is involved

These principles are used to guide this study. During the research design and ethical clearance process at the North-West University (NWU), it was evident that no biographical detail will be required and no specific detail of the level of respondents. The three different participant groups, being the facilitators, managers and supervisors were identified based on the role they fulfil within the intervention at the mine.

The research notes the following ethical considerations:

- The researcher played a leading role in the establishment of the HERO mining teams intervention as project leader;
- The qualitative data gathered will be based on the feedback from respondents as gathered through the focus groups and interviews;
- The researcher will be supported by an independent postgraduate student to ensure adherence to the ethical principles;
- The information gathered from respondents will be documented, analysed and clustered. The gathering of data will include a reflection activity to confirm an accurate reflection of the participant's views. Qualitative studies do facilitate beneficial checks for systematic bias that can limit the authenticity of a study of this nature. Member checking is when the research findings are shared with the interviewees as proposed by Mertens (2014:511).
- The feedback report of the interview process and focus groups will be shared with the senior management sponsor, as part of an integrated approach towards future workplace learning intervention planning.

The layout of the study is illustrated below to conclude Chapter 1.

1.7 LAYOUT OF STUDY

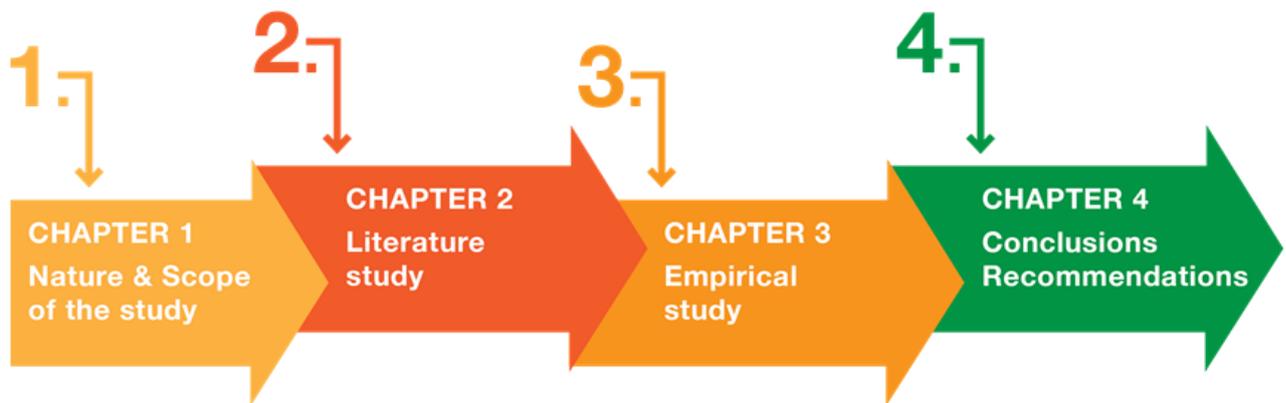


Figure 1: Layout of study

Chapter 1

Chapter 1 dealt with the nature and scope of the study, including the introduction and problem statement. The objectives and research questions are clarified, stating the primary and secondary objectives and the research questions. The scope states the field of the study, demarcation of the intervention and the role of the researchers. The research methods are the literature study and empirical study. Limitations and significance are explained; ethical considerations are attended to and the chapter is concluded with the layout of the study.

Chapter 2

In Chapter 2, the building blocks of psychological capital resource (PsyCap), known as HERO, are described as well as the theoretical foundation of the construct as contextualised within the field of positive psychology. The chapter explains the foundations of positive psychology and the core theme of flourishing through fundamental theoretical models. The importance of HERO in positive institutions is confirmed and how to develop HERO elements through interventions. The chapter focuses on the importance of building HEROs in mining and the repositioning agenda of the South African mining industry (SAMI). The literature guides the reader to look at the importance of adopting positive institutional practices to support HERO, a view for strategic orientation, workplace learning in mining and supportive supervisory behaviours. The chapter concludes with a summary of the critical theoretical observations.

Chapter 3

Chapter 3 explains the empirical study, research design, participants and process of gathering the qualitative data towards achieving the aim and objectives and answering the empirical research questions. The second part of Chapter 3 contains the empirical research findings of the learnings from the workplace learning intervention implemented for HERO teams; and the identification of supervisory behaviours required to support and sustain the intervention.

Chapter 4

Chapter 4 concludes the empirical study by summarising the findings of what was learned from the workplace learning intervention implemented for HERO mining teams. The chapter reflects on the supervisory behaviours required to support and sustain the HERO workplace learning intervention. Chapter 4 also revisits the research objectives and provides a review of the primary and secondary objectives, concluding with suggestions on future research.



Figure 2: HERO Mining Teams Gallery

2 CHAPTER 2: LITERATURE STUDY

The purpose of the literature study is to be in support of the research questions and is directed towards understanding the field of positive psychology and positive organisation behaviour, seen as foundational to understanding the psychological capital construct, consisting of hope, efficacy, resilience and optimism (HERO). The literature further describes the core of well-being or flourishing theories, development interventions and the characteristics of positive institutions. The literature reflects on the emerging studies towards positive institutional practices and three institutional practices, seen as being beneficial for this study.

The academic underpinning provided the structure for the empirical research, interviews, and questions for individuals and focus groups. The literature study will address the first four research questions, as listed below:

Question 1: What is HERO?

Question 2: What are the theoretical foundations of HERO as contextualised in positive psychology?

Question 3: How is HERO developed?

Question 4: Why is the adoption of a positive institutional practice beneficial for HERO?

2.1 WHAT IS HERO?

HERO refers to four first-order constructs, namely hope, efficacy, resilience and optimism, which, in combination, function as a second-order construct that accounts for more variance in employee performance and satisfaction than the individual constructs (Luthans *et al.* 2007b:20). The acronym of HERO, or “finding the HERO within” or PsyCap, has been validated theoretically and empirically (Kelloway *et al.* 2017:258). Psychological capital (PsyCap) is defined as an individual’s positive psychological state of development that is characterised by hope, efficacy(self), resilience and optimism and is explained by Rothman (2014:227), as captured in Table 2:

Table 2: HERO construct (Rothman, 2014:227)

Construct Element	Building block/element explanation
HOPE	A positive motivational state that is based on a sense of successful agency (goal-directed strategy) and pathways (planning to meet goals).
EFFICACY (SELF)	An individual's confidence about his or her abilities to mobilise the motivation, cognitive resources or courses of action needed to successfully execute a specific task within a given context.
RESILIENCE	The positive psychological capacity to rebound, to bounce back from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility.
OPTIMISM	A generalised positive expectancy and an optimistic explanatory style. Realistic optimism includes an evaluation of what one can and cannot accomplish in a particular situation.

The original researchers define psychological capital (PsyCap), stating that a person's state of positive psychological capital is characterised by the presence of the following traits:

“Perseverance towards achieving goals and then if necessary, also redirect paths to goals in order to succeed (hope);

Having confidence (self-efficacy) to take on and put in the necessary efforts to succeed at a challenging task;

When confronted by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success and;

Making a positive attribution (being optimistic) about succeeding now and in the future” (Luthans *et al.* 2007b).

PsyCap was included within positive organisational behaviour as the construct that demonstrates performance impact (Luthans, Vogelgesang, & Lester, 2006b:2); and, to gain respect within the field of management and organisations, a construct should be (1) theory and research supported and validly measurable; (2) related to performance improvement; and (3) state-like and therefore open to learning, development, change and management (Luthans, 2002b:58).

To answer the question, what is HERO? The theoretical literature review describes the construct in more detail under the headings of hope, efficacy, resilience and optimism, as can be seen below:

2.1.1 HOPE: The will and the way

Kelloway *et al.* (2017:257) observe that hope is not traditionally recognised or discussed in the workplace (traditionally in athletic and academic fields), and the inclusion of hope in PsyCap defines a new opportunity to view organisational behaviour. As a building block of HERO, the foundation for the hope theory is offered by Snyder, Irving, and Anderson (1991:287), where hope is seen as a positive motivational state that is based on a sense of a successful agency (goal-directed strategy) and pathways (planning to meet goals). Luthans, Avolio, and Avey (2013:5) explain that willpower and way-power are the critical processes of hope. The foundation of hope is summarised as having agency, pathways and goals.

Snyder *et al.* (2011:35) define hope as “goal-directed thinking in which a person has the perceived capacity to find routes to desired goals (pathway thinking) and the requisite motivations to use those routes (agency thinking)”. Hope is believed not to be genetically based, but rather is a learned skill and a deliberate way of thinking.

Both the theory and the definition of hope emphasise that cognitions are built on goal-directed thought, where one would use pathway thinking (explained as the perceived capacity to find routes towards achieving the desired goals) and agency thinking (the motivations to use those routes) as stated by Snyder *et al.* (2011:185). Individuals with high hope are known to possess a sense of zest derived from their history of success in achieving goals, and these histories are taken with on their road towards set goals.

The model of hope theory below indicates that on the route towards a goal, there are stressors present that can potentially block goal attainment. If a person can successfully circumvent these blockages, it will result in positive emotions and will lead to continued efforts. If, however, the stressor or blockages are not being dealt with successfully, the emotions will become negative. The interpretation of the stressor is at the core of hope, where high hopes do persevere finding a pathway. Low hoppers become stuck; they then no longer look for alternative pathways, and their negative emotions reduce their successful pursuit of goals.

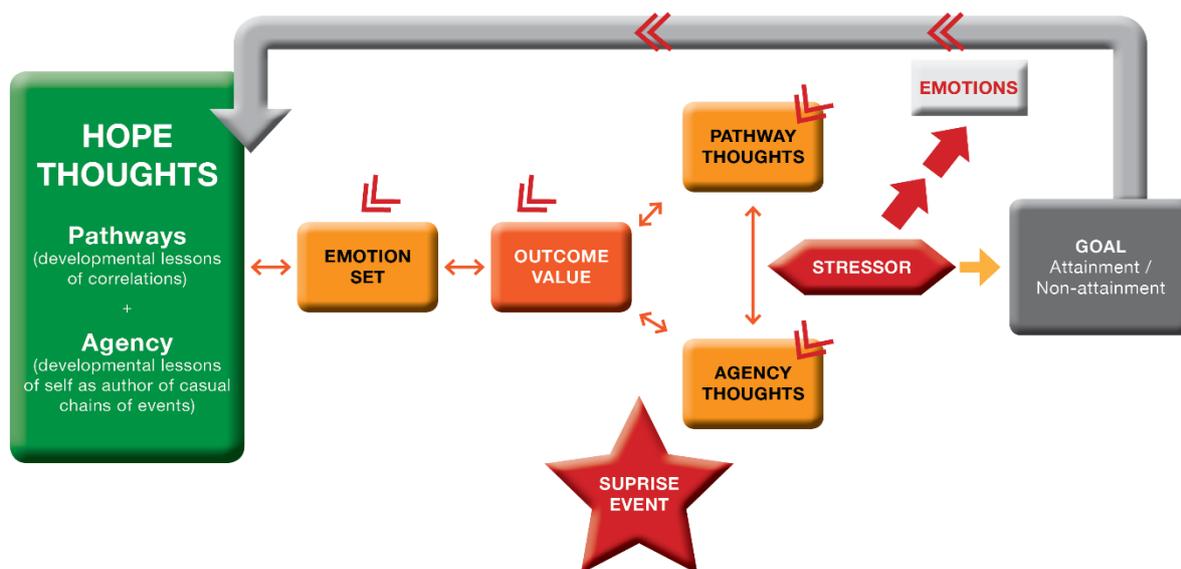


Figure 3: Hope model (Snyder *et al.* 2011:186)

Kelloway *et al.* (2017:257) observe that research in hope is gaining more traction with the inclusion within PsyCap.

2.1.2 EFFICACY (self): Confidence to succeed

As a building block of HERO, self-efficacy provides “a sense of personal control, achievement and wilfulness” and formed the basis of Bandura’s self-efficacy theory (Snyder *et al.* 2011:168). The essence of efficacy is, therefore, the judgement a person has over their abilities, towards achieving an outcome expectancy. Snyder *et al.* (2011:168) reiterate that outcome expectancies (achieving the goal) are dependent on the situation-dependent self-efficacy thoughts before goal-directed actions are activated. The most empirical research in positive psychology is done on self-efficacy because as it can be managed and developed. It can, therefore, be enhanced for people in all jobs (Luthans, 2002b:61). Self-efficacy as a variable of work-related performance was found to impact performance more than many other variables, including goalsetting, feedback, job satisfaction and conscientiousness. This explanation laid the foundation for positive psychology in the workplace, and as Luthans *et al.* (2013:5) remarked, this deals with the individual’s confidence about “his or her abilities to mobilise the motivation, cognitive resources our courses of action need in order to execute a specific task within a given context successfully.”

The foundational theory is defined by Bandura (1977), and views behaviour changes derived from a common cognitive mechanism or belief in one’s ability to succeed in achieving an outcome. Bandura (1997:42) defines efficacy as “an individual’s perceptual judgement or belief of how well one can

execute courses of action required, to deal with prospective situations”. This belief relates specifically to a task, performance or knowledge area, shaping the chosen behaviours or strategies towards achieving a goal. Self-efficacy is informed by five influences or sources, namely performance experience, vicarious experience, social persuasion, imaginal experience and physical and emotional states.

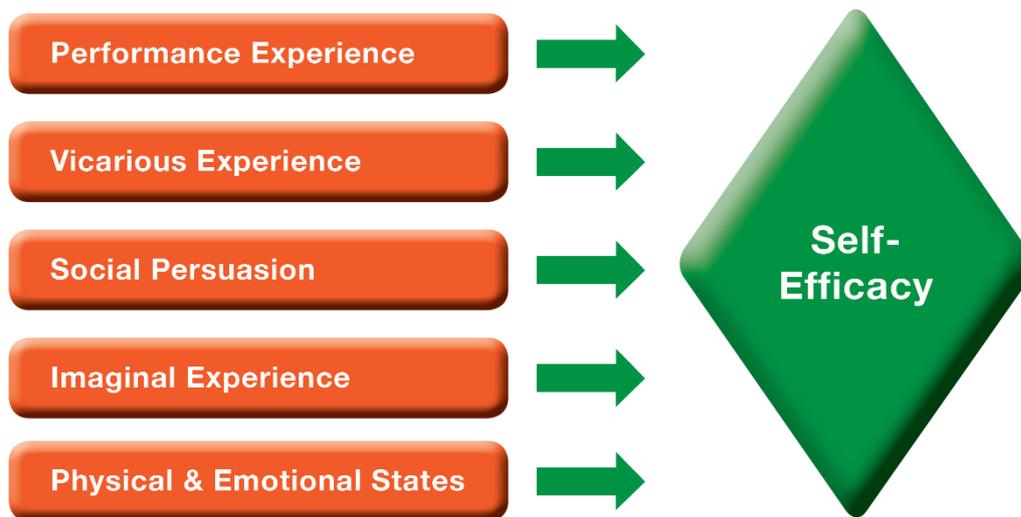


Figure 4: Self-efficacy theory (Bandura, 1997)

2.1.2.1 Collective self-efficacy

Bandura (2000:75) suggested that people have “a sense of collective efficacy that they can solve their problems and improve their lives through concerted effort”. Collective efficacy refers to groups or other social aggregations such as nations and cultures. Individuals may believe in their social environments as well as themselves to be efficacious or helpless concerning specific situational demands. Beliefs, in turn, influence the individual’s choices, motivation, actions, and performance within the collective (Bandura, 2000:76). Furthermore, the aggregation of these individual reactions will dictate the nature of the collective response.

2.1.3 RESILIENCE: Bouncing back and beyond

Resilience, as a building block of HERO, is a positive psychological capacity that can be developed, and infuses the ability “to rebound, to bounce back from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility” (Luthans *et al.* 2013:5). Most resilience literature is derived from developmental and clinical psychology (Kelloway *et al.* 2017:258) and acknowledges the growing application in the workplace.

Resilience refers to our ability to recover, and (Snyder *et al.* 2011:114) define it “as the ability to bounce back or positively adapt in the face of significant adversity or risk”. Resilience is a process where the environment, the resilient individual and the positive outcome after a negative experience are in a dynamic relationship. The domains of influence on the person include the following: stressors and challenges; external environment context; internal self-characteristics; and the positive outcomes. The process of transaction is firstly the person-environment interaction (or resilience process), and secondly, the individual choice of outcome.

Resilience should be regarded as a high priority, and as found in low-income urban areas in America, the forms of resilience observed include perseverance, commitment to learning from hardships, reflecting and refocusing to address stressors, creating supportive environments and drawing support from religion/spirituality (Teti, Martin, Ranade, Massie, Malebranche, Tschann, & Bowleg, 2012:524). In South Africa, studies in resilience are conducted in a variety of settings, from youth groups to townships, and among migrant workers and nurses (Wissing, 2014:128), indicating the value placed on achieving within a variety of contexts. In the workplace, a focus on developing resilience has become essential to enable the development of employee flexibility and adaptability (Kelloway *et al.* 2017:258).

2.1.4 OPTIMISM: Realistic and flexible

Realistic optimism is an evaluation of what one can and cannot accomplish in a situation (Luthans *et al.* 2013:5). Optimism is “an individual’s positive psychological state of development that is characterised by (a) Having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (b) Persevering towards goals and, when necessary, redirecting paths to goals (hope) in order to succeed; (c) Taking a positive attribution (optimism) about succeeding now and in the future; and (d) When beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success” (Luthans, Avolio, Avey, & Norman, 2007a:543).

Studying the optimal functioning of people includes the importance of positive emotions, meaning and engagement. Seligman (2002) explained his theory, referred to as learned optimism, by firstly studying helplessness. He proposes that helplessness is learned and not an unchangeable aspect of human nature. If people feel a degree of control over circumstances, even if they do not control it, the level of helplessness diminishes. Optimism can be learned, and the correct framing of a situation is of importance as this will result in having a more optimistic explanatory style. Although negative situations do arise in life, people who react differently to the same situation do not get trapped into a state of helplessness. When people who were exposed to bad events develop the

habit of mind of saying, “It’s temporary, it’s just this one situation, and there is something I can do about it”, this habit of mind was coined as learned optimism by Seligman (2002:24).

Snyder *et al.* (2011:259) explain that optimists make external, variable and specific attributions for failure – such as events rather than the internal, stable and global. Seligman (2002), in challenging the life questions of ‘what are the components happiness?’, suggests that the first element of happiness was identified as having positive emotions, the second was being absorbed, or engagement, and the third was having meaning in life, belonging to and serving something you believed was bigger than what you were (Seligman, 2002:45). He states that to be authentically happy and make it last, one should be satisfied with the past, be optimistic about the future and experience happiness in the present.

Optimism in the workplace is associated with how the individual experiences stress, their chosen coping strategies, how problems are solved and their reaction when experiencing adverse situations. (Kelloway *et al.* 2017:259).

2.1.5 Empirical findings of HERO

Empirical findings from recent studies show the important contribution PsyCap may make in yielding positive outcomes in job performance and attitudes (Larson & Luthans, 2006:75); job satisfaction, organisational commitment and climate (Luthans, Norman, Avolio, & Avey, 2008:219); lower voluntary and involuntary absenteeism records (Avey, Patera, & West, 2006:42); cynicism and deviance (Norman, Avey, Nimnicht, & Graber Pigeon, 2010:380); as well as reduced stress symptoms, intentions to quit, and job search behaviour (Avey, Luthans, & Jensen, 2009:677). These findings suggest that PsyCap contributes to positive organisational behaviour and change by promoting positive attitudes and behaviours and countering dysfunctional attitudes and behaviours, leading to increased engagement (Bekker, 2016).

PsyCap in team level functioning was founded by Dawkins, Martin, Scott, and Sanderson (2015) as a collective construct, and (Heled, Somech, & Waters, 2016:303) encourage the viewing of PsyCap as a team phenomenon, where positive levels of PsyCap mediate the relationship between the learning climate and outcomes at both the individual and team levels (Heled *et al.* 2016). Academic achievements of students increased due to perceived group PsyCap (Vanno, Kaemkate, & Wongwanich, 2014:3226). The current evidence and trends are to continue to cultivate the HERO elements within the team and group context.

2.2 THE THEORETICAL FOUNDATION OF HERO

2.2.1 Positive psychology

Positive psychology provides a body of knowledge around human functioning and has three pillars, as positioned by Seligman (2002: xi), namely:

1. The study of positive emotions;
2. The study of positive traits (strengths, virtues, and abilities), and
3. The study of positive institutions including democracy, strong families and free enquiry.

Seligman (2002:ix) recommends that during difficult times or times of problems, it is of utmost and immediate importance to understand and pay attention to positive institutions.

Seligman, a psychologist by profession and author of more than 300 scholarly publications and 25 books, was elected as president of the American Psychological Association in 1998. He conceptualised and initiated a change in the way psychologists can contribute to society. The change involved moving psychologists from a deficit-orientation to a strength-orientation in their profession (Csikszentmihalyi & Nakamura, 2011:4). An alignment of thinking between Seligman and Csikszentmihalyi, both psychologists, facilitated a meeting at Akumal in Mexico between influential young psychologists and the CEO of Gallup, Don Clifton, who developed an approach to management based on developing one's strength rather than fixing one's weaknesses (Csikszentmihalyi & Nakamura, 2011:5).

The result of the Akumal meeting and discussions confirmed the importance of including virtues, strengths and values into the mainstream psychology, and the conceptualisation of positive psychology. The notion to redress the imbalances between negative and positive perspectives in psychology gave rise to this new domain in psychology, which has its own rules, procedures and knowledge to distinguish the idea of researching the positive side of human functioning, versus the traditional dark side of dysfunction (Csikszentmihalyi & Nakamura, 2011:6).

2.2.2 The founders of positive psychology

Martin Seligman, Mihaly Csikszentmihalyi, Ed Diener, Christopher Peterson and Rick Snyder's work in the 2000s facilitated the establishment of the research-oriented theory of positive psychology. The emphasis shifted from that which is wrong with people to that which is right with people; to rather focus on people's strengths than their weaknesses; to enhance resilience and not exploit vulnerability; and to develop wellness and prosperity (Luthans, 2002a:697).

Positive psychology is described by Bretherton (2015:47) as a 'protest movement' to highlight the bias of moving away from mainstream psychological problems (what is wrong) towards a more existential approach, which addresses life questions such as answering, 'what is a good life?', stressing the importance of personal freedom, choice and the ability to take responsibility for one's contributions in life (Bretherton, 2015:56). This propagates following a 'strengths-based' approach when studying individuals, teams and institutions, seeking a more balanced and complete view and understanding of human functioning (Snyder *et al.* 2011:8). The research focus of positive psychology is to create a better understanding of how people can experience positive emotions, how to develop positive traits and how to build positive institutions for people to be able to flourish in the presence of everyday challenges.

South African researchers, Du Plessis and Barkhuizen (2012:16), support the change in focus towards a more positive approach in psychology and suggest that South Africa needs to take deliberate action with regard to building on people's strengths, building positive institutions and building capabilities on a psychological level. Nel and Kotze (2017:115), who is contributing to the South Africans understanding of positive psychology, is directing research aimed at understanding the relevant theories available in positive psychology, but more important is the application within the work context. Within the diverse context South Africans are functioning in, (Khumalo, 2014:263) advises that the business of positive psychology should also be to invest in positive social change and further diversity.

Practising positive psychology in the workplace is on the agenda of the International Positive Psychology Association (IPPA) aimed at closing the gap between academic research and the workplace, and as a result transforming the way the world works (Anon:IPPA). South Africa is positively contributing to this research community, and Wissing (2014:4), the South African representative at the IPPA, confirmed the value of enabling the strengths of individuals, groups and communities, including the manifestation and enhancement of those strengths.

Joseph (2015:824) concludes that the greatest power of positive psychology is the idea of transforming mainstream psychology rather than being a separate discipline, believing that the negative is not separable from the positive realities of life.

2.2.3 Target, mission and themes of positive psychology

Target: Positive psychology is not about self-help, happiness or life satisfaction in general, but rather targets flourishing or well-being (Seligman, 2010:234). The science behind answering life's questions and finding a path towards scientific answers is the pinnacle of positive psychology (Wissing, 2014:3).

Mission: "The mission of positive psychology is to understand and foster the factors that allow individuals, communities, and societies to flourish" (Seligman & Csikszentmihalyi, 2000:1). Flourishing or well-being is described by the two founders of positive psychology, Seligman and Csikszentmihalyi (2000:5), as follows: "Wellness is about valued subjective experiences: wellbeing, contentment, and satisfaction (in the past); hope and optimism (for the future); and flow and happiness in the present".

Themes: Positive psychology as scientifically exploring, was confirmed by Seligman (2010:234), at the Tanner Lectures at the University of Michigan, to include the following: positive emotion; engagement; positive relationships; meaning, belonging to and serving something that you think is bigger than you are; accomplishment – to achieve, to have mastery.

Wissing (2014:7) observed that the psychosocial well-being in different life settings and cultural settings and the relationship with physical health are some of the topics researched by positive psychology endeavours.

2.2.4 Research and landscape of positive psychology

The importance, value and development of positive emotions, positive traits and positive institutions were researched in a variety of settings, and the success of the movement can be measured in the increasing amount of attention given to the theories of positive psychology and the research findings (Csikszentmihalyi & Nakamura, 2011:10).

The landscape of positive psychology and associated interventions migrated to individual, groups and social life areas, as summarised Smith (2008) by means of a mind map.

At an individual level, the core focus is on the study of positive emotions; at a social level, the study of virtues; and at a group level, the study of institutions. For this study, progress in the institutional world of work is of importance. At a group level, the different facets of positive organisations are listed:

- Psychological capital (PsyCap)
- Positive organisational scholarship
- Positive education
- Employee development
- Strengths-based leadership

At a group level, these facets are targeted through intervention and supported by positive coaching and positive therapy. Rautenbach (2015) refers to workplace flourishing, which has been defined as an employee's perception that he or she is feeling and functioning well in the workplace. Flourishing at work includes the social, emotional and psychological well-being. A factor influencing flourishing at work includes positive practices in organisations, as it creates a work environment that allows employees to experience positive emotions (Cameron, Mora, Leutscher, & Calarco, 2011:266) and leads to increased performance.

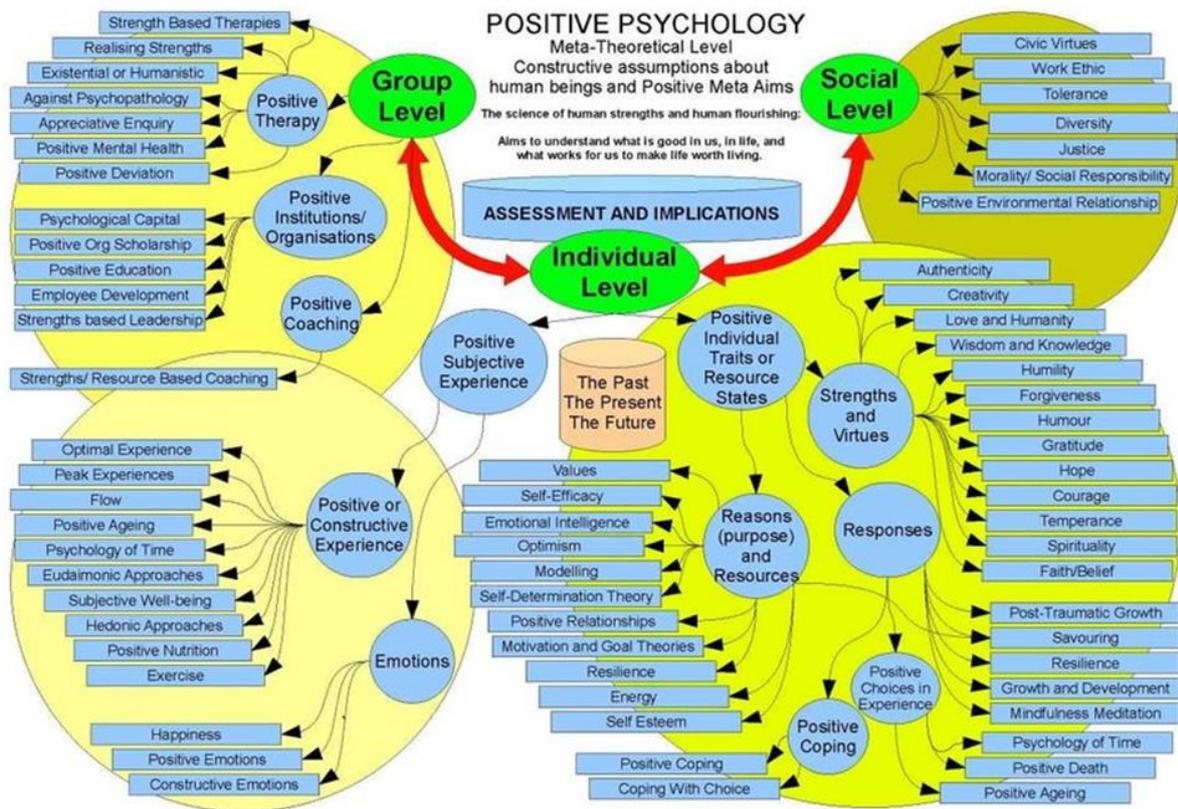


Figure 5: Landscape of positive psychology (Smith, 2008)

At the core of the individual, society and group level is the focus on the past, present and future. The core of the landscape revolves around well-being or flourishing.

2.2.5 Flourishing or Well-Being at the Core

Most people challenge life and ask questions such as “What is a good life?” Seligman and Csikszentmihalyi (2014:22) responded by stating that wellness is about valued subjective experiences: wellbeing, contentment and satisfaction – associated with the past; hope and optimism – associated with the future; and experiencing flow and happiness – associated with the present.

Keyes and Annas (2009:197) operationalised well-being on a continuum ranging from languishing (low levels of functioning), moderate to flourishing (high levels of functioning), which include hedonic (feeling good like happiness, pleasure and enjoyment) as well as eudemonic perspectives (functioning well such as setting goals and purpose). The areas of function consist of personal, social and emotional functioning. Feeling good is associated with personal, emotional functioning while functioning well focuses more on the ability to remain focused on the future and achieving goals. In the past, the well-being research arena was dominated by studies of hedonic well-being, but lately, research on eudemonic well-being have come to the fore (Schutte, 2016:3).

Pathways towards optimal performance indicate the presences of alternatives and different ways to achieve high-level performance or set goals. Pathways thinking is the ability to generate these alternative routes towards achieving set goals, outcomes or optimal performance levels (Swanepoel, Botha, & Rose-Innes, 2015:1412). Flourishing individuals can generate these alternatives, and in institutions they are characterised as having hope, optimism, experiencing self-efficacy and displaying resilience. They are engaged in their work, and experience meaning, their purpose is self-determined and they experience emotional well-being (Rothman, 2014:222).

Rothman (2014:226) states that flourishing individuals display the following characteristics:

- They are more satisfied with their jobs.
- They have lower turnover intentions.
- They show more organisational citizenship behaviour.
- They show lower counterproductive behaviour.
- They show more commitment to their organisations.
- They are more productive at work.

The argument is that managers should take cognisance of the individual level of well-being/flourishing and develop a baseline to identify if employees are languishing or flourishing. If this intent is adopted and implemented it could change the face of mining practice in South Africa.

2.2.5.1 Wellbeing PERMA model (Seligman, 2011)

The PERMA model identifies five essential elements or building blocks of flourishing, which include: positive emotion; engagement, relationships, meaning, and accomplishment. It is important to note that engagement and achievement were included in the PERMA model as a progressive step towards achieving authentic happiness.

The experience of positive emotions, however, should not cause people to neglect the other portions of life, as the PERMA model encourages a balanced approach. “Experiencing a pleasant life in the absence of engagement (where you experience flow), in the absence of positive relationships (where positive experiences and meaningfulness are experienced), in the absence of meaning (serving something greater than the self) and in the absence of accomplishment (achievement and mastery), cause only enjoyment in the here and now without an impact on flourishing” (Seligman, 2011:60). Seligman (2002:8) warns that “positive emotions alienated from the exercise of character, leads to emptiness, to inauthenticity, to depression” and that there are no shortcuts to happiness. At the Tanner lectures, Seligman (2010:231) encouraged the scientific community to believe in a positive human future and the reality that this future is buildable. The model below illustrates the various components of PERMA.

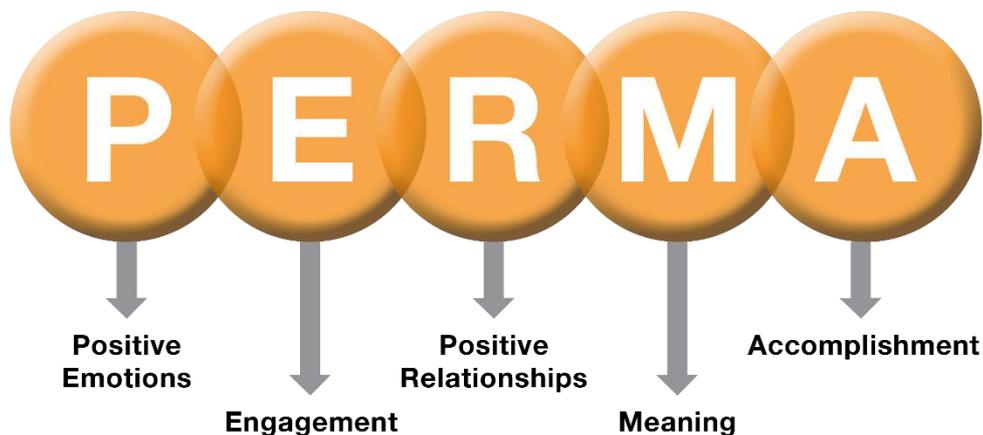


Figure 6: The PERMA model (Seligman, 2011)

Wissing (2014:151) observes that the PERMA model must not be viewed as a theory, but rather as an enumeration of five components, seen as the most important elements of well-being. The lack of depth is also observed towards explaining well-being; however, it does explain the importance of components (Wissing, 2014:153).

2.2.5.2 Flow (Csikszentmihalyi, 1997)

Flow is described as intrinsically motivated, and this is when we believe an activity to be rewarding in itself in the absence of external rewards. As we engage in activities that we find rewarding, we develop the skill and master the skill; also, we tend to seek more of the flow experiences (Nakamura & Csikszentmihalyi, 2009:195). The model illustrated below maps the landscape of flow and creates the awareness that in the absence of the appropriate skill levels when the level of challenge is high, a person will experience anxiety, and shut down. The opposite is also a reality, that in the presence of high levels of skills in the absence of challenging work or activity, boredom is experienced. The flow state is vital in order to “understand the dynamics of momentary experience and the conditions under which it is optimal” (Nakamura & Csikszentmihalyi, 2009:197). The three momentary states are flow, anxiety and boredom.

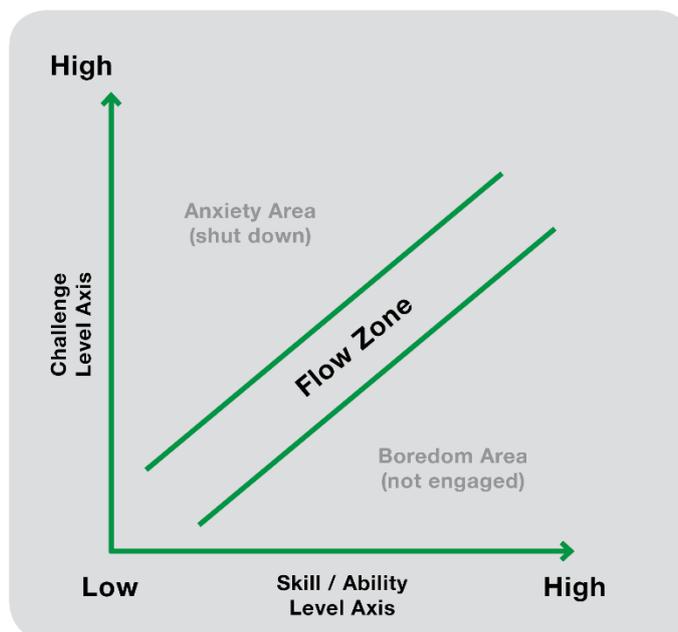


Figure 7: Flow theory (Csikszentmihalyi, 1997)

Entering the flow zone, therefore, is desirable, as with the PERMA referred to in the previous paragraph, this offers a combination of positive emotions, engagement and a sense of achievement. Longitudinal research in flow reveals how flow is associated with achievement over time. The findings suggest that that commitment, persistence and achievement can be directly traced back to previous experiences of flow (Snyder *et al.* 2011:259).

2.2.5.3 The broaden-and-build model (Fredrickson, 2001)

The underlying assumption of the broaden-and-build model is that the experience of positive emotions impacts through opening up our minds. Positive emotions tend, therefore, to broaden our attention, developing new insights and ideas as we connect our minds to higher level thinking processes and ideas. The building effect happens as people develop intellectual, social, physical and psychological resources (Fredrickson, 2001:2) These personal resources are used to increase the level in which environmental factors overcome challenges. The advice given is that one should build daily micro-moments of positive emotional connections in life (Wissing, 2014:149).

Fredrickson (2001:3) explains that the positive emotions broaden people's momentary thought-action repertoires, which serve to build their enduring personal resources. He further states that positive emotions are worth cultivating, as they are not just an end state in themselves, but also a means to achieving psychological growth and improved well-being over time.

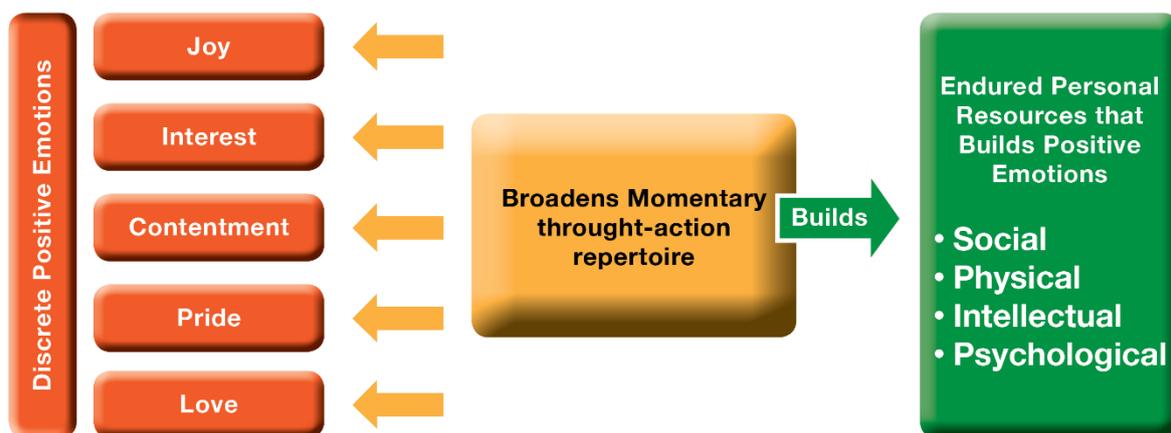


Figure 8: The broaden-and-build model (Fredrikson, 2001)

2.2.5.4 Self-determination theory (Deci & Ryan, 2002)

Self-determination theory (SDT) is explained by Deci and Ryan (2002:3) as a macro-theory of human motivation. SDT explains people's inherent growth tendencies and psychological needs that form the basis for self-motivation. Motivation influences our behaviour and how we choose to act. This proposes that people are growth-oriented, which makes them naturally inclined to act or to get involved in activities that interest them. A higher level of psychological growth is achievable through this activity. The social context, however, can inhibit growth and integration.

Needs theory classifies three fundamental needs – the need for autonomy, competence and relatedness. These are essential for human functioning (Schutte, 2016:129). Satisfying these needs is associated with health and well-being and drive behaviour. Needs are universal and necessary just like plants need water and sunlight to grow, thrive and flourish. Central to the definition of autonomy within SDT is the desire to act out of own choice, to be the author of one's actions; competence is about being master of the environment and realising desired outcomes; and belongingness or relatedness is the propensity to feel connected to others.

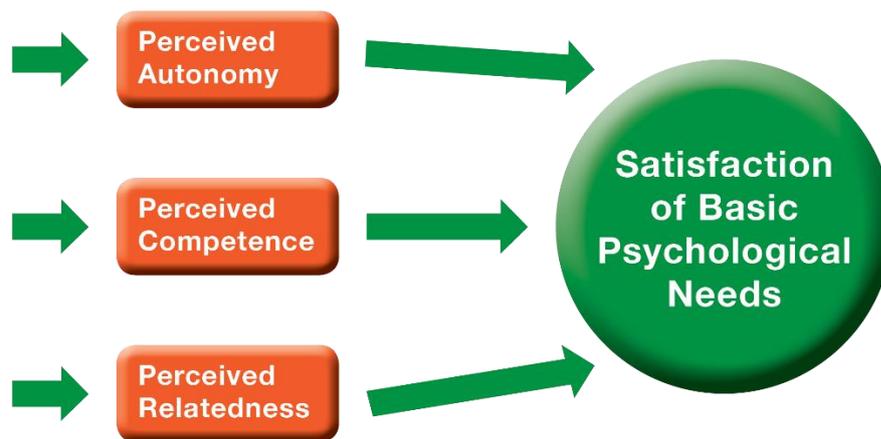


Figure 9: Self-determination theory (Deci & Ryan, 2002)

Basic needs satisfaction theory is essential as highlighted by Van den Broeck, Vansteenkiste, De Witte, Soenens, and Lens (2010:981), stating that “the construct of basic need satisfaction may be useful to gain insight in employees functioning and to examine the motivational potential of organisational factors.”

2.2.5.5 Meaning management theory (Wong)

Wong (2012:631) describes personal meaning as an individual constructive cognitive system, which incorporates the motivational and affective aspects leading to a sense of personal significance in life. Wong (2012:632) lists the positive assumptions of meaning management as follows:

- Meaning and hope can be found in the most helpless and hopeless situations.
- Humans are capable of self-transcendence.
- Humans always have the freedom and responsibility to choose their own destiny.
- The human quest for meaning
- Individuals are capable of growth regardless of internal and external limitations.

- Meaning is essential to healing, happiness and well-being.
- The practising of compassion and altruism is essential to meaningful living.
- All negatives can be transformed into positives.
- All existential crises are opportunities for personal transformation.

The models, as described above, are mechanisms and influence the direction and focus in the positive psychology field of study and are viewed as foundational thinking.

2.2.6 Positive organisation behaviour

Positive organisation behaviour (POB) is contextualised in the field of positive psychology, which Seligman (2011:11), the founder of positive psychology, describes as the work to “scientifically search for human strengths, promote, the appreciation of diversity, and urge researchers always to be aware of the context humans function in.” The contextual reality of individuals should be recognised as a factor that not only impacts the individual but also the team and the organisation itself. (Luthans, 2002a:59) builds on the work of Seligman and defines positive organisation behaviour (POB) as “The study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today’s workplace”. Youssef and Luthans (2007:775) propose criteria for a psychological resource capacity to be included in the definition of POB: “(a) The capacity must be theory and research-based and validly measurable, and (b) The capacity must also be ‘state-like’ (i.e. open to change and development) and have a demonstrated performance impact”. The latter criteria distinguish the capacities in POB from other positive ‘states’ in that the POB capacities are more stable and do not change with momentary situations as opposed to traditionally ‘states’ which are very changeable, such as moods” (Youssef & Luthans, 2007:776).

Psychological capital as capacity within positive organisation behaviour (POB) should create a sustainable resource for organisations and the benefit of this capacity lies in the ability to be enhanced and nurtured through interventions and programmes. POB may contribute to positive organisational outcomes, as hope, optimism and resilience have been linked to higher job satisfaction, work happiness and organisational commitment (Youssef & Luthans, 2007:774). Positive employee characteristics such as optimism, kindness, humour and generosity are expected to relate to higher levels of job performance (Ramlall, 2008:1580).

Positive organisational scholarship (POS), as conceptualised by (Cameron, Dutton, & Quinn, 2003), uses research to view the organisational experience through the lens of positive deviance, an approach in which an organisation’s actions move with intention from the normative middle-ground,

to a more morally obligated direction (Spreitzer & Sonenshein, 2004:828). POS is primarily concerned with analysing the outcomes, processes, and attributes of an organisation and its members. POS examines the enabling factors of the organisation as vested in its processes, methods, structures, culture, and motivations to allow it to free up the members to achieve positive outcomes. POS then extends to the considerations adjoining how the organisation can foster these positive processes to drive positive outcomes (Bernstein, 2003:268).

2.3 HOW IS HERO DEVELOPED?

The individual elements of hope, efficacy, resilience and optimism were extensively researched, and criteria for intervention approaches are available for developmental input into each. As PsyCap is also open to development, and impacts on performance improvement, it is objectively measurable not only in terms of the level of PsyCap, but also the associated bottom-line impact. A return on investment can be calculated for PsyCap (Luthans *et al.* 2007b:3). From a people perspective, the intangible resources, namely human capital, social capital and psychological capital, require management and developmental inputs. A summary of institutional practices and interventions for PsyCap is offered below:

Table 3: Human, social and psychological capital

INTANGIBLE RESOURCE	INSTITUTIONAL PRACTICE AND INTERVENTIONS
HUMAN CAPITAL	<ol style="list-style-type: none"> 1. Selection and selectivity 2. Training and development 3. Building tacit knowledge
SOCIAL CAPITAL	<ol style="list-style-type: none"> 1. Open communication channels 2. Cross-functional work teams 3. Work-life balance programmes
PSYCHOLOGICAL CAPITAL (HERO)	<ol style="list-style-type: none"> 1. Developing efficacy/confidence through: Mastery experiences, vicarious learning/modelling, social persuasion, positive feedback, physiological and psychological arousal 2. Developing hope through: Goal setting, 'stepping' (acknowledge small wins), participative initiatives, showing confidence, 'preparedness', contingency planning, mental rehearsals, 're-goaling' 3. Developing optimism through: Having leniency for the past, appreciation for the present, opportunity-seeking for the future, realistic perspectives, flexible perspectives 4. Developing resiliency through: Asset-focused strategies, risk-focused strategies, process-focused strategies (Luthans & Youssef, 2004:8)

2.3.1 Psychological capital interventions (PCI)

Luthans *et al.* (2004) provide guidance on the development of psychological capital, which can be seen as competitive capital in the form of 'who you are'. This capital is open to development and management. Psychological capital interventions (PCIs) are described as a focused intervention to increase PsyCap, using a three-pronged strategy embedded in a goal-oriented framework, which includes goal design, pathway generation, and overcoming obstacles (Luthans, Avey, Avolio, Norman, & Combs, 2006a:41).

The objectives of developing PsyCap through intervention are summarised by Luthans *et al.* (2013:18):

1. The ability to accurately frame adverse events
2. Devising strategies to leverage personal resources
3. Honing ability to
 - a. set goals
 - b. identify multiple pathways
 - c. identify obstacles to goals accomplishment and contingency plans

These three areas of focus provide the basis for developing learning content based on a sound theoretical basis. The success of interventions to positively influence the levels of HERO was confirmed within various contexts by (Luthans *et al.* 2006a). Focused micro-interventions at a managerial level proved an increase after a one-hour intervention, using a validated 24-item PsyCap questionnaire (PCQ), which are both reliable and predictive of performance and satisfaction (Luthans *et al.* 2006a:390).

The replicability and the extension of PCI were confirmed by Dello Russo and Stoykova (2015:329), confirming the opportunity for trainers in the mining industry to develop the most needed psychological resources. PsyCap can be developed through short training sessions or short web-based training, as found by (Luthans, Avey, & Patera, 2008:209); the evidence suggests PsyCap is open to development and may lead to positive employee attitudes and behaviours, which, in turn, are expected to contribute to positive organisational outcomes.

From a developmental perspective, the integration of workplace learning efforts with building the inner resources can increase the performance impact of PsyCap, which can be quantified, and closes the gap between academic research and management practice as reported by Youssef-Morgan (2014:138). Interventions used in positive clinical psychology, which can be readily adapted for the development of PsyCap, are shown to be effective in increasing positivity, alleviating negativity and enhancing well-being, as reported by Sin and Lyubomirsky (2009).

The impact of PsyCap at a group level and specific trust in management were found to mediate the relationship between PsyCap and performance through intervention (Clapp-Smith, Vogelgesang, & Avey, 2009:227). This is of contextual importance for the mining industry, where trust is valued in this labour-intensive environment.

Luthans and Youssef-Morgan (2017:351) provide a template for interventions; although it is a generic approach, the guidance enables intervention designers to adapt the specific context. The template indicates the specific area for HERO development and the associated developmental tools. The sustainability examples are provided in the fourth column. It is, however, noted that the sustainability examples relate to an environment where technology is the norm, and that the South African mining teams are not necessarily all exposed to these technologies, necessitating the requirement of alternative sustainability examples. The underground working environment mostly expose the teams to each other as a collective and the direct supervisor.

Focus on process of HERO development	Examples of developmental tools	Proximal outcomes: Individual PsyCap, ePsyCap, oPsyCap	Sustainability examples	Distal evidence-based desirable outcomes
<p>Hope Goals and pathways design Implementing scenario and obstacle planning</p> <p>Efficacy Experiencing success and modeling relevant others Persuasion, positive feedback, and arousal</p> <p>Resilience Identifying and building assets/avoiding risks How to affect the influence process</p> <p>Optimism Interpret, attribute events positively Glass half full Developing positive expectancy</p>	<p>SMART goal setting</p> <p>Goal setting exercise</p> <ul style="list-style-type: none"> • Goals • List barriers • List ways around barriers <p>Do three positive things/interactions each day</p> <ul style="list-style-type: none"> • Use rubber bands on wrist to remind <p>Keep nightly log/diary of three things to be grateful for each day</p> <p>Use contingent positive reinforcement</p> <ul style="list-style-type: none"> • Recognition • Appreciation • Positive feedback <p>Write gratitude letter</p> <ul style="list-style-type: none"> • Hand-write • More than thank-you note • Relative, teacher, mentor, friend, co-worker, boss <p>Balanced well-being</p> <ul style="list-style-type: none"> • Relationships • Exercise, relax, exercise • Meditate and Yoga • Hydrate and eat right 	<p>HOPE</p> <p>EFFICACY/CONFIDENCE</p> <p>RESILIENCE</p> <p>REALISTIC OPTIMISM</p> <p>Further development and replenishment of one's psychological resources or the</p> <p>H</p> <p>E</p> <p>R</p> <p>O</p> <p>within</p>	<p>Periodic coaching</p> <ul style="list-style-type: none"> • Face-to-face • Online <p>Apps</p> <ul style="list-style-type: none"> • Scheduled reminders • "Happify" usage <p>Periodic inspirational videos</p> <ul style="list-style-type: none"> • TED talks • Sports • Music <p>Video/smartphone games</p> <ul style="list-style-type: none"> • "SuperBetter" • Interactive, strategic <p>Gamification for continual PsyCap engagement</p> <ul style="list-style-type: none"> • Tracking • Achievements • Social networking • Challenges and competing 	<p>HIGHER PERFORMANCE and Satisfaction Happiness Commitment Well-being Engagement Mindfulness Creativity Innovation Hardiness Identification Citizenship Relationship satisfaction Health satisfaction Voice Problem-solving Safety</p> <p>LOWER Stress Anxiety Depression Burnout Substance abuse Negative affect Cynicism Turnover intent Deviance Work-family conflict BMI (body mass index)</p>

Figure 10: Psychological capital intervention model (Luthans & Youssef-Morgan, 2017)

Focused PsyCap interventions are directed at the specific elements of the construct, and generic positive psychology interventions contribute to the level of flourishing on an individual level and will contribute the individual wellness of the person as referred to below:

2.3.2 Positive psychology interventions

It is stated that genes determine fifty (50) per cent of our happiness, ten (10) per cent by circumstances and forty (40) per cent to be influenced by the intervention (Hefferon & Boniwell, 2011:151). The definition of positive psychological interventions, as defined by (Sin & Lyubomirsky, 2009:468), clarifies that “Treatment methods or intentional activities that aim to cultivate positive feelings, behaviours or cognitions. Programs, interventions or treatments aiming at fixing, remedying or healing something that is pathological or deficient as opposed to building strengths – do not fit the definition of a positive psychological intervention”. The strong bias of moving away from the deficit-orientation to a strength-orientation is visible with the definition above. The application of positive psychology in an intervention manner was summarised by Parks and Schueller (2014:xvi) into various types, as listed below:

- a) Established interventions (gratitude, promoting forgiveness, positive experiences, strength interventions, promoting meaning and purpose in life and empathy-related interventions).
- b) New and emerging areas (creativity, patience, courage, humour, flow, wisdom)
- c) Application areas of intervention (family, individual, coaching, online coaching, resilience for youth, social identity, people with schizophrenia, smoking).
- d) Special consideration (making happiness last, person-activity fit, culture, ethical practice, wellbeing, self-perception and personality, and wellbeing)

Business leaders in the 20th century were advised on the importance of only knowing versus doing, reading the signs that change is needed and acting on it. As stated by Roger Babson: “Experience has taught me that there is one chief reason why some people succeed, and others fail. The difference is not one of knowing, but of doing. The successful person is not so superior in his ability as in action. So far as success can be reduced to a formula, it consists of this: doing what you know, you should do” (Babson, 1935:389). The statement of Babson supports the literature review in this study to this point. The theory acknowledges the importance of people, the HERO resources and the institutional requirements. The theory supports the possibility of building these resources through interventions. The progress in the study should be noted, that knowing is not yet doing. The development of HERO can therefore be summarised in phases, where you do the following through intervention:

- Individuals and teams should know how to deal with adversity, how to identify the real potential of risk, as well as how and what they can control to be able to manage risk.
- Understanding personal resources and how to leverage this to deal with workplace realities through using way-power (motivation).
- Importance of taking ownership and setting goals, developing pathways (seen as way-power) to overcome obstacles. (Luthans *et al.* 2013).

2.4 WHY IS HERO IMPORTANT FOR BUSINESS AND MINING?

Luthans *et al.* (2004:47) acknowledge the importance of human capital as a contribution to strategic competitive advantage, but also state that: “Who I am and can be, is just as important as what I know and whom I know”. The importance of these intangible resources is critical for business success. Luthans *et al.* (2013:18) explain that PsyCap is about developing yourself as a resource and the ability to frame workplace realities realistically and responding to it.

2.4.1 National Development Plan and gross domestic product

The South African mining industry is continually re-positioning itself, not only through physical resource development or acquisitions, but also concerning people. Mining is viewed as a critical industry for South Africa to achieve the objectives of the National Development Plan (NDP), aiming to eliminate poverty and reduce inequality by 2030. The NDP (Commission, 2012) reinforces the importance of the goals through “drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society”.

The objectives of the National Development Plan are as follows (Commission, 2012):

- Uniting South Africans of all races and classes, around a common programme to eliminate poverty and reduce inequality;
- Encouraging citizens to be active in their own development, in strengthening democracy, and in holding their government accountable;
- Raising economic growth, promoting exports, and making the economy more labour-absorbing;
- Focusing on key capabilities of both people and the country.

Mineral resources are deposits and in favourable conditions have economic value which can be unlocked, and are dependent on the capability of mining operations to extract the resources sustainably. The importance of the South African mining industry, to unlock the value of our mineral deposits, was re-confirmed during the 2019 State of the Nation Address (SONA) and 2019 Mining Indaba (Ramaphosa, 2019). The minerals sector contributed R312 billion to the South African gross domestic product (GDP) in 2017 and employed 464 667 people (MCSA,2018). The Minerals Council of South Africa (MCSA) in partnership with the Government-led Mandela Mining Precinct and Individual Mining Houses are developing strategies towards sustainability in mining (Baxter, 2019), and the South African National Platinum Strategy plans to contribute R8.2 trillion to South Africa’s economy by 2050. The platinum strategy, however, depends on financial, technical, research and

development leadership and skills to seize this game-changing opportunity for the country (Baxter, 2019). Ndansi (2018) confirms few relevant facts about the South African mining industry, stating that RSA holds an estimated value of US\$2.5 trillion of non-energy, referred to as in-situ mineral wealth. This resource makes South Africa the world's wealthiest mineral resource-rich nation it creates the potential for sustained growth and development, such as in revenue generation, gross domestic product (GDP), employment creation, and foreign direct investment (FDI). The mining sector is facing challenges and Ndansi (2018) refers to commodity price volatility, labour unrest, weak institutional frameworks, shortage of skilled labour, and other structural challenges.

2.4.1.1 Capability requirements

The World Economic Forum advises on the importance of also reskilling people and refers to a 'reskilling revolution', which is required as jobs, skills, and tasks will change as part of the fourth industrial revolution (WEF, 2019). This 'reskilling revolution' will not only impact on the international market, but also the mining industry in South Africa. People are central to the success of mining, and resources do not only refer to mineral resources, but the people in the industry also have resources that are required to build a sustainable economy. Strategic capability is needed and is viewed as the complex network of processes and skills impacting on successful operations (Lazenby, 2018:118).

While the mining industry poses the opportunity to extract physical resources (in the form of coal, gold, platinum, iron ore) through the uniqueness of human intervention, it is the non-tangible assets providing the competitive advantage. These resources or desired behaviours are difficult to imitate, and the success is believed to be in closing the 'knowing-doing gap' in leveraging the resources provided by people (Luthans & Youssef, 2004:4).

The Minerals Council of South Africa acknowledges that people are at the heart of the industry. The focus on improving employees' skills, safety, health, quality of life and professional fulfilment will facilitate participation in the economy. The strategic focus is driving the preservation of existing jobs, and the creation of new, skilled positions, and therefore a process of transition and transformation is envisaged (MCSA Position Paper, 2018). The execution of strategy, inclusive of the implementation process of operational plans and operating models, requires tangible and intangible resources, actions and desired behaviours. The interaction of organisational resource elements, tangible and intangible, should be acknowledged not only at the industry level, but also at individual mining operations.

Managers, supervisors, and teams find themselves confronted with operational performance challenges to deliver on expectations from the industry. The 2018 Mining Indaba, where investors

and mining houses explore the challenges and opportunities, the responsibility and opportunity to improve the way mining conducts business, was acknowledged. A variety of initiatives are explored, from the Internet of Things (IoT) to improve the environment, to trust and transparency between stakeholders (MacFarlane, 2018). Readiness to implement various initiatives as part of the fourth industrial revolution and Industry 4.0 require mining houses to position itself to be competitive and modernised within the industry; this is the discourse of industry forums currently in South Africa (van der Woude, 2019).

Maasz & Darwish (2018:92) reviewed the readiness and self-check analysis in the quest for the mining industry to remain competitive. The six different dimensions to evaluate the readiness of an entity to adopt Industry 4.0 initiatives are:

1. Strategy and organisation
2. Smart factory
3. Smart operations;
4. Smart products
5. Data-driven and
6. Employees.

Acknowledgement is provided of how strategy and employees are the two entities surrounding the technical components of the readiness check.

Although mining is a fascinating industry, it is challenged by setbacks, labour unrests, declined production and concerning levels of safety incidents and loss of work opportunities (Robinson, 2018:1). Mining remains a high-risk environment, and the integrated nature of the challenges as a report by (KPMG, 2018) notes the risks for the industry as ranging from profitability to liquidity, technology, health and safety, strategy, compliance, growth, regulation and ethics, operational excellence and people. The emerging risk for operational excellence is ineffective asset management strategies and lack of certainty in the estimates of proven and probable reserves; this results in business interruptions and inefficiencies. The ore reserves are also deeper, depleting and extending further and further away from the shafts, in gold and platinum sectors (MCSA, 2018).

The recommendation towards adopting a positive orientation towards people's resources (HERO) and building capacities and capabilities is in line with the agenda of the South African mining industry. The Minerals Council's position paper (MCSA, 2018) on 'People-Centred Modernisation in Mining' reflects on the 1.4 million jobs provided by the industry in South Africa in a country where 15 million people are unemployed. If the mining industry does not modernise and build the capacities in the workforce, the industry will remain a sunset industry (Singh, 2019).

2.4.2 HERO as positive resource

Traditionally, people are viewed as a resource, but people have resources, and more specifically, they have personal resources (Luthans *et al.* 2007b:20). The individual or team who possesses the required resources does contribute towards achieving or maintaining a competitive advantage. HERO, as an intangible resource, has been theorised, researched and applied within the field of positive organisational behaviour. The contribution of HERO is evident and accepted as a positive resource required for managerial success (Luthans, 2002b:59). Through positive-oriented interventions, intangible resources can be developed and cultivated, and the theory, research and practice are noted within various contexts and over a variety of positive psychological themes (Kelloway *et al.* 2017).

To illustrate the scope of positive resources, reference is made to the research in education where the development of a framework for positive education was completed by Noble and McGrath (2015). Application of positive resources was documented in positive education by Pluskota (2014), an approach for positive health and well-being by Seligman (2008), scientific studies measuring positive affect and flourishing by Fredrickson and Losada (2005), and the mental health continuum of Keyes (2002). In the workplace, engagement of employees towards flourishing was documented by Bakker and Schaufeli (2008) and more recently positive journalism by McIntyre and Gyldensted (2018), and in sport, following a strength-based approach by Stander, Rothmann, and Botha (2017). The optimal expression on potential can be achieved through the integrated nature of the resource-based view, where individuals and teams are expressing their potential within a given context.

Although HERO is a positive resource, attention should be given to the concept of conservation of resources (COR), which suggests that individuals seek to acquire and maintain resources (objects, social status, social connections, time, knowledge), as explained by Hobfoll, Lilly, and Jackson (1992:286). People experience stress when there is a loss of resources or a threat that a resource will be lost. The positive resource then becomes negative or even destructive. If individuals use personal resources, or invest themselves, they might fail to gain resources that they require to meet their job demands. The ability to acquire and maintain resources is seen as both a means and an end; firstly, a means to achieve success, and an end, which includes the ability to adapt, cope or experience well-being.

2.4.2.1 Realise the internal resource dependency

Resource dependence is an old perspective, which is based on power dynamics and was grown from the work of Pfeffer and Salancik (1978), explaining that organisations “are a collection of power relations based on the exchange of resources” (Ulrich & Barney, 1984:471). To be successful, organisations modify their structure and patterns of behaviour to best secure needed external

resources. An organisation gains overall power by having resources that others need, in the same time decreasing its dependence on others for resources crucial to its own needs. The resource-based view places the focus on the internal resources, while, in the resource-dependency theory, the attention is directed to the outside. The study, however, makes a case that resource-dependency has shifted to the internal world of organisations, where opportunities to access external resources do exist, the optimisation and dependency are on the unleashing of the internal resources.

Larson and Luthans (2006:3) reflect on some controversy in the manner organisations value human assets, using accounting principles and assumptions, where people are viewed as assets or liabilities (expenses). These practices could influence the 'dispensability' of human assets and result in a short-term, rather than long-term, view.

2.4.3 HERO for performance and change

Apart from the direct impact of PsyCap as a people resource on performance, work engagement, increased mindfulness, hope and reduced stress and burnout, research also confirmed that positive levels of PsyCap impact organisational outcomes and performance internationally (Luthans *et al.* 2007a:4). Investing in the development of PsyCap does benefit the workplace as reported by Youssef-Morgan and Luthans (2015:180) on the improvement of overall well-being. Cameron *et al.* (2003:7) proved the terminal value and hard work-related outcomes of increased levels of PsyCap, and encouraged a more positive organisational scholarship.

The ability to change is further attributed to the level of PsyCap as found by the historical study conducted on Robben Island, where imprisoned political icons disrobed their journeys within an oppressive environment (Cascio & Luthans, 2014). The capability to change attitudes is found to be related to the level of PsyCap, where organisational commitment and positive attitudes towards work are attributed to improved levels of PsyCap (Larson & Luthans, 2006). In a changing environment, the unlocking of resources is seen as a competitive advantage where the capability to adapt to new practices, technology and working cycles is the norm. Where change was seen as a function of unfreeze and refreeze, the current environment is seen to be in a constant 'slush' (Luthans *et al.* 2007b).

2.4.3.1 To improve performance and reduce burnout

Palo (2015:130) measured the levels of PsyCap at a South African platinum mining company in South Africa and identified a positive relationship between high levels of PsyCap and the impact on improved performance and work engagement. Palo (2015:131) highlights the importance of

developing the intangible people resources, but also the support factors to ensure the sustainability of levels of PsyCap.

Within the South African remote mining environment, Kotzé and Nel (2018:199) identified that mineworkers who use their internal personal resources, in particular, hope and mindfulness, managed to reduce their level of burnout dramatically. Mineworkers with positive resource levels feel more empowered to influence their work environment, and as a result, deal better with stress in the workplace in pursuing their goals (Nel & Kotze, 2017:885).

2.4.4 Improve safety mindset

Stratman and Youssef-Morgan (2019:13) and Wang, Wang, and Xia (2018) researched the relationships between psychological capital and safety mindsets. Safety mindset is of critical importance for the mining industry as positive levels of PsyCap influence the level of cynicism and commitment. Kelloway *et al.* (2017:264) focus on the importance of leader and follower levels of PsyCap and observe that through social learning, observation and modelling, PsyCap resources can be transferred from leaders to followers through independent mastery of cognitions, affect and behaviours. Dawkins *et al.* (2015:926) refer to social contagion, explaining how leader attitudes and behaviours can be contagious to their followers, but also followers towards leaders.

Kelloway *et al.* (2017:267) are entering an emerging field of research towards collective health and safety PsyCap and are shifting to the group and team level engagement focus. Targeting domain-specific content in health and safety and integrating supervisory development efforts will result in approaching health and safety interventions following a resource-based view focusing on hope, efficacy, resilience and optimism as a collective safety PsyCap construct. Empirical research is emerging and provides much needed clarity towards creating sustainability in high risk safety environments. The conceptual framework proposed for research is inclusive of leader development, collective PsyCap inclusive of specific health and safety content and the envisaged outcome. This emerging research is of specific relevance for the current study to explore HERO mining teams and identify requisite supervisory behaviours.

2.5 POSITIVE INSTITUTIONS AND INSTITUTIONAL PRACTICES

The foundational theory and applications will serve as an introduction and clarify how positive psychology provides the context for positive organisation behaviour and enable the development and cultivation of psychological capital (PsyCap) or HERO.

Where positive psychology scientifically studies which factors enable individuals and organisations to flourish, well-being and positive traits are displayed within the institution, which is an important contextual variable (Seligman & Csikszentmihalyi, 2014:5). The contextual practices for this study will be addressed.

2.5.1 Importance of positive institutions

An institution is an organisation, or a corporation created to pursue a role, which may be in society or business, and the impact of how it operates will have a definitive influence on individuals, teams, business and society. Rothman (2014:222) highlights the importance of positive institutions and states that it is evident that they “have a purpose and a shared vision (of the moral goal of the institution), provide safety (protection against treat, danger, and exploitation), and ensure fairness (with equitable rules governing reward and punishment), humanity (care and concern), dignity (treatment of all as individuals regardless of their position).”

The characteristics of these institutions are founded on the individual and team flourishing nature, strength-focused approach, positive relations, and positive institutional human resources practices (Rothman, 2014:224). One can argue that the creation of such an institution provides the impetus for almost launching any change and associated workplace learning intervention.

2.5.2 Positive institutions provide psychological safety

Edmondson (1999:350) acknowledges that individuals have resources to offer within institutions, but tend not to unleash or offer this to the benefit of the business. This lack is due to a fear that psychological safety is lacking, described as “a shared belief held by members of a team that the team is safe for interpersonal risk-taking”. It is further reiterated through referring to the concept of ‘voice’, that sometimes voice (to speak-up) is necessary and required. To share your opinion normally occurs when an individual experiences psychological safety, and this successfully occurs in environments where high support and trusting relationships exist. Edmondson (1999:351) states that psychological safety affects individuals’ willingness to “employ or express themselves physically, cognitively, and emotionally during role performances”, rather than to disengage or “withdraw and defend their personal selves.” He argued that people are more likely to believe they will be given the

benefit of the doubt (a defining characteristic of psychological safety) when relationships within a given group are characterised by trust and respect.

Edmondson and Lei (2014:36) reported that psychological safety is critical for three specific reasons:

1. Psychological safety has consistently been shown as an effective key construct to enable performance.
2. Psychological safety is particularly relevant when reviewing how teams learn – as they, through the passage of time, learn to know and understand how their team mates react at specific times and in specific circumstances.
3. Team members who experience greater psychological safety are more likely to voice honest opinions at work – communication to inform senior managers is vital for learning and performance. A lack of sharing information to senior members keeps or protects the status quo. Managers require employees to identify problems or opportunities for improvement and offer their ideas to improve their organisations' well-being.

HERO resources within a positive institution with the required level of psychological safety fulfil the requirements of building individuals and the institutions. The skills to build the resources and the institutions are capabilities that can be learned. The direct implication is that the development of hope, efficacy, resilience and optimism cannot be sustained in a negative institution where the level of psychological safety limits the expression of personal resources.

2.5.3 Institutional practices and HERO support

Institutional practices are described by (Rothman, 2014:244) as inclusive of:

1. Work design (well-designed jobs moderate positive psychological states);
2. Organisational support (supervisor/manager relationships; co-worker relations; positive communication and role clarity);
3. Positive leadership (ethical leadership, spiritual leadership and authentic leadership);
4. Appreciative inquiry (method to identify strengths and support the development);
5. Coaching (skills, performance and developmental).

Positive institutional practices in the workplace were found to impact on the overall well-being or flourishing in the workplace within a South African educational setting, and positive organisation practices include meaning, inspiration and support, and are found to be the most significant (Redelinghuys, Rothmann, & Botha, 2019:625). Institutional practices will depend on the context and setting; the defining factor is whether the practice does positively impact on the psychological capacity, state or well-being/flourishing of the individual. The practices, as referred to in the previous

paragraph, however, are stated in relation to the positive psychology intent, namely flourishing. When reviewing the influence of institutional practices on HERO or PsyCap, the research is only in an emerging stage. The development of PsyCap should, however, not be viewed in a narrow sense, and the various resources as viewed by Luthans *et al.* (2004:46) are an opportunity to change the approach of institutional practices to support interventions. Avey (2014:142) refer to the antecedents of PsyCap and notice that research currently suggests that leaders may have an impact on individual PsyCap, reference is made to earlier work of Eden and Shani's (1982) on the Pygmalion effect, suggesting leadership actions and communications can build self-efficacy in their followers.

Positive psychology and specifically positive organisational scholarship as a focus according to (Cameron *et al.* 2003) motivate the identification and development of positive institutional practices also to support interventions associated with psychological state-like development. This moves the propensity to focus on problems, challenges, and competitive contests in organisational science towards a positive approach to view practices (Cameron *et al.* 2011:4). Positive organisational scholarship advocates the examination of positive dynamics that may account for previously untapped variance in performance. Practices refer to collective behaviours, activities or methods that are accepted, and advocated by and for the characteristic of an organisation (Cameron *et al.* 2011:2).

For learning and change practitioners, psychological capital provides fertile ground to build more positive institutional practices, as PsyCap is a core construct that can be changed through intervention. The definition is stated as: "an individual's positive psychological state of development that is characterised by the following: (a) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (b) making a positive attribution (optimism) about succeeding now and in the future; (c) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (d) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success" (Luthans *et al.* 2006b:25). The definition differentiates PsyCap from both widely recognised human capital (what you know, e.g. knowledge, skills, abilities, and experience), and social capital (i.e. who you know, e.g. the network of relationships) towards PsyCap, "who you are" and "what you can become".

For this study, three institutional practices are identified:

1. Strategic orientation
2. Workplace learning
3. Supervisory support

Where workplace learning facilitates the development of hope, efficacy, resilience and optimism, the strategic orientation cultivates HERO, supervisors support HERO, and the integrated institutional practice can sustain the positive levels through the respective institutional practises. Luthans, Youssef and Avolio (2015) explain that apart from personal resources, “who I am” towards “what you can become”, we are influenced by “how my context is framed and shaped”, “how I am supported” and “how I develop and behave”. The individual or team does not develop HERO in isolation and the institutional practices are seen to address these important contextual aspects. Table 4 below is a representation of how institutional practices can be contextualised, as indicated at the bottom.

Table 4: Tangible and intangible resources (Luthans *et al.* 2004:46) – Adapted

STRATEGIC RESOURCES			
TANGIBLE	INTANGIBLE		
<i>Economic capital</i>	<i>Human capital</i>	<i>Social capital</i>	<i>Psychological capital (PsyCap)</i>
WHAT YOU HAVE	WHAT YOU KNOW	WHOM YOU KNOW	WHO YOU ARE
Your finance and assets	Your experience, education, knowledge, skills and ideas	Your networks, relationships and friends	Positive levels of Hope, Efficacy, Resilience, and Optimism
INSTITUTIONAL PRACTICES			
STRATEGIC ORIENTATION WORKPLACE LEARNING INTERVENTIONS SUPERVISORY SUPPORT			

2.5.4 Strategic orientation as institutional practice

Strategic orientation answers the suggested question from teams: “how my context is framed and shaped” towards “what I/we can become”. Optimal performance requirements and associated new business models are dependent on the social system, as well as the mindsets and behaviour as researched within applied work and organisational psychology (Woods & West, 2015:2). Optimal performance can also be a set of positive psychological traits (Wissing, 2014:7). Although global

influences are not in the manager's control, Burger (2016:266) rightfully identified the risk within mining companies at a local level as misalignment between the vision, values and objectives of the company and stakeholders (which include the mining teams). If not addressed purposefully, it remains a challenge, and overall misalignment of managerial and worker-level employees with the strategic vision of the organisation is at an unacceptably high level. Burger (2016:227) further noted that enablers towards change should include alignment initiatives such as clarifying of objectives, creating and enabling organisational culture together with sharing of knowledge and information relevant and vital for the mining industry.

Coetzee, Ukpere, and Visagie (2012:12067) warn against this misalignment, and advise that "in order to implement any significant change interventions it is of the utmost importance to continuously share and communicate the vision as well the reasons for the envisaged change". They further add that the ability of the leader to reduce the initial resistance to change, the anxiety and the fears will enhance the employee's acceptance of the change. Poorly planned and executed organisational change initiative will result in failure and the financial, human, information and physical resources being utilised become a waste. A case is made that the implementation of business models requiring a resource-based view approach where all the areas, tangible and intangible, are aligned to ensure implementation success. The reasons why strategy and business models fail are directly related to a lack of alignment between the organisation's strategy, implementation, identifying barriers, and acknowledging people as a factor in strategic change within a social system, as noted below:

Organisation strategy

Reeves and Haanaes (2015:1), from Boston Consulting Group, state that "Strategy is a means to an end: *favourable outcomes*" and that the best way to approach strategy is dictated by the problems the organisation faces. The dilemma facing leaders is the increasingly diverse environments they need to operate in, the selection of the most effective approach and then to also mobilise the correct thinking, behaviours and execution". Lazenby (2018:3) creates the awareness that traditional strategy approaches are challenged, and the workplace today requires deliberate action that decision-makers must take to increase the organisation's performance.

Implementation of the strategy is significant as the value of strategy can only be achieved through implementation. Where strategy formulation deals with analysis and intuitive skills, implementation requires motivation and leadership skills and the reality is that nine out of 10 organisations fail to implement the strategy (Reeves *et al.* 2015:7). Strategy implementation, however, depends on the culture and a viable and productive organisational culture must be cultivated, encouraged and fertilised.

Barriers to implementation

The existence of barriers to implementing strategy is attributed to either macro- or micro-barriers, ranging from managerial, resources, people or vision barriers (Reeves *et al.* 2015:10) as illustrated in Figure 11 below. These barriers can be clustered into factors referred to as strategic leadership and organisational culture (Lazenby, 2018:338).



Figure 11: Barriers to strategy implementation (Reeves *et al.* 2017)

Barriers to strategy implementation can be rectified from different perspectives. Reference can be made to linking resources and budgets and applying operational management principles from methodologies such as the theory of constraints, just in time, lean manufacturing or logistic analysis (Heizer, Render, Munson, & Sachan, 2017), or more leader-based approaches such as 'results-based leadership (Ulrich, Zenger, and Smallwood,1999), in addressing visionary barriers. Corporate turnaround strategies address barriers from either a strategic or operational perspective. The reality is that not one of these barriers or approaches to remove them can function in isolation; a strategic change approach is required to build the capability of resources. Positive institutional practices, however, will change a barrier towards a strength and refocus the organisation away from a deficit approach. One can refer to resource barriers as a lack of HERO, lack of support, lack of learning, and lack of contextualisation.

2.5.4.1 Alignment of resources

In response to mining realities, individual mining houses initiate and execute their strategies for competitive advantage, design business models and implement change interventions to align the workforce and build the required capacities. Planned strategies, however, do not always deliver

when these strategies are directed to the operational improvement or operational excellence, then a business model fail at the level of delivery (Kirkwin & Rzak, 2016). The people side of the mining business provides the impetus for improving operational excellence, investing in people and building the capabilities for successful strategy execution. Nine out of 10 organisations fail to implement the strategy (Lanzeby, 2018:338).

Strategy formulation requires a business to have analysis and intuitive skills, implementation and motivation and leadership skills (Reeves & Haanaes, 2015:7). A viable and productive organisational culture must be cultivated, encouraged and fertilised for strategy execution. The lack of resource capacities, may it be tangible or intangible, acts as barriers to implementation. The existence of barriers to implementing the strategy is attributed to either macro- or micro-barriers ranging from managerial, resources, people or vision barriers (Reeves & Haanaes, 2015:10). These barriers can be clustered into factors referred to as strategic leadership and organisational culture; should barriers not be identified and removed, a strategy and associated interventions will not result in the envisaged benefits (Lanzeby, 2018:338).

Reeves and Haanaes (2015:1-3) from the Boston Consulting Group state that “Strategy is a means to an end: favourable outcomes” and that the best way to approach strategy is dictated by the problems the organisation faces. The dilemma facing leaders is the increasingly diverse environments they need to operate in, the selection of the most effective approach and then to also mobilise the correct thinking, behaviours and execution. Lanzeby (2018:3) creates the awareness that traditional strategy approaches are being challenged, and the workplace today requires deliberate action that decision-makers must take to increase the organisation’s performance. It seems that a change in the institutional practices is required when envisaging strategy execution. The orientation requires a focus on alignment of resources; in this study, resources include the tangible and intangible resources (human, social and psychological capital) then correctly frame the context for these resources to be able to unlock the potential.

2.5.5 Workplace learning as institutional practice

Workplace learning interventions are a strategic method to build the capability towards strategy execution. Rothman (2014:254) notes that not all work or tasks require the same personal resources and the availability of the required resources in a job does lead to greater levels of engagement. Workplace learning interventions are believed to be contributing directly to the optimisation of the tangible and intangible resources, dealing with the realities of “who I am” and “how I learn and develop’. The positioning of workplace learning intervention within the strategic resource matrix ensures a focused approach to building the resource. Workplace learning interventions are initiated

and institutionalised to develop the capability of the individuals and teams within organisations to unleash the intangible resources of people. If the learning happens consistently and over time, reference can be made to organisational learning, a term used to describe a change in the organisation, as it acquires knowledge through experience over time. Learning begins with experience and can either be direct or indirect or learning from rare events (Argote & Miron-Spektor, 2011:1126). If an organisation battles to engage and have conversations or individuals choose not to express opinions (lack of psychological safety), then the organisation does not learn and will repeat the same mistakes or will not benefit from the individuals' experience, skills, networks or HERO resources.

Trust is a condition for organisations to learn, and is described as a cognitive state, a willingness to place resources at others' disposal; this willingness is based on an expectation that one's resources will not be used in a way that will leave the trustor worse off (Edmondson & Moingeon, 1998:158). Organisational learning opportunities fail, and the intangible resources are contained if there is no formal approach to learning. Members of the same team or organisation engaged in a learning process tend to increase the level of trust they have in their ability (efficacy) to change and to work together. A positive and virtuous circle achieves further supporting trust in themselves and each other (Edmondson & Moingeon, 1998:165).

2.5.5.1 Guidelines for workplace learning

In ensuring a positive practice, in the presence of trust and organisational learning, the practice of workplace learning design is valued. A set of adult learning principles and the scientific origin are proposed to be used when planning for the organisation to learn over time and for workplace learning interventions to follow a positive-oriented learning design.

HERO mining teams offer an integrated learning approach where the HERO elements and practical mining knowledge are developed and cultivated. Reviewing the foundation of a proper learning intervention is therefore of importance. Johnson and Bragar (1997:2) guide learning design and offer principles that can be applied to any learning process based on a pragmatic view, which consolidates the most influential learning practitioners on adult learning principles. Learning was consolidated as being built on five fundamental principles influenced by describing learning as:

1. A transformation that takes place over time

Learning is the process by which people change their interpretations of experience or make sense of it.

Learning changes and creates new frames of reference; this new frame guides future ideas and actions.

The learning process occurs in phases over time, from preparation to a form of apprenticeship towards mastery. In reaching mastery, it is necessary to engage in learning activities that build awareness, provide practice and encourage the application of new ideas and actions.

2. Following a continuous cycle of action and reflection

People learn by doing and then thinking, reflecting consciously on what they did. New understandings emerge as actions that have been reflected on (examined and assessed), which, in turn, guide future actions.

3. Most effective when it addresses issues that are relevant to the learner

People learn what they need to know, for them to respond to conditions in their environment. They are motivated by either a personal desire to acquire new knowledge and skills or by understanding the consequences of not learning. When learning activities are linked to personal or organisational problems or challenges, learning is accelerated.

4. Most effective when people learn with others

When people share their learning experience together, they share and build on one another's perceptions. They hear other interpretations and test their own. This increases the likelihood of their creating new interpretations that can guide more effective personal and organisational actions.

5. Occurring best when taking place in a supportive and challenging environment

In a non-threatening environment to status or security, people are more willing to take risks, explore new ideas, and to try new actions. Balance the support given with enough levels of challenge. Unless people are challenged on an intellectually and emotionally level, they typically will rely on existing habits and will not stretch themselves to find new ways to think and act. Workplace learning interventions based on these foundational principles should impact the approach taken during a design phase. These principles are based on well-documented work of influential resources as tabled by Johnson and Bragar (1997:4-5) below:

Table 5: Principles of learning influencers (Johnson & Bragar, 1997:4-5)

Major work	Malcolm Knowles	Ian Knox	David Kolb	Jack Mezirow	Jerome Bruner	Peter Senge	Chris Argyris	Mary Field Belenky	WE Doming
	The adult learner, 1987	Adult development and learning, 1977	Experiential learning, 1985	Transformative Dimensions of Adult Learning, 1991	Acts of Meaning, 1990	The Fifth Discipline, 1990	Reasoning, learning and action, 1982	Women's ways of knowing, 1986	Out of the crisis, 1986
Major work	BF Skinner	Albert Bandura	Carl Rogers	Abraham Maslow	Kurt Lewin	David McClelland	GH Litwin & Stringer	Jean Piaget	John Dewey
	Science and human behaviour, 1953	Social learning & personality development, 1963	On becoming a person, 1961	Motivation & personality 1954	Resolving social conflict, 1948	Human motivation, 1973	Motivation & organisation climate, 1968	Genetic epistemology, 1970	How we think, 1933

Workplace learning as an institutional practice, following these foundational guidelines, does position a learning intervention to direct learning. The researchers indicated in Table 5 above are recognised as the learning gurus and are proposed to be adopted when designing workplace learning interventions for HERO teams. Learning interventions, however, do not function in isolation and the context is normally provided by a strategic direction.

The focus of workplace learning, from a resource-based view, should be directed to increase where leverage can be achieved. Our positive states, traits-like and positive traits are either not sustained or are hard-wired, PsyCap is state-like and open to change and development. Through development interventions, HERO can be developed, cultivated, supported and sustained through positive institutional practices.

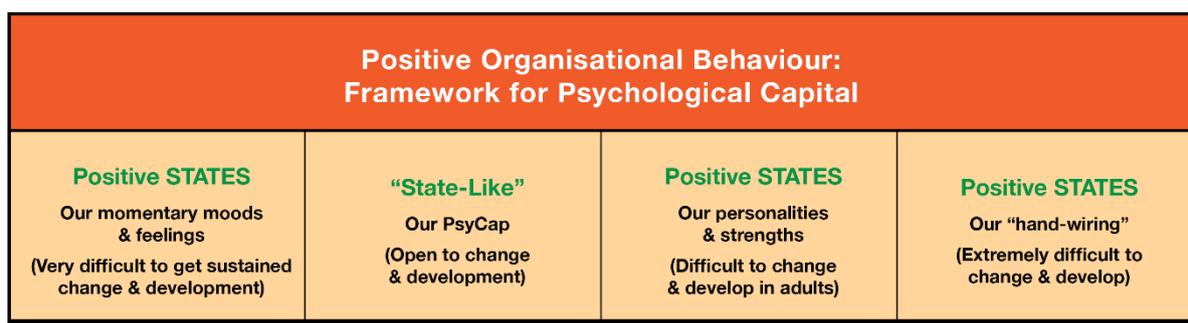


Figure 12: An evidence-based continuum of PsyCap, change and development (Luthans et al. 2015:25)

2.5.5.2 Capability approach

A traditional approach to capability understanding is provided by Jaques and Cason (1994:20), stating that “capability is to use discretion and judgement in making the decisions that will enable a person to solve problems in working towards a goal (carrying out a task). Nussbaum (2017:173), provide a philosophy about capability and the future of society where the capability approach places dignity at its core and emphasises people as ends and not means. People should be enabled to achieve the plans and goals they have reason to value. This approach lends itself to the enable individuals and teams to flourish and to frame workplace learning interventions around Nussbaum’s capability approach. The requirements to be able to influence one’s life and even be in control (of areas influencing the quality of life is the key objective of the capability approach (Begon, 2016:154). Through this approach, business can question the arrangements which influence the functioning of people, and when we do plan for the business, one should view people as the end and not the means. The belief is that if HERO workplace learning interventions are framed from a capability and a capability approach, the reason for the intervention and the approach taken, will change the current transactional manner of training for compliance.

2.5.6 Supervisory support as institutional practice

Supervisory support is associated with behaviours and activities that include the alignment of the team and coach, and motivating, being authentic, developing resources, supporting teams to overcome adverse events, preparing for change and assisting with task completion (Paterson, Luthans, & Jeung, 2014). Supervisory support as a practice to support training interventions was recorded as an important variable to transfer learning to the workplace (Dimas, Rebelo, & Lourenço, 2015:131).

Team Alignment

The supervisor has an important role in aligning the team, as Patten (2015:291) observes, that in positive organisational alignment, employees are well-informed and collaborate towards organisational objectives in a culture that is adaptive; that is, resources are shifted to support the most critical aspects of the strategy execution. Work conducted at a South African mine highlights the critical importance of alignment and engagement and the role of the supervisor should not be underestimated at all (Marais, 2017:22). Cameron and Green (2015:383) also indicate that this is the starting point for thinking about the role of a leader during a change to ensure alignment. The main tasks of this type of leader are 1) get the governing principles right, 2) enable the right amount of connectivity, and 3) amplify or acknowledge and deal with important issues. This role cannot be underestimated as well as the importance of getting the basics right.

Coach and Motivate

The supervisory role to coach and build relationships was observed when a strategic change in direction and associated workplace learning intervention was researched at the Helca Hard Rock Silver Mine from 1979 to 1986 in Northeast Idaho, and reported a downtrend of 78.5% on lost time injuries and a 54.3% increase in tons mined. Average tons per worker shift for all labour increased with 32.2%. During this period, a focused programme was directed at crew and supervisor relationships and coaching and the role of the supervisor. A competency programme and skills provided to supervisors to deal with crew behaviours were recognised as the key ingredient of the programme's strategy (French & Bell, 1994:498).

Display an authentic leadership style

The supervisor as authentic leader is evident as research in PsyCap migrated to the role of authentic leadership, which is dominating the leadership research stream of linking high levels of HERO and authenticity. Woolley, Caza, and Levy (2011:438), argue that authentic leaders and supervisors will significantly influence psychological capital, as they foster a positive organisational climate that is moral, communicative and supportive. This behaviour creates a positive organisational climate that affects the level of hope, optimism, self-efficacy and resilience of employees. Luthans *et al.* (2015:33) confirm that supervisors who are both high in PsyCap and authenticity, support and develop their followers, and leverage the personal resources of their teams. Authentic leaders are viewed as being confident, hopeful, optimistic, resilient, transparent, moral/ethical, future-oriented and associate building.

Adopting a resource-based view

Supervisors benefit when they adopt a resource-based view; it is essential to realise that there is a difference between human capital (having employees) and having employees high in psychological capital (those who will approach work experiencing self-efficacy, displaying hope and optimism, and working with resilience). The academic definition of psychological capital, as defined by Luthans *et al.* (2007b:542) is that PsyCap "represents individual motivational tendencies that accrue through positive psychological constructs such as efficacy, optimism, hope, and resilience".

Readiness to change

Bouckenooghe, Devos, and Van den Broeck (2009:561) define readiness for change as an "individual's 'beliefs, feelings, and intentions' about their own and the organisation's capacity for implementing a successful change and the extent to which that change will be beneficial for those concerned". Kirrane, Lennon, O'Connor, and Fu (2017:49) established that PsyCap plays a partial mediating role in the relationship between perceived management support and readiness for change.

The perception that the change is supported, the employees' sense of support from supervisors, is a subjective perception rather than an objectively verifiable fact.

Personal development and task completion

Flourishing or thriving at work and performance are related to self-development opportunities provided by the supervisor. Paterson *et al.* (2014:343) report that providing learning and development opportunities impacts on the ability to focus on the task and increases the levels of PsyCap. When employees consider whether or not to devote their full attention and focus to task performance, a deciding factor may be the perceived likelihood of successful task completion. High levels of PsyCap are confident that they can be successful in task accomplishment (efficacy), harness goal-directed energy and proactively plan for alternative pathways for task accomplishment (hope), persevere in the face of obstacles (resilience), and attribute positive outcomes to self and negative outcomes to circumstances (optimism). In combination, an employee with high levels of PsyCap is likely to exhibit task focus because they expect the outcome to be successful task completion (Paterson *et al.* 2014:437).

Supervisory support for learning interventions

McSherry and Taylor (1994:112) identified supervisor behaviours required to support a team building intervention based on distinguishing between top management support (sometimes referred to as 'organisational support' or 'upper management support') and support for training provided by trainees' immediate superiors, referred to as 'supervisory support'. Both top management support and supervisory support for training are viewed as important in the implementation of training intervention. Supervisory supportive behaviours to support a team building intervention are identified in three phases, as indicated below:

Table 5: Supervisory behaviours for learning interventions (McSherry & Taylor, 1994)

Pre-training
1. Indicated that selection for training was positive (experienced as positive)
2. Informed trainee why he/she was selected for the course (confirm the importance)
3. Notified trainee of selection with sufficient lead time (planned intervention)
4. Arranged to have work covered during training (allow time in session)
5. Requested that trainee participate in follow-up (feedback sessions)
6. Allowed preparation time for training (planned and arranged)
7. Assisted trainee with goal setting for training (creating hope)
8. Released trainee from normal duties during training (providing time for reflection)
9. Temporarily filled trainee's job during training

During and after training

10. Attended training course
11. Met after training to discuss the use of new skills
12. Provided opportunities for trainee to use skills
13. Created opportunities for trainee to make decisions based on new learning
14. Provided a checklist as an aid to transfer new skills
15. Provided a checklist for self-feedback
16. Requested that trainee share course skills with others
17. Met with trainee to discuss aspects of training
18. Provided regular meetings with workgroup to discuss use of newly learned skills
19. Informed trainee of increased expectations of job performance following training
20. Reinforced the use of newly learned skills
21. Coached trainee in applying newly learned skills
22. Gave feedback on the use of newly learned skills
23. Requested a written report from trainee on use of newly learned skills
24. Arranged meetings to discuss action plans
25. Provided opportunities to practise newly learned skills
26. Approved of making follow-up contact with trainer
27. Used skills/terminology of training

Five of the 27 supervisory support behaviours were significantly related to the transfer of training scale: (1) supervisors' use of skills and terminology from the training programme; (2) creating opportunities for trainees to make decisions based on newly learned skills; (3) reinforcing trainees' use of trained skills; (4) creating opportunities to practise new skills; and (5) providing feedback on skill use.

These findings are consistent with the supervisory support criteria identified by Lancaster, Di Milia, and Cameron (2013), identifying the three most important themes for supervisory support, which include supervisor encouragement, supervisor as role model and hindrances to transfer, meaning to make the application possible.

Strategic orientation, workplace learning and supervisory support are institutional practices that are believed to respectively develop (through workplace learning interventions), support (through supervisory behaviours), cultivate (through strategic orientation) and sustain (through the integrated institutional practice) levels of HERO in mining teams. If the strategic orientation, workplace learning and supervisory support are combined into one institutional practice, the investment of the developmental dimensions for HERO will be focused not only to develop and cultivate HERO through

PCI, but also to sustain each state and the combined level of PsyCap towards performance impact, as illustrated in Figure 13 below:

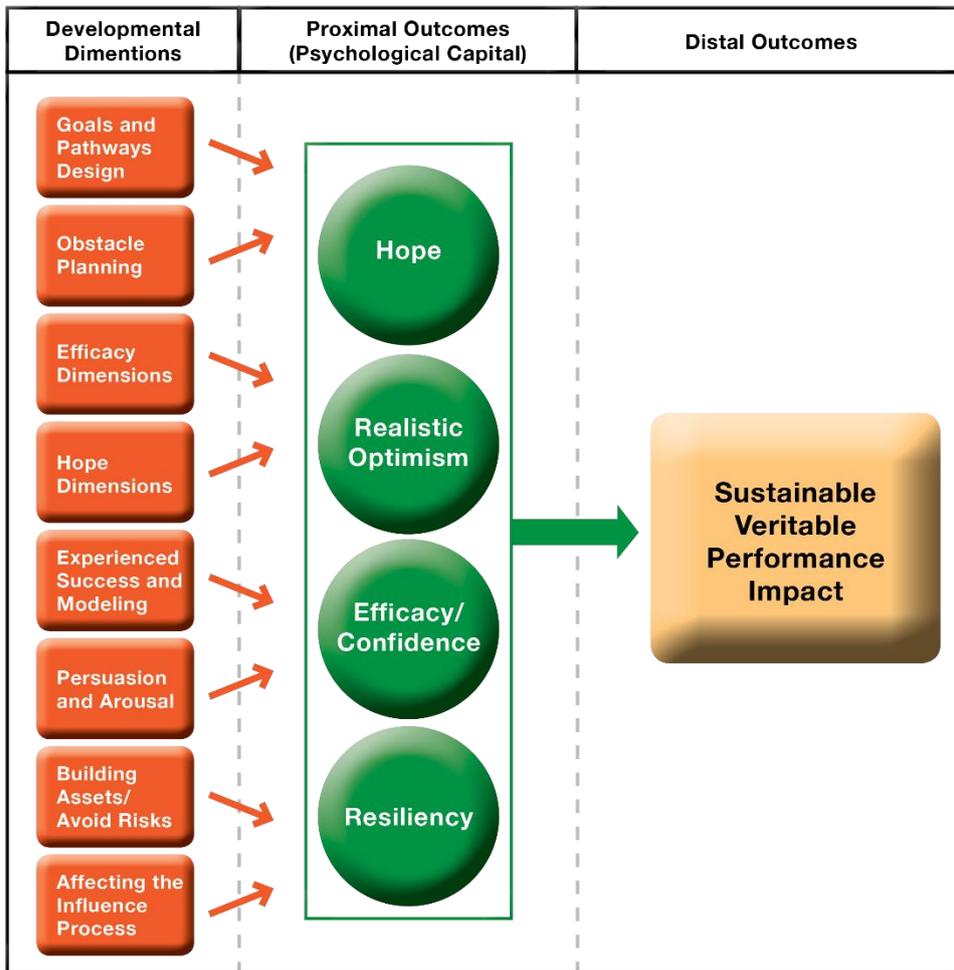


Figure 13: PCI (Luthans *et al.* 2015)

PsyCap can augment other tangible capital (economic and financial) and intangible forms of capital (human and social), to best create the sustainable people advantage in SAMI. PsyCap helps overcome the challenging conditions in the workplace and takes advantage of the opportunities being created. The theory states that organisations cannot use more of the same and traditional resources to achieve competitive advantage, but leverage resources (Luthans *et al.* 2015:4).

The leveraging of resources through positive institutional practices needs to be directed to the point where impact can be achieved, as proposed by Luthans *et al.* (2015:25).

Workplace learning facilitates the development of hope, efficacy, resilience and optimism, and the strategic orientation cultivates an environment of alignment and removal of barriers, supervisory

support lead to the commitment to the intervention and the combination of institutional practices can sustain the positive levels through the respective institutional practises. Confirming what was proposed by Luthans *et al.* (2015), that apart from personal resources, “who I am” towards “what you can become”, we are influenced by “how my context is framed and shaped”, “how I am supported” and “how I develop and behave”. This is provided by the institutional practices.

2.6 CHAPTER SUMMARY

The chapter focused on answering the theoretical research questions as follows:

Question 1: What is HERO?

Question 2: What are the theoretical foundations of HERO as contextualised in positive psychology?

Question 3: How is HERO developed?

Question 4: Why is the adoption of a positive institutional practice beneficial for HERO?

The literature chapter supports the research journey to understand (know) the theoretical underpinnings of HERO, described as having hope (the will and the way), having the confidence to success referred to as efficacy, showing resilience through being able to bounce back and beyond, and approaching life with optimism, being realistic and flexible. As a first-order construct, psychological capital in the combination of elements provides inner intangible resources and can be applied to the workplace. Empirical evidence provides organisational benefits in a variety of settings, ranging from performance to absenteeism. An important research discovery is that PsyCap is a collective construct, which makes it a team and organisation resource.

The theoretical foundation of HERO derives from positive psychology, which studies, in its essence, *flourishing*, then focuses on positive emotions, character and positive institutions. The importance of flourishing at work is acknowledged. The foundational models or mechanisms are influencing and dominating the positive psychology framework. Positive organisation behaviour (POB) and positive organisation scholarship (POS) emphasise the identification of strengths and the value in and for business and the inclusion of HERO within the organisation behaviour field.

The chapter clarifies the development approach of HERO through psychological capital interventions, including specific criteria to impact on the goal setting, agency and pathway development. The various techniques and tools are available in both psychological capital interventions and positive psychological interventions towards broadening and building the repertoire of individuals and teams.

The importance of HERO for the mining industry is confirmed through empirical research evidence, but also the forward-looking statements made by leaders in South Africa and the mining industry. The importance of a resource-based view is highlighted as well as the building of the people resources to deal with the current and future realities. The building of positive institutions and institutional practices provides guidance to methods to develop, cultivate, support and sustain levels of PsyCap through strategic orientation (cultivate), workplace learning (develop), and supportive supervisory practices (support) through an integrated HERO institutional practice.

3 CHAPTER 3: EMPIRICAL STUDY

3.1 INTRODUCTION

In this chapter, the empirical research design is applied to answer two research questions, namely:

Question 5: How are HERO mining teams developed and cultivated at the platinum mine, and what are the important lessons that were learned from the implementation?

Question 6: Which supervisory behaviours are requisite to support and sustain the HERO mining teams' workplace learning intervention?

The chapter explains the research design including the approach, methods of data gathering and analysis, participants, research procedure and data gathering. The second part illustrates the documentation of results, analysis and interpretation of data towards achieving the aim and objectives and answering the empirical research questions.

3.2 RESEARCH DESIGN

The research design can be described as the map we follow to obtain research participants, and to gather relevant information from these participants. It further explains the intention we have with these participants to conclude the research problem, as explained by Welman, Kruger, and Mitchell (2005:52). The research approach, method, setting and geographic demarcation are described in the paragraphs to follow. The research approach, strategy and method will be described by referring to the empirical research map below:

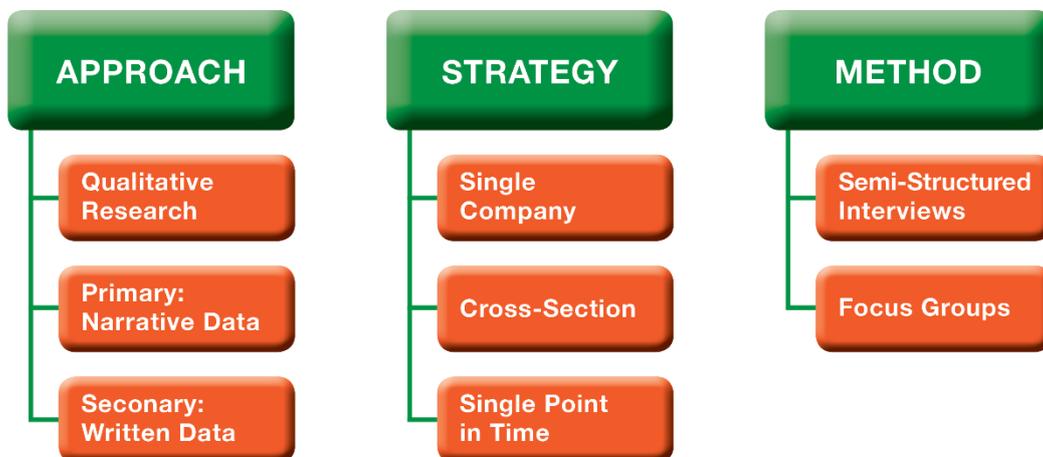


Figure 14: Empirical research map

The research design is the map to be followed and guide the research process. A qualitative research design is used towards addressing the objectives as defined for the study, which includes a literature study and empirical study utilising a literature review, interviews and focus groups. (Babbie, 2010:114) advises that a research design consists of the research problem, the choice of methods to be used to collect data, the processing of information and the interpretations of the observations/findings. The research problem has already been stated previously, and therefore the research design is demarcated into three distinct sections, namely the research approach, the research strategy and the method used to conduct this study.

3.2.1 Approach

Qualitative research is described as an approach to explore the human elements of a given topic; specific methods are used to examine how individuals see and experience their world (Given, 2008). Although qualitative research is often deployed to gather new and existing data, the research setting is the natural field setting of the participants. Qualitative approaches are typically used to explore new phenomena and to capture individuals' thoughts, feelings or interpretations of meaning and process (Given, 2008). Mouton (2008:158) advises that if research aims to answer the question of whether an intervention or programme has been well conceptualised and adequately implemented, evaluation research as qualitative approach is appropriate. By following a qualitative evaluative research design, the researcher is afforded the opportunity to review the content and implementation process, and to engage around the supervisory behaviours that can positively contribute to the success and sustainability of the HERO mining teams intervention. The result of the research design should influence managerial decision-making, as the research contributions are made by participants who are directly involved in this specific natural and social setting.

Creswell (2013:44) explains that: "Qualitative research begins with assumptions and the use of interpretive or theoretical frameworks that inform the study of research problems, addressing the meaning individuals or groups ascribe to a social or human problem".

- Theoretical frameworks should inform the study
- Emerging qualitative approaches are used for inquiry and collection of data in a natural setting.
- Inductive and deductive approaches are used to analyse and identify patterns or themes. The voice of the participants, the reflection of the researcher, the interpretation of the problem and contribution to the literature, and the final report eventually lead to a call for change (Creswell, 2013:44).

The study will use the theoretical framework of the psychological capital construct (PsyCap) as contextualised in positive psychology (Luthans *et al.* 2004:46). Primary narrative data will be obtained through interviews and focus groups, and secondary data in the form of written documents of the HERO mining teams' contents and process documents during implementation.

Cooperrider and Srivastva (2017) argue that the romance with critique at the expense of appreciation is causing most research initiatives to fail. The problem-centred approach prevents imagination, commitment and passionate dialogue, and mostly directs attention away from life-giving potential. The past, present and future are sources of learning (Ludema *et al.* 2012) This study will be seeking for the strengths in the HERO mining teams' interventions as experienced by the research participants and lean towards what is giving life to the programme and the requisite supervisory behaviours.

3.2.2 Strategy

The strategy explains the plan for data collection. The theoretical foundations will be identified and documented through a literature study and strategy for the empirical work, and described in more detail in the following paragraph:

The study will be completed in a single company, the Bafokeng Rasimone Platinum Mine (BRPM) which is part of Royal Bafokeng Platinum, consisting of different shafts or work units. A cross-section of a population made at a specific point in time in describing the view within a specific context within a single timeframe as per the guidelines provided in Babbie (Babbie, 2010:102). The time of the research is important, as supervisors and managers can only be engaged once their mining teams have completed the HERO mining teams' workplace learning programme. The timing of the research will be done at the same period when a workplace learning intervention for their production teams is being implemented, as this would provide the perfect context for posing the questions to the line managers and supervisors. The time and schedule to engage with identified participants will be confirmed with the manager of the mine beforehand. Cross-sectional design as described by Bryman and Bell (2014:108) will be employed as data will be collected at more than one workplace, between shift times at various sites at a single point in time. The facilitators of the HERO mining teams will be scheduled to participate in a focus group session over three days after the workday. This will provide time to gather the data and reflect on the implementation process. The facilitators will be engaged when they have trained more than 45 teams (April 2019), to be able to review the process over a six-month period.

3.2.2.1 Research setting

The identified platinum mine in Rustenburg initiated a workplace learning intervention for mining teams as part of their strategy implementation process; a deliberate decision to invest in people to prepare not only for operational excellence, but also in line with the platinum industry quest to modernisation. The intention is to develop workplace capabilities within teams to produce platinum group metals (PGMs) safely and efficiently through the optimal use of their ore resources and people resources. A critical element of the programme is to build on the tangible and intangible resources of the teams, the work environment and the strengths of team members to increase the resource base of their mining teams. The research setting will be at this mining site where the teams are working underground and are scheduled to attend a workplace learning programme at the 'Plaashuis', the dedicated site for the surface learning activities.

Below is the indication of the Royal Bafokeng Platinum units. The BRPM operations consist of North and South Shafts, the identified unit of analysis. The BRPM concentrators, Styldrift mine and Maseve mine, are not included in the unit of analysis as the programme is targeted towards the BRPM mining operations during 2018/9.

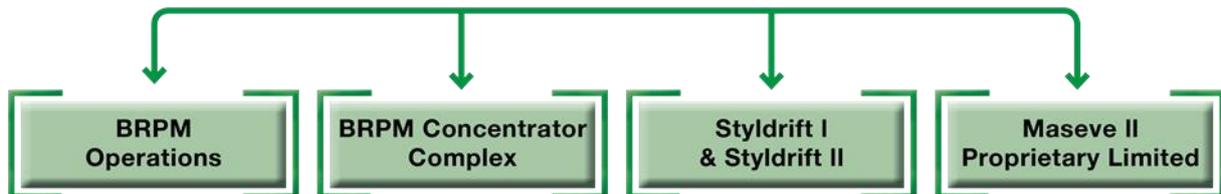


Figure 15: Royal Bafokeng Platinum Operations (RBPlat, 2018).

The empirical research will be completed in Boshhoek, South Africa, within the geographic location of the Rustenburg Platinum Belt. The Bafokeng Rasimone Platinum Mine (BRPM) operation produces 200 000 tonnes of ore per month, yielding approximately 180 000 platinum ounces in concentrate per annum. The operation mines up to 500m below surface and the mining method applied is conventional scattered breast mining with hybrid mining at North shaft 3rd phase. (RBPlat, 2018).

The mining operation is briefly described to create the contextual understanding:

RBPlat is the BRPM joint venture operator since 4 January 2010. RBPlat mine both Merensky and UG2 on the farms Boschkoppie 104JQ, Styldrift 90 JQ and specific portions of Frischgewaagd 96JQ. The operations consist of BRPM, which consists of North and South Shafts, the Styldrift I mine and on-site concentrating facilities. The Styldrift II project is at pre-feasibility stage.

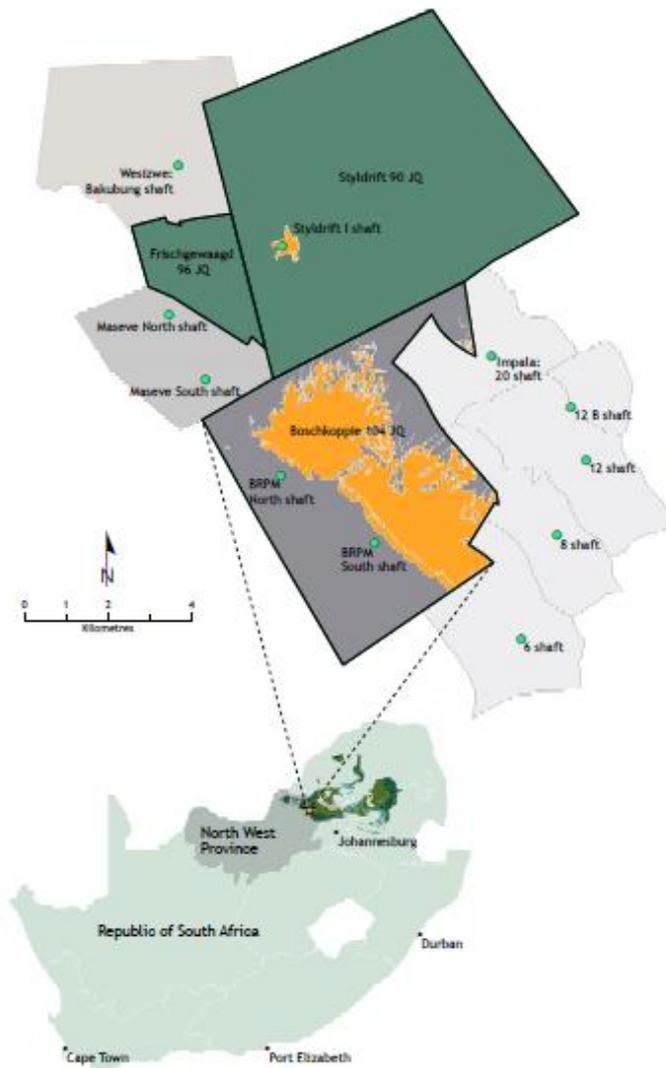


Figure 16: BRPM Location

Opencast mining started in January 1998. The sinking of the decline shafts started in December 1998.

Located: BRPM is located on the farm, Boschkoppie in the Rustenburg area.

Resource: The ore reserve is accessed via twin decline shafts (North and South Shafts) to a depth of less than 500m, which is regarded as a shallow operation. Replacement projects have extended both complexes from five to 10 levels.

The Phase III replacement project further deepened the North shaft infrastructure and established mining sections from 11 to 15 levels. This are is suited to hybrid mining method and is providing access to 1.4 million PGM 4E ounces.

The strategic reporting of the resources is reflected below to create awareness of the commitment to the resource-base of the organisation.

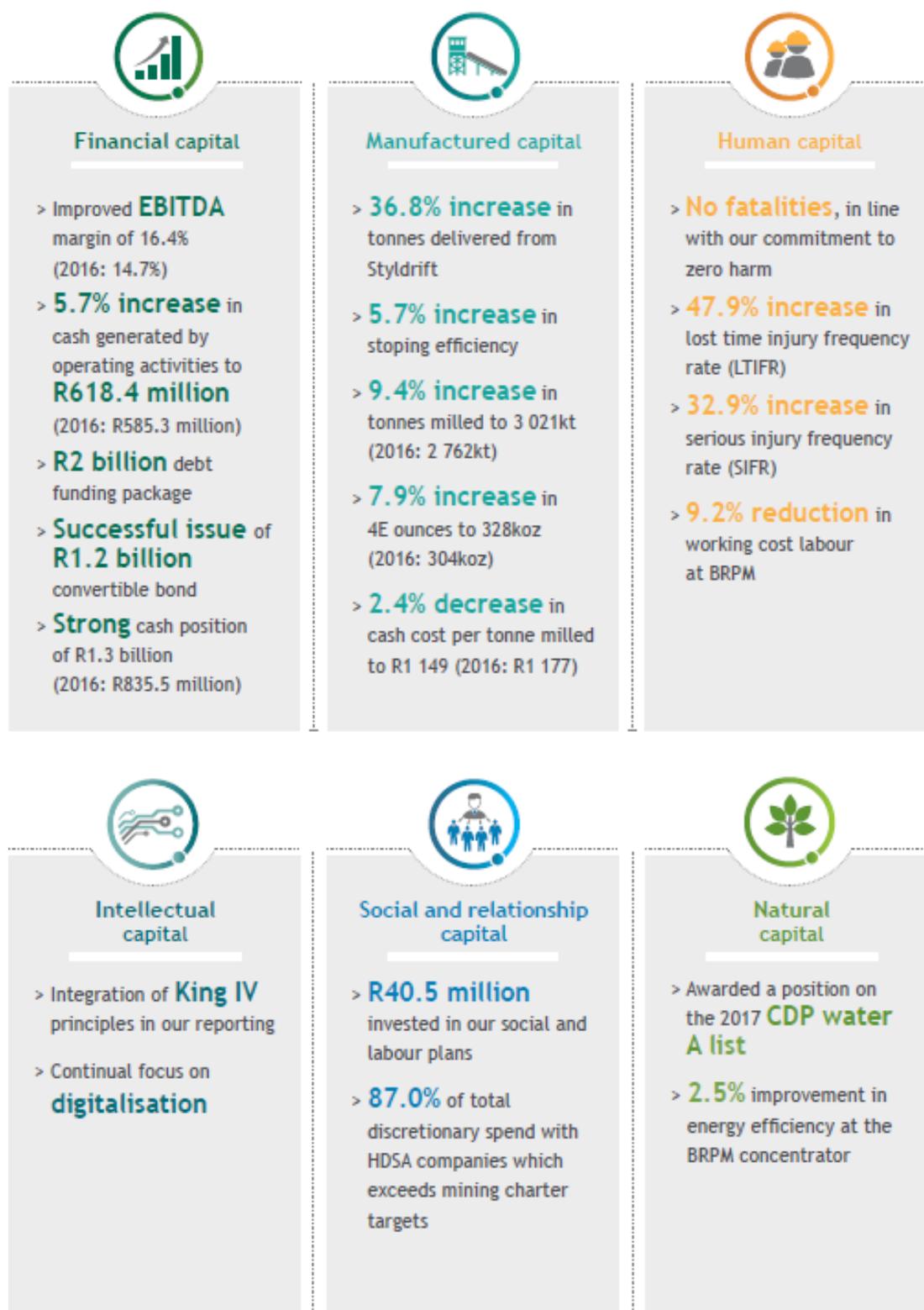


Figure 17: Research setting resource factors (RBPlat Factsheet, 2018)

3.2.2.2 Participants

Bryman and Bell (2014:19) explain that when adopting a subjectivist paradigm, the researcher views the individuals who will act as participants to make sense of their social experience. This observation will be made as the participant groups are either directly or indirectly involved in the implementation of the HERO mining team intervention during the research phase.

Two groups of participants were identified, based on the role they fulfil with regard to the HERO mining teams intervention.

Group 1: HERO mining teams intervention facilitators. They are responsible for implementing and facilitating the workplace learning intervention. The design and facilitator team members will participate in a focus group process exploring how the intervention is being implemented. N=4.

Group 2: Supervisory roles who are sponsoring the attendance of the HERO mining teams workplace learning intervention, including mine overseers and supervisory roles who are directly responsible for the performance of the mining teams and who have had teams attending the HERO mining teams workplace learning intervention. These participants include the supervisory line of command, including miners (first line supervisor), and the shift supervisor and mine overseers. N=22.

Team members who attended the HERO mining teams intervention were not included in the empirical research process as their contributions are reflected through the designed implementation process. Twenty teams (20) had completed the HERO team training when the empirical research commenced in 2018, amounting to 266 individuals.

3.2.3 Research method

Qualitative research purposefully deals with an inquiry; this includes narrative, phenomenology, grounded theory, ethnographic and case studies as possible approaches. For this study, a narrative approach will be used. The narrative will inform the research question in collecting data through semi-structured interviews and focus groups, but also through textual data (Creswell, 2013:70).

3.3 RESEARCH PROCEDURE

The two groups of participants were identified as having different exposures to the implementation of the HERO mining teams intervention. The research design and approach were taken to inform the method for gathering data as guided by Bryman and Bell (2014:225); semi-structured interviews are used to provide a short set of prompts to deal with a range of topics. The interview process is

flexible, and the emphasis is placed on how the participant understands the issue and events. The importance to view the world from the participant's point of view favoured unstructured interviews.

3.3.1 The unit of analysis

The identified participants, at a specific point in time, in describing the view within a specific context within a single timeframe as per the guidelines provided in (Babbie, 2010:102) are indicated. The mining operation is also structured around significant events such as wage negotiation time, Easter weekends and December holiday breaks. This needs to be considered to identify the time of the year when most of the managers should be available at this specific point in time. The timing of the research will be done at the same period when then workplace learning intervention for their production teams is planned or has happened as this would provide the perfect context for posing the questions to the line managers. The time of the questioning phase will be confirmed with the mine manager beforehand.

3.3.2 Interviews and focus groups

The research process requires the availability of the HERO mining team intervention contents and implementation process. The facilitators should have time available to participate in the construction of the journey map. Supervisors of teams being exposed to the HERO mining teams should be made available through an updated database, indicating the date of training, team name, and line of supervision. Twenty teams (20) teams have completed the four-day intervention over a ten (10)-week period. Two teams attend the programme per week. The name list of line supervisors for each team will be confirmed through interaction with the respective supervisors before the empirical process. A request for the interview process will be sent per mail to the mining managers and a proposed schedule for individuals required and timetable to be submitted.

The proposed structured interviews will be attached when approval is requested from management. After confirmation of approval, interviewees will be assigned, and a five-day interview cycle will be followed to allow each level to be engaged.

On the first two days of the interview cycle, the researcher and observer will be interviewing the mining manager and mine overseers and shift supervisors. The mining manager and mine overseers were interviewed individually. The shift overseers will be grouped into two separate focus groups; focus groups will be facilitated and documented. An independent facilitator will be used to conduct day three and four focus groups in the vernacular languages with the miners. Responses will be documented. During the last day of the research cycle, the process map of the implementation process will be developed and gathered data clarified in terms of mining understanding.

The facilitators will be participating in a focus group over a period of four days, at the end of their work shift. This will allow time to complete their work and reflect on the journey. The focus group will be completed once they have trained 40 teams, benefitting from a wider exposure. The primary data will be gathered through semi-structured interviews and a focus group where the facilitators combine their feedback.

3.3.3 Ethics observed during the research process

Bryman and Bell (2015:130) report that a comparison made between nine ethical codes revealed the same principles apply across these codes as listed below: informed consent, anonymity, dignity, privacy, confidentiality, honesty and transparency. Another important principle was highlighted by most, which includes reciprocity and avoiding misrepresentation. These principles will be applied in this study as outlined below and aligned with the principles provided by Creswell (2013) as explained in the next paragraph.

Creswell (2013:58-59) provides principles, and selected principles were identified that would be applied in this study as documented and notes made below:

Before conducting the study

- Seek approval – Process via the mining operation management and sponsor
- Examine professional association standards – The South African Board of People Practices does provide standards for human resource practices including learning and development that would be adhered to. This includes a code of ethics guiding consulting behaviours (SABPP, n.d).
- Gain local permission from site and participants – The management per shaft area will be contacted and informed.

Beginning to conduct the study

- Disclose the purpose of the study – This will be included in the briefing and opening statement
- Do not pressure participants into signing consent forms – Participation will be voluntary

Collecting data

- Respect the site and disrupt as little as possible – Allocated time will be adhered to
- Avoid deceiving participants – Clarify how data will be used

Analysing data

- Avoid siding with participants – Report multiple perspectives and report contrary findings
- Avoid disclosing only positive results – Include negative statements and stories
- Respect the privacy of participants – Develop composite profiles

Reporting data

- Falsifying authorship, evidence, data, findings and conclusions – Remain professional
- Do not plagiarise – Follow guidelines as provided by NWU
- Avoid disclosing information that would harm participants – Important to respect views

Publishing study

- Share data with others – provide copies to relevant stakeholders and include practical recommendations
- Complete proof of compliance with ethical issues – Follow NWU ethical clearance procedure

3.3.4 Demonstrating the quality and rigour of the research design

The design can be tested against a variety of frameworks, but most important will be the achievement of the set research objectives. The criteria to determine the trustworthiness of qualitative research were introduced by Guba and Lincoln in the 1980s; they replaced terminology for achieving rigour, reliability, validity, and generalisability with dependability, credibility and transferability (Morse, 2015:1212). It is further stated that rigour as a concept is an important goal, and external evaluators will be employed to determine the worth of qualitative research.

Booth, Hannes, Harden, Noyes, Harris, and Tong (2014) provide the consolidated criteria for reporting qualitative studies (COREQ), which establish a set of criteria, based on a systematic literature review, for assessing the comprehensiveness of reporting when studies report on interviews and focus groups. The checklist was adapted for the current study to ensure rigour throughout.

Table 6: Adapted from COREQ checklist

Domain	Details of items
Domain 1: Research team and reflexivity	Personal characteristics <ul style="list-style-type: none"> • Ensure interviewer credibility, credentials, occupation, experience & training Relationship with participants <ul style="list-style-type: none"> • Understand the mining industry, build a relationship; participant knowledge of interviewer; interviewer characteristics
Domain 2: Study design	Theoretical framework: Ensure concepts are explained Participant selection <ul style="list-style-type: none"> • Sampling; method of approach; sample size and non-participation • The setting of data collection; presence of non-participants; description of sample Data collection <ul style="list-style-type: none"> • Semi-structured interview guide; repeat interviews; field notes; duration; data saturation; transcripts returned
Domain 3: Analysis and findings	Data analysis <ul style="list-style-type: none"> • Proper data recording; description of themes; derivation of themes; participant checking Reporting <ul style="list-style-type: none"> • Interview quotations presented; data and findings consistent; clarity of major themes; clarity of minor themes

(Adapted from Booth *et al.* 2014:7)

3.3.5 Procedure for qualitative data analysis and interpretation

Qualitative data analysis requires the researcher to adopt a framework to guide the analysis; this involves an inductive analytical process and can be described as follows:

The data analysis will immediately commence once gathered, meaning that the information gathered from the interview of one manager might lead to the researcher reframing the question before continuing with the next interview due to a lack of depth. It is a cyclical process of gathering information. Rubin and Rubin (2011:226) explain that as the conversation pattern unfolds, you discover new themes and concepts. You redesign your semi-structured interview questions.

If documents or charts are offered, questions around the available documents will be asked. The data will, therefore, be responses from the semi-structured interviews and then random collections of documentary sources such as paper or photos.

The final data analysis requires all documents and responses to be placed in categories/themes or concepts. The available data need to be looked at to identify similarities, meanings or themes, and a network diagram can be used to discover connections. The goal will be to integrate the themes and concepts to work with, discover and make meaning. This is referred to as analytical induction (Mouton, 2008:148) and is effectively used in case study settings and where participants are engaged, and good rapport was established with participants. The data collection and analysis, however, can be very time-consuming. The recorded semi-structured interview responses would be typed and analysed through to identify common themes in this qualitative dataset. The framework will look at the broad themes and then narrow the information to identifiable themes. The main aim is to identify, analyse and describe patterns or themes across the data.

3.3.5.1 Thematic analysis

The thematic analysis will involve a six (6)-step process as proscribed by Braun, Clarke, Hayfield, and Terry (2019:60), consisting of:

1. Understanding the data: This can be done by reading the content and noting down ideas as you become more familiar with the data.
2. Coding: Identify the important features and systemically label the data relevant to the codes.
3. Finding themes and patterns: Review the codes from the previous step and put these into potential themes.
4. Review the themes: Check if the themes make sense about each other and see if you can identify a storyline. Sometimes themes can be refined or completely disregarded.
5. Define and name the themes: Each theme needs to be given a focus and a name.
6. Write up the report: Bringing together the analytical narrative and data extracts and the context of the analysis.

3.4 RESULTS

The empirical results provide information towards answer the following two research questions, namely:

Question 5: How are HERO mining teams developed and cultivated at the platinum mine, and what are the important lessons that were learned from the implementation?

Question 6: Which supervisory behaviours are requisite to support and sustain the HERO mining teams' workplace learning intervention?

Results are presented in Chapter 3 and discussed in Chapter 4 towards answering the research questions and achievement of the study objectives.

Results are presented in the following tables:

1. Reflection on each phase of the HERO mining teams process map (Tables 8-13)
2. Key learnings based on HERO mining teams process map (Table 14)
3. HERO development summary (Table 15)
4. Results of HERO development guidelines (Table 16)

Palo (2015) identified the positive impact of supportive supervisory behaviour (competence, relatedness and autonomy) on levels of psychological capital, and the positive levels are indispensable for job performance. The chapter concludes by reporting on the findings of the supportive supervisory behaviours and the following results tables were presented:

1. Hope themes (Table 17)
2. Efficacy themes (Table 18)
3. Resilience themes (Table 19)
4. Optimism themes (Table 20)
5. Generic supervisory behaviours (Table 21)
6. Summary of main supervisory themes (Table 22)
7. Global supportive supervisory behaviours (Table 22 in Addendum B)

3.4.1 Overview and results: HERO development process and lessons learned

The results will be presented by introducing the HERO facilitators, learning programme structure, learning environment, learning resources and activities, and HERO mining teams process map. The results from the facilitator focus group are presented. The results of the focus group are summarised in Chapter 3 and discussed in Chapter 4, to reflect the journey as experienced by the facilitators.

3.4.1.1 Participants: HERO facilitators

The facilitator focus group consists of four facilitators; these facilitators have spent their working careers in the mining industry and fulfilled various roles, including mine manager, human resource development manager, mine overseer, shift supervisor, behavioural facilitator and people practitioner. Two of the facilitators are referred to as underground facilitators, working and visiting the teams in the workplace. The two other facilitators are fulfilling the roles of behaviour coach and mining follow-up project leader from the learning centre or 'Plaashuis', where teams are attending a two-day learning intervention. Specialist facilitators contribute to the programme on a needs-based arrangement; these facilitators were not included as participants.

Below is a photo of the HERO mining team facilitators with the researcher taken in February 2019 at the 'Plaashuis'. The mining facilitators each have more than 20 years' mining exposure integrated with behaviour training. The behaviour coach is qualified in behaviour-specific competencies.



Figure 18: Photo of HERO facilitators

3.4.1.2 Learning programme structure: Four-day intervention and follow-up

The intervention is presented in the following structure as presented by the facilitators:

Table 7: HERO mining teams programme structure (SMLsolutions, 2018)

Daily structure				
Day 1	Day 2	Day 3	Day 4	Follow-up
At the workplace/ underground in the mine. Purpose: Workplace observation Team engagement	At the surface learning environment (learning room and outside activities) referred to as the 'Plaashuis' Purpose: Day 1: Contents and learning activities	At the surface learning environment (learning room and outside activities) referred to as the 'Plaashuis' Purpose: Day 2: Contents and learning activities	At the workplace/ underground in the mine. Purpose: Workplace support Supervisory engagement	(4 weeks later) In the workplace/ underground in the mine. Purpose: Workplace follow- up and synchronisation Team engagement Supervisory engagement Management engagement

The programme structure is designed to contextualise the work environment of the team, which can vary depending on the type of ground conditions or the mining phase. Six (6) modules were designed and presented by the participants in a combined written document and presented below:

1. Introduction; 2. Personal mastery; 3. Change mastery; 4. Team mastery; 5. Business mastery, and 6. Conclusion

Introduction: The establishment of pathways and key principles required on the journey to becoming HEROs. Introduction to the journey that will be taken in order to become HEROs and HERO teams.

Personal mastery: Emphasis is on the individual realising that we all possess both internal and external resources that need to be activated so that one can become a true HERO. Before a HERO team can be established, the individual must realise that he/she has to gain knowledge of these resources and then embrace the importance in utilising this to become a HERO team member.

Change mastery: Change cannot be stopped, and so, in order to adapt with the least amount of distress, the principles of cause and effect are explained together with the understanding of internal/external locus of control. Beliefs are challenged in order to ensure that restricting 'ideas' do not prohibit potential.

Team mastery: The idea of this module is strictly to establish the fact that teamwork and individual team members all make important contributions to the overall safety and success of all involved. The reason we seek to be employed is to earn money. The fact that everyone has this shared goal is most important. In order to achieve their shared goals, the teams must be able to work as a singular organism; this is of utmost importance in their line of work, because they are inherently dependant on each other also to be safe and productive.

Business mastery: The understanding of revenue, costs and profitability is important. To be successful, the teams must understand the business and their particular role in it. We must be able to control expenditure while simultaneously increasing production and safety.

Conclusion: Safe and effective drilling and blasting practices must be followed in order to achieve team goals and ensure profitability for the mine. Important mine safety standards and operational procedures form part of the conclusion, ensuring the teams are left with functional efficiency and safety procedures, ensuring positive mindsets and an environment that is conducive to success.

3.4.1.3 Learning environment: Plaashuis and underground workplace

The two learning areas used to develop HERO teams include the actual workplace of the crew in the underground environment and a surface learning area referred to as 'Plaashuis', consisting of a learning room, area for outside learning activities and administrative areas. The surface learning area was dedicated to the programme and the area prepared for the HERO mining teams.

Rustenburg is known for its conducive outside weather conditions; this area provides enough sharing, water and facilities to host the teams. The teams are transported to the 'Plaashuis' in the morning, arriving at 6:30 for the second and third days. On the first and fourth day, the underground facilitators will accompany the mining team to their own working areas in the mine. The learning areas are illustrated below in the format of photo galleries:



Figure 19: Photo gallery of HERO learning area at 'Plaashuis'

The workplace as a HERO development area is desirable for the facilitators to contextualise the development for each team, identify the workplace realities and show their support to the team as their facilitators. It is important to note that legal requirements are followed when facilitators engage in learning activities in the mining environment. The photo gallery presented below is available on the Bafokeng Platinum website and not specific to each team's workplace.



Figure 20: Photo gallery of HERO learning environment – underground workplace

A video is available to expose readers to the underground working arrangements at:

<http://www.bafokengplatinum.co.za/video-library.php>

3.4.1.4 Learning resources and activities

The learning environment and resources include two classrooms, audio-visual equipment, air-conditioned environment and enough shading for outside activities. Areas for outside activities are demarcated and resources for learning activities range from dices, parachutes, posters, music, videos, PowerPoint presentations and a mock-up mining grid. The availability of resources is

viewed as important, as the area is believed to be inviting, respectful to participants, fit for purpose and provides an experience.



Figure 21: HERO Activity areas

3.4.1.5 HERO mining teams process map

The process map below illustrates the systems approach followed to implement the intervention. Seven distinct phases were conceptualised, which guided the work to be done, timeframes and budgets towards implementation of the workplace learning intervention. The HERO mining teams process map was used as structure to document the responses from the facilitator focus group.



Figure 22: HERO mining teams process map (SMLsolutions, 2018)

3.4.1.6 Results from facilitator focus group

The results were recorded by means of four (4) focus group sessions, the HERO mining teams process map was used to collect the responses within each phase. The responses were recorded, documented and member checking was concluded. This provided the opportunity to prevent duplication and clarified certain concepts for meaning. The four facilitators' responses were combined towards identifying themes within each phase of the implementation process. The identified themes are presented below within each phase, with the responses recorded.

The results tables are presented from page 78:

1. Reflection on each phase of the HERO mining teams process map (Tables 8-13)
2. Key learnings based on HERO mining teams process map (Table 14)
3. HERO development summary (Table 15)
4. Results of HERO development guidelines (Table 16)

Photos below illustrate the learning activity to achieve a safe quality blast, influenced by the direction of drilling: (The will and the way). The second photo illustrates the obstacles in a pathway and the options to work around realities in the workplace.



Table 8: Phase 1: Initiate and mandate

NO 1: FOCUS – Initiate and Mandate				
Identified themes	Strategic intent	Co-design the requirements	HERO as framework	Positive desired outcome
RESPONSES	<p><i>“The programme was initiated by the Safety function of to promote behavioural training of production crews on the mine”.</i></p> <p><i>“Production teams are to be supported to focus on safe behaviours”.</i></p> <p><i>“Assist and reduce stress and despondent behaviour amongst the teams”.</i></p> <p><i>“Building teams and establish trust relationships and provide feedback”.</i></p> <p><i>“Provide support to the teams to perform”</i></p>	<p><i>“Project leader initiated, together with the sponsor at the BRPM mine”</i></p> <p><i>“The establishment of the final mandate and key requirements of the programme was done”</i></p> <p><i>“Requirements were proposed after conducting a strategic facilitation process involving all of the different levels of employees at the mine”.</i></p> <p><i>“Workshops were held with various stakeholders”.</i></p> <p><i>“Critical areas for safe working practices had to be included in the program”.</i></p> <p><i>“Information was made available to be included in the programme”.</i></p>	<p><i>“The Psychological Capital principles being: HERO was explained and proposed as a working framework”.</i></p> <p><i>“The emphasis of the programme is to unlock the psychological capital of the individual crew member”</i></p> <p><i>“Focus on positive behaviour and a positive approach towards his/her work environment”.</i></p> <p><i>“The management team wanted a different and more positive approach”.</i></p>	<p><i>“We believe that positive behaviour instils positive actions and conduct”.</i></p> <p><i>“This also makes the worker a better and safer worker, thus eliminating unwanted accidents in his/her working environment’</i></p> <p><i>Programme will establish closer trust relationships between management and the crews”.</i></p> <p><i>“Facilitation process lead to improved production performances”.</i></p>
<p>The four (4) identified themes identified during the first phase of HERO implementation, which include:</p> <p>1. Strategic intent; 2. Co-design the requirements; 3. HERO as framework; 4. Positive desired outcome</p>				

Table 9: Phase 2: Content design

NO 2: FOCUS – Content design	
Identified themes	Responses
HERO as framework	<p><i>“The HERO framework allows for the effective implementation of the intervention”.</i></p> <p><i>“It guides the facilitation process while intentionally reducing the identified gaps”.</i></p> <p><i>“Framework assist in attending to the current workplace and individual quality of life dynamics”.</i></p>
Assessment opportunity	<p><i>“The design also allows for the integrated formative assessment processes to determine the impact levels of the intervention”.</i></p> <p><i>“Feedback is achieved through direct and indirect (supervisory) questioning, observations, and questionnaires”.</i></p> <p><i>“Sponsor requested our assessment and feedback on a regular basis”.</i></p> <p><i>“We develop and use templates to guide the underground observations pre-and post-intervention”.</i></p> <p><i>“We have changed the assessment documents and introduced new formats”.</i></p>
Experienced design team	<p><i>“The content design was done by the SML team, knowing the mining industry and context”.</i></p> <p><i>“Tried and tested principles and approaches from similar interventions previously used within the mining industry were also included during the design phase”.</i></p> <p><i>“The team’s international experience contributed a great deal. Exposures to other mines show what is working and what not”.</i></p>
Co-created	<p><i>“Involved the line managers, unions, safety and training departments”.</i></p> <p><i>“Workshops were held and visits with day and night shift teams”.</i></p> <p><i>“Involvement from managers and stakeholder ensured that the content address the dominant concerns at the mine”.</i></p>
Learning principles	<p><i>“The content was designed by the facilitators based on positive and proven principles”.</i></p> <p><i>“We prepared the Plaashuis with what was needed for the teams”.</i></p> <p><i>“The language thus used is positive and empowering”.</i></p> <p><i>“Content should address the problems and assist in solving workplace problems”</i></p> <p><i>“Provide solutions which can be used and where the team battle with experience”</i></p> <p><i>“Use activities, case studies”; “See what the teams battle with”; “Flexible in approach”.</i></p>

Integrated framework	<p><i>"You need to deal with the problems the team faces in the workplace"</i></p> <p><i>"Mining is not just about mining, it is about the interaction, the people, the environment and providing the teams with a minable work area"</i></p>
<p>Six (6) themes identified during the second phase of the HERO implementation, which include:</p> <p>1. HERO as framework; 2. Assessment opportunity; 3. Experienced design team; 4. Co-created; 5. Learning principles, 6. Integrated framework</p>	

Table 10: Phase 3: Stakeholder alignment

NO 3: FOCUS – Stakeholder engagement	
Identified themes	Responses
Co-creation	<p><i>"Initial stakeholder engagement was done in August 2018 to provide content overview and guidance"</i></p> <p><i>"A one-day workshop was arranged for senior management (executive committee members) and another for management representatives from the shafts".</i></p> <p><i>"Management was all-inclusively encouraged to either add to or to shelve content of the proposed programme".</i></p> <p><i>"Programme customisation was finalised, and the first course was then presented in September 2018. Throughout the intervention, all stakeholders are encouraged to remain engaged with the process and to visit the training in progress".</i></p>
Relevance	<p><i>"This involvement ensures continued relevance in a changing working environment".</i></p> <p><i>"The project sponsor and project leader also arranged for the facilitation team to regularly be included in her planned engagements with the various stakeholders on the mine, this ensure the process remain relevant".</i></p> <p><i>"Constant engagement provides information and topics we need to address in the training".</i></p> <p><i>"We address what is happening on the shaft and what we observe in the workplace".</i></p> <p><i>"The supervisors and team members would seek our advice". "They thank us for our input". "Engineering teams ask us when we will be assisting them".</i></p> <p><i>"We have identified and solved key blockages through our engagements with the supervisor and managers".</i></p>

Alignment	<p><i>"This is a valuable exercise to ensure that management is continuously made aware of their critical role in facilitating the ongoing success of their teams".</i></p> <p><i>"The purpose of these engagements is to establish and stay aligned with line management's plan of action in order to facilitate hope, efficacy, resilience and optimism within their teams".</i></p> <p><i>"Stakeholder visits to the Plaashuis ensure alignment".</i></p> <p><i>"The teams feel important when their supervisors visit them".</i></p> <p><i>"The teams are very happy that management have time to share information with them"</i></p>
Continuous process	<p><i>These engagements occur during different stages of the intervention viz.:</i></p> <ol style="list-style-type: none"> <i>1. Team scheduling</i> <i>2. Team reception, acknowledgement and motivation during the facilitation stages, by the employers' and union representatives.</i> <i>3. Support interventions: Line supervisors are made aware of activities and behaviours that need to be enhanced, supported, encouraged or even terminated to ensure successful implementation.</i>
<p>Four (6) themes identified during the third phase of the HERO implementation, which include:</p> <p>1. Co-creation; 2. Relevance; 3. Alignment; 4. Continuous process</p>	

Table 11: Phase 4: Scheduling of teams

NO 4: FOCUS – Scheduling of teams			
Themes	<i>Intentional Scheduling</i>	<i>Flexibility</i>	<i>Engagement</i>
RESPONSES	<p><i>“The employer identifies the teams to be engaged in the intervention on a three months (quarterly) basis”.</i></p> <p><i>“Scheduling is adhered to in most instances, provides a solid framework for intentional progress measurement and continuity”.</i></p> <p><i>“During each quarter, approximately 20 teams are engaged, sometimes accompanied by their re-development teams”.</i></p> <p><i>“Encouraged by the advances made the post-training performance of their teams, members of the shaft management have now also been sending construction crews and locomotive drivers to be part of the training process”.</i></p> <p><i>“Scheduling of teams was compiled using the following criteria: teams experiencing poor safety records and poor production results are considered and entered ahead of other teams”.</i></p>	<p><i>“This schedule is reviewed weekly”.</i></p> <p><i>“You have to be accommodative”.</i></p> <p><i>“It is during these reviews that changes may occur depending on the workplace requirements”.</i></p> <p><i>“Sometimes a crew need a behavioural intervention for a specific reason”.</i></p> <p><i>“These schedules may be influenced by, safety performance, accidents, team dynamics and operations needs or factors”.</i></p> <p><i>“A schedule is created with full understanding and acceptance that there might be changes to the schedule necessitated by priority”.</i></p> <p><i>“Scheduling was also aimed at accommodating the performance needs of both shafts — teams from North Shaft and from South Shaft involved on an alternating weekly basis, operational requirements”.</i></p>	<p><i>The two underground facilitators do the teams' scheduling.</i></p> <p><i>“Teams are selected by the relevant mine overseers from both North and South Shaft”.</i></p> <p><i>“Teams are visited on the first day in the workplace”.</i></p> <p><i>“The engagements make them feel important; they are happy to welcome us”.</i></p> <p><i>“Feedback are given daily when we are on the shafts”.</i></p>
<p>Four (4) themes identified during the fourth phase of the HERO implementation, which include:</p> <p>1. Intentional Scheduling; 2. Flexibility; 3. Engagement</p>			

Table 12: Phase 5: Facilitation process

NO 5: FOCUS – Facilitation process	
Identified theme	Responses
Contextualised	<p><i>“The facilitation process is more life-skills than academically orientated”.</i></p> <p><i>“This approach allows employees from different walks and levels of academic background to successfully gain from the process”.</i></p> <p><i>“Embracing true to life issues and the continuous use of case studies”.</i></p> <p><i>“The enhanced by participative activities are relevant, and an enhanced learning process also includes videos and relevant contextualisation”.</i></p> <p><i>“The facilitation process during days 2 and 3 is then adapted to use examples that are team specific and follow up visits underground will note any changes that have been implemented”.</i></p>
Provide experience	<p><i>“The process primarily focused on visual and interactive facilitation”.</i></p> <p><i>“The facilitator further explains through an exercise outside that walking alone is always easy, but in a team setting it is not easy”.</i></p> <p><i>“Relay batons named hope, efficacy, resilience and optimism are given to team members explaining the concept of a relay race and how these can be passed on to each team member, ensuring that all have hope, efficacy, resilience and optimism”.</i></p> <p><i>The facilitator does a HERO anchoring exercise with the teams, whereby each step respectively into “a ring of hope, efficacy, resilience and optimism) each time actually feeling the above sensations.</i></p> <p><i>At the end of the exercise, the individual bends down and imagines the ring growing smaller while he/she is picking it up, eventually placing the ring on any finger decided on.</i></p>

	<p><i>Through facilitation the concepts of hope, efficacy, resilience and optimism are further explained, utilising videos, visual aids, exercises and even dancing.</i></p> <p><i>Each of these supports a part of the parachute, on which a HERO doll is balanced. Each person, supposedly having failed to use his/her tagged resource has to let go of their support when instructed to do so, and as the support is relaxed, Eventually, the HERO eventually falls.</i></p> <p><i>“In closing, a video of personal mastery is watched, and afterwards, the facilitator debriefs the video with the delegates, ensuring full understanding”.</i></p> <p><i>“Before commencing with the program, the facilitator advises the delegates and demonstrates to them how to open their peripheral vision – when peripheral vision is open the mind immediately goes into learning, detention of information mode, thus assisting the delegates to retain their memories of the modules to follow”.</i></p>
HERO as framework	<p><i>The designed implementation framework guides these activities and embrace the actual workplace safety, behavioural and performance gaps reconciliations.</i></p> <p><i>“Every module is related back to the HERO resources and how to use it to overcome obstacles”.</i></p>
Identify workplace constraints	<p><i>During the process, constraints that require attention from leadership are identified and brought to the attention of the relevant stakeholders so that they can be corrected.</i></p> <p><i>Removal of these barriers will support the individual learner’s enhanced sense of belonging, self-esteem, and awareness of different pathways to dealing with life challenges.</i></p>
Capability of team	<p><i>The facilitator will also observe the team’s conduct with one another AND the execution of the various tasks which forms part of their daily responsibilities.</i></p> <p><i>“Teams are made aware of their choices and impact”.</i></p> <p><i>“Teams identify what they want to achieve but also why”</i></p> <p><i>“Importance of being a HERO team for themselves, and their community”</i></p> <p><i>“They become co-produces at the mine for their own benefit”</i></p> <p><i>“Develop the capability to achieve what they know is possible”</i></p>

	<i>"Becoming aware of their own capabilities and the collective"</i>
Discover pathway	<p><i>"Beacons and steppingstones form part of this journey".</i></p> <p><i>"The importance of all roads, inclusive of pathways that are not always smooth or without dangers, is also explained and experienced".</i></p> <p><i>"Cause and effect are explained as well, advising the delegates that in order to be in control of one's path, you will have to create your own, make your own decision and be accountable".</i></p> <p><i>"When we live on the effect side, we do not make our own decisions and always have to follow in other's footsteps; in other words, you are not in control".</i></p> <p><i>"The locus of control is then discussed with the teams explaining both internal and external".</i></p> <p><i>"A video depicting how in nature a hunt is executed, are shown to the delegates. The reasons for their success are listed, ensuring that the teams understand that in order to be successful and safe, they will have to have common goals, values and rules".</i></p> <p><i>"Through facilitation, their respective values and rules are established".</i></p> <p><i>"The facilitator explains the concept of SMART goals so that the teams might be able to set their goals better".</i></p>
Personal/team resources	<p><i>"Each team member's importance is established by the facilitator of the team member's skill – being a personal skill. The idea that each is more than just an employee is reiterated by the realisation that not just a job skill is brought to the team, but also other important personal skills".</i></p> <p><i>"The characteristics and empowerment behaviours are facilitated allowing the teams to respectively or as a group (in some instances the teams prefer to work together as they often have the same challenges) decide on the characteristics of their future HERO team, as well as the empowerment behaviours they now wish to adopt within the team, at home, in the community and in South Africa as a whole".</i></p> <p><i>"The 12 resources (internal and external) and their importance in upholding the HERO are facilitated through the parachute activity with some delegates being given tags depicting: spirit, head, heart, body, work, finance, life activities and relationships"</i></p>

Workplace realities	<p><i>“The two underground facilitators engage with their respective teams within their current working areas”.</i></p> <p><i>“They introduce themselves to the teams and familiarise themselves with the specific working area, conditions, and quality of work of the teams”.</i></p> <p><i>“The facilitators also compile a SWOT analysis, identifying internal team strengths and weaknesses as well as external opportunities and threats”.</i></p>
Workplace requirements	<p><i>“The facilitator has an outside grid depicting 1-meter advance as opposed to, 6-meter advance per blast. This clearly illustrates to the teams the difference between the two, while bringing home the fact that the 1-meter group is far ahead of the other one in the same time. The facilitator also illustrates the direction of drilling and its importance”.</i></p> <p><i>“Critical mine standards and procedures are discussed in the class through slides, some depicting dangerous or hazardous behaviour”.</i></p>
Integrated learning	<p><i>“The underground facilitators return to the teams at their working place, ensuring a smooth transition from program back to their working environment”.</i></p> <p><i>“The program will address safety, production and teamwork areas”.</i></p> <p><i>“Identify and deal with the blockages in the team”.</i></p>
Challenge resources	<p><i>“The facilitator challenges the delegates by discussing the opening and establishing of a taxi business. Costs, including insurance, driver, petrol etc. is established. The fee structure and trips necessary to make such a business has to be decided by the delegates. This is then relayed to the Mine and their costs”.</i></p> <p><i>“A better understanding of taking care of their material as well as ensuring each blast is correct can be expected from the delegates after this facilitation process”.</i></p> <p><i>“The principle of time left is explained by the facilitator so that delegates can clearly understand how little time is left at any certain age”.</i></p> <p><i>“The concept of change being enduring is explained by the facilitator, as well as the fact that to stay relevant, each person will have to endure change”.</i></p>

	<p><i>“The facilitator then goes through the “challenges list”, and through facilitation, the team then establishes what they are in control of and what not”.</i></p> <p><i>“The purpose is not to eliminate the challenges because not all of these are within the team’s locus of control, but rather to establish which of these they are in control of”.</i></p> <p><i>“The belief system is then challenged by the facilitator – through a picture of a white peacock, and an exercise of cutting an A4 paper with scissors so that it will fit over a team member. Through this, the idea that some beliefs may hinder us from reaching our full potential is explained”.</i></p> <p><i>“The fact that change is more often than not painful and never easy is brought home”.</i></p> <p><i>“Each has made choices that brought them to this point in their life; accepting responsibility for these choices and being accountable will ultimately ensure that change is brought about with understanding and patience”.</i></p> <p><i>“The teams are then asked to list the challenges that prohibit them from becoming HEROs or HERO teams”.</i></p>
Engaging	<p><i>The presentation venue is removed from the mine assisting facilitators in working free of day to day interruptions caused by operational needs and demands.</i></p> <p><i>The facilitators visit the crew in their working place and have contact/dialogue sessions with the relevant crew /team</i></p> <p><i>The facilitators introduce themselves to the teams and explain the course times and duration as well as emergency assembly points, toilets and recreational areas.</i></p> <p><i>A brief discussion of what the course entails is also discussed, and managers will explain the purpose during their visit</i></p> <p><i>The delegates are each given a course reactionary to complete and encouraged to make suggestions or comments.</i></p> <p><i>The team is assisted with the launch of the New Journey as HERO teams and wished success</i></p>
	<p>Eleven (11) themes identified during the fifth phase of the HERO implementation which include:</p> <p>1. Contextualised; 2. Provide experience; 3. HERO as Framework; 4. Identify workplace constraints; 5. Capability of team; 6. Discover pathway; 7. Personal /team resources; 8. Workplace realities; 8. Workplace requirements; 9. Integrated learning; 10. Challenge resources; 11. Engaging</p>

Table 13: Phase 6: Follow-up process

NO 6: FOCUS – Follow-up process	
Identified theme	Responses
Closing gaps	<p><i>“This process is the culmination of the synchronisation of the HERO PROGRAMME. It determines and reduces the gaps between prior and post the intervention conditions and performance, including the identification of the necessary pathways for continuous growth and sustainability”.</i></p> <p><i>After a period of between four-five weeks, the underground facilitators return to the teams to follow-up on their progress. The SWOT analysis action plan previously noted in the report is then completed.</i></p>
Workplace realities	<p><i>“This is a physical visit where observations and dialogue sessions are done amongst the crew/team to verify if the HERO principles are implemented and improvements lauded”.</i></p>
Feedback	<p><i>“This process encourages upward feedback from the individual team members and their direct supervisors on their experience of working in the trained team, including observations of the changed behaviour amongst both team members and leadership”.</i></p> <p><i>“Follow-up reports are completed, recommendations discussed with the next level of authority to ensure a support base is established for the respective Team”</i></p>
Observe change	<p><i>“Also, this identifies and implements behaviour changes which are necessary to support and sustain the newly established climate”. “We see how the teams are making a change, they look like HERO’s”</i></p>
<p>Four (4) themes identified during the sixth phase of the HERO implementation, which includes:</p> <p>1. Closing gaps; 2. Workplace realities; 3. Feedback; 4. Observe change</p>	

The responses, as recorded and document in Tables 8 to 13, are primary narrative data collected; themes were identified within the six (6) phases of the HERO map. Member checking was done to ensure understanding of the data and the associated themes. The results will be discussed in Chapter 4.

3.4.1.7 Key learnings identified

In working with the HERO programme over a period of six (6) months, the facilitators have experienced their own realities and shared their learnings. First sharing is within the HERO teams framework; the feedback was given in a form of a written report jointly generated by the four facilitators after the focus group. The researcher completed a theme analysis and performed a member-checking exercise.

Table 14: Key facilitator learnings within HERO process map

NO	FOCUS	THEME	KEY LEARNINGS ABOUT IMPLEMENTING HERO IN EACH PHASE?
1	Initiate and mandate	Sponsorship	Establish who the sponsor is, who the target population will be, and ensure that the current criteria necessitating the intervention are clearly understood.
		Stakeholder engagement	Once contact has been established with the senior management team, it is essential to engage with the relevant stakeholders on each level within the organisation”.
		Clarify requirements	Establish clear expectations/goals/intent/needs envisaged for the intervention. The approach/structure to be followed, and content of the programme can be established once it has been decided on what basis the success/failure of the intervention will be measured (who, why, what, where, when and how). Budget and return on investment should be established and agreed upon. Venues, logistical needs, etc. to be agreed to, preferably away from the normal workplace to minimise interruptions, and planned in advance, during this stage of development.
		Change team	The team can then be assembled to fit the requirements of the programme, and they should be involved in the design/content phase.
		Four (4) learning themes were identified during first phase: 1. Sponsorship; 2. Stakeholder engagement, 3. Clarify requirements; 4. Change agents	

NO	FOCUS	THEME	KEY LEARNINGS ABOUT IMPLEMENTING HERO IN EACH PHASE?
2	Content design	Learner-centric	<p>Changes and customisation of the programme are a given, because the target population usually determines the pace of learning.</p> <p>The approach is determined by each team.</p>
		HERO framework	<p>The HERO framework provides a clear structure, ensure focus and provide a roadmap for development activities.</p> <p>The HERO framework focusses the journey towards identifying a pathway.</p>
		Facilitator profile	<p>Methodology, design and the desired profiles for facilitators are all done in partnership/consultation between the facilitation team and the local management team, fulfilling the specific mandate and with clear goals and objectives.</p>
		Integrated lesson planning	<p>Enough time is essential for the purposes of accurate, effective, well-researched, and fit-for-purpose programme design.</p> <p>Planning and preparation for the HERO programme required a great deal of thinking, sharing and experience from the specialist/consultant and the target population for which the programme is designed; this played a crucial role in its content (TOO HIGH – Losing the audience; TOO LOW – Losing interest and causing boredom).</p>
		Learning environment	<p>Presentation mode, visual aids and exercises will be vital, many and varied, needing to be carefully established and costs evaluated and agreed upon.</p> <p>Clear parameters are set and agreed to with regard to venue, desired environment and philosophy to be followed during the intervention.</p>
<p>Five (5) learning themes were identified during phase 2:</p> <p>1. Learner-centric; 2. HERO framework; 3. Facilitator profile; 4. Integrated lesson planning; 5. Learning environment</p>			

NO	FOCUS	THEMES	KEY LEARNINGS ABOUT IMPLEMENTING HERO IN EACH PHASE?
3	Stakeholder engagement	Co-creation	Regular review and feedback sessions with good communication systems are vital in the co-creation process, and also for the establishment of regular feedback criteria for recording and reporting on the full scope and duration of the intervention.
		Continuous	Continuous contact and regular reporting with management is an absolute essential The following is evident after the HERO team training: This ongoing, ever-present involvement of all stakeholders will ensure continued support, alignment of ideas and language/approach, and continued determination to succeed.
		Review and improve	Review and feedback sessions should be established as a two-way communication link encouraging a creative approach, even after the programme is already underway. This will also enable/initiate a continuous improvement approach so that the intervention remains current and relative to the needs of the organisation at any point in time.
		Three (3) learning themes were identified during phase 3: 1. Co-creation; 2. Continuous; 3. Review and improve	
NO	FOCUS	THEME	KEY LEARNINGS ABOUT IMPLEMENTING HERO IN EACH PHASE?
4	Scheduling of teams	Accountability	Who will select candidates and on what basis will this be done? Who will facilitate the continued momentum and take care of the logistics?
		Parameters	Clear parameters are set for creating a seamless schedule, enabling the necessary access to the relevant people.

		Pre-engagement	A pre-engagement strategy should explain the process to those about to enter into the intervention, the reasons for it, the dismantling of any possible anxiety issues, and the removal of any misconception of miscommunication that may be encountered from time to time.
		Three (3) learning themes were identified during phase 4: 1. Accountability, 2. Parameters; 3. Pre-engagement	
NO	FOCUS	THEME	KEY LEARNINGS ABOUT IMPLEMENTING HERO IN EACH PHASE?
5	Facilitation process	Mining team dynamics	Mining production crews are not uneducated. They have an interest to learn more of their working environment. Production crews need help and guidance to unlock their full potential. Keep to team focused on the task at hand.
		Facilitator profile	It is essential that the correct facilitators are selected with preference given to use of a modular approach. The facilitator must be able to relate to, and establish a good connection with the target group, very quickly establishing an environment of trust (safety) that will encourage free expression of ideas as well as active participation in the programme. Facilitators must be subject matter experts (modular approach) and work in rotation to assist with participation and maintenance of energy levels within the group.
		Activity-based learning	The facilitation approach should include many activities, games, interaction and visual aids, in order to establish a positive learning environment. Activities are planned and inserted at critical times to maintain interest and concentration of the groups involved.

			Practical exercises to help understand the message one wants to convey to the teams are crucial for any programme.
		Lesson planning	Early morning sessions may be slightly longer than those later in the day, to help maintain focus and concentration among participants.
		Four (4) learning themes were identified during phase 5: 1. Mining team dynamics; 2. Facilitator profile; 3. Activity-based learning; 4. Lesson planning	
NO	FOCUS	THEME	KEY LEARNINGS ABOUT IMPLEMENTING HERO IN EACH PHASE?
6	Follow-up process	Observe change	Underground follow-up visits are also important in order to establish the newly instilled culture and approach intended to reinforce the HERO initiative and integrate it fully into the team's operating practices.
		Identify barriers	Firstly, any expressed frustrations or constraints must be communicated to the relevant line management person/s and feedback promptly given to the team – preferably by line management as a reinforcement of open communication of their challenges, and also to establish a climate of being valued both as a team or an individual.
		Resolved barriers	Secondly, follow-up is needed to establish whether the challenges have been quickly, decisively and permanently resolved.
		Three (3) themes identified during phase 6: 1. Observe change; 2. Identify barriers; 3. Resolved barriers	

NO	FOCUS	THEME	KEY LEARNINGS ABOUT IMPLEMENTING HERO IN EACH PHASE?
7	Reporting and feedback	Timeous	Feedback should be regular and not overly accumulated over a long time period, as this leads to the loss of detail and action needed to remove obstacles and create high morale within the workforce. If the reports are late, the responses will also be late, undermining the HERO concept and making successful safe production more difficult. This will affect the climate and reduce the possibility of goal achievement, which, in turn, will affect the stability of the team environment.
		Enable HERO support	This will lead to success on an organisational level and ensure a healthy HERO culture.
		Material provision	They can then also ensure the provision of the means, material and equipment needed to ensure the success of the teams. Motivated teams can and will deliver to management's expectations, however the challenge to battle with resources, can influence their functioning.
		Trends and solutions	Reporting and feedback need to highlight current trends and recommend solutions for challenges that may be encountered.
		Skills training	Management are then made aware of the current state of affairs and can easily develop systems and strategies that will enable teams by providing the correct skills training where required.
		Positive results	Improvement on absenteeism. Highly motivated teams in their working environment with the emphasis on COMMITMENT towards their teams. Positive behaviour in all areas of their working environment.
		Six (6) learning themes were identified during phase 6:	
1. Timeous; 2. Enable HERO Support; 3. Material provision; 4. Trends and solutions; 5. Skills training; 6. Positive results			

3.4.2 Summary of HERO development process and learnings identified

The results are combined in table format to provide a conceptual overview of the important themes to be acknowledged when developing HERO mining teams:

Table 15: HERO development summary

Empirical focus	Themes identified	Key learnings
Overview		
	Experienced HERO facilitators	Be able to contextualise the mining environment and the HERO foundations Experienced and able to engage at various levels in the business
	Work-based programme structure	Important to include the workplace as a part of a HERO learning intervention Workplace follow-up is important for team, supervisors and management engagement
	Practice-based learning environment	Underground is ideal and surface environment should be conducive for activity-based learning
	Activity-based learning resources	Use blended and activity-based learning, enough to stimulate the teams to participate and to experience the making of HERO
HERO process map		
1. Initiate and mandate	1. Strategic intent; 2. Co-design the requirements; 3. HERO as framework; 4. Positive desired outcome	The conceptualisation of the interventions should happen with a specific mandate; include the stakeholders. HERO provides a framework not only for the content, but also the process and engagement. Provide a positive approach rather than risk-based approach.
2. Content design	1. HERO as framework; 2. Assessment opportunity; 3. Experienced design team;	HERO as framework structures the message and can also be observed in the workplace in the form of workplace assessment. The team should have a sound understanding of the context and the foundational theories; be able

	<ul style="list-style-type: none"> 4. Co-created; 5. Learning principles, 6. Integrated framework 	to engage with the teams. Follow the learning principles of learning and not instructing. Ensure that workplace realities, safety, mining production and behavioural aspects are integrated
3. Stakeholder engagement	<ul style="list-style-type: none"> 1. Co-creation; 2. Relevance; 3. Alignment; 4. Continuous process 	Include the various levels in the organisation to benefit from experience at all levels. Ensure the relevance to the work domain, address the team's realities. Ensure alignment with the mine's strategic planning and keep a close alignment agenda.
4. Scheduling	<ul style="list-style-type: none"> 1. Intentional scheduling; 2. Flexibility; 3. Engagement 	Scheduling is done in liaison for specific needs at specific times. The work realities need to be accommodated. This is a do-with process and not a do-to process
5. Facilitation process	<ul style="list-style-type: none"> 1. Contextualised; 2. Provide experience; 3. HERO as framework; 4. Identify workplace constraints; 5. Capability of team; 6. Discover pathway; 7. Personal/team resources; 8. Workplace realities; 8. Workplace requirements; 9. Integrated learning 	Contents and examples should be addressing the team's world; they should experience success through application of HERO tools. Provide structure to show how this looks like in the workplace. Underground, the real constraints are identified and rectified; they see a pathway. The importance of each member to identify their role in dealing with the workplace realities is important. Identify what the team requires; how to get access to resources is critical. Ensure a good integration approach between the workplace, life, safety, production and team dynamics.
6. Follow-up process	<ul style="list-style-type: none"> 1. Closing gaps; 2. Workplace realities; 3. Feedback; 4. Observe change 	Follow-ups assist in closing the gaps in the workplace and also between team and supervisor. Give positive feedback to the members and the supervisor. Feedback to observable change and positive enforcement of success.

Luthans and Youssef (2004:8) provide guidance for HERO development through a four-phase focused approach. The facilitators responded towards the process followed to develop HERO within mining teams.

Table 16: Results: HERO development guidelines

Psychological capital (HERO) guidelines	HERO mining team’s learning points identified by facilitators during the surface training sessions	Impact of HERO mining team programme underground
<p>1. Developing efficacy/confidence through Mastery experiences, vicarious learning/modelling, social persuasion, positive feedback, physiological and psychological arousal</p>	<p><u>Introduction</u> Creating a pathway towards becoming a HERO/HERO team; Going alone is always easier and more convenient; however, working in a team allows for support and camaraderie; The batons of hope, efficacy, resilience and optimism can be passed from one member to another, ensuring that the HERO principles are experienced by all the team members. The pathway might not be an easy one; We all have a different view/model of the world; tolerance for each other in developing as HEROs is important.</p> <p><u>Personal mastery</u> Before we can be a HERO team, we have to become HEROs ourselves;</p>	<p>Assist them in the workplace Give feedback during follow-ups Measure their drilling practices Ask them to identify areas they have improved on Request feedback from their supervisor Give them recognition Provide ‘tricks of the trade’ Acknowledge their safe work conditions</p>
<p>2. Developing hope through Goal setting, ‘stepping’ (acknowledge small wins), participative initiatives, showing confidence, ‘preparedness’, contingency</p>	<p>We have resources that we can rely on and utilise to our benefit, in order to become HEROs. A HERO does not rely on one aspect only, rather considering ‘the whole HERO’, mind, body, spirit and hands; You do not have an unlimited period of time in which to create, you need to act with alacrity.</p>	<p>Identify what is possible in their work area Discuss the mining cycle Identify blockages to performance</p>

<p>planning, mental rehearsals, 're-goaling'</p>	<p><u>Change mastery</u></p> <p>Change is not easy; however, it is enduring.</p> <p>To stay relevant, a HERO must accept change and adapt with it.</p> <p>Our model (our beliefs) of the world more often than not prohibits us from reaching our full potential.</p>	<p>Develop a plan for the next 4 weeks after HERO</p> <p>Confirm what they can control</p> <p>Show them where they can improve</p>
<p>3. Developing optimism through</p> <p>Having leniency for the past, appreciation for the present, opportunity-seeking for the future, realistic perspectives, flexible perspectives</p>	<p>We all made choices in life; accepting responsibility ensures that we are more accepting.</p> <p>To ensure growth, change will be inevitable.</p> <p><u>Team mastery</u></p> <p>Teams with common goals, values, rules and skills are more effective and efficient.</p> <p>Each team member is important and adds value to their team.</p>	<p>Review the past performance</p> <p>Identify current mining opportunities and resources</p> <p>Measure what is possible in 22 shifts</p> <p>Identify what can be done with the available resources</p>
<p>4. Developing resiliency through</p> <p>Asset-focused strategies, risk-focused strategies, process-focused strategies</p>	<p>Teams have more power than any one individual.</p> <p>Trust is very important in teams, especially in our industry where we have to rely on each other to be productive and safe.</p> <p>The establishing of empowering behaviours that can be sustained within our homes, communities and country.</p> <p><u>Business mastery</u></p> <p>The importance being profitable to sustain the mine, not only to ensure employment, but also growth.</p> <p>Continuously improving to ensure sustainability within our communities.</p> <p>Empowering behaviour will ensure that HEROs adopt and sustain the principles.</p>	<p>Identify risk areas</p> <p>Devise plans to work according to operating standards</p> <p>Clarify the roles and responsibilities in the team</p>

3.4.2.1 Results: Supervisory behaviours to support hope

Table 17: Hope themes

Main theme Hope	Sub-theme	Frequency	Example
Provide resources (Frequency total =11)	Workplace equipment	1	The team needs the required workplace resources and services to be able to mine material.
	Immediate mineable stope faces must be available	1	The employees have the need to have this available to be able to mine. This requires good vision and good planning skills.
	Effective change management	3	Alternative stope faces need to available (reef development) and equipped to avoid delays when a crew is moved to a new area Planning ahead will make changes of working areas take place efficiently and effectively without major disruptions
	Good planning	1	This will avoid congestion and overloading of existing infrastructure, making targets realistic and achievable
	Skills and knowledge	3	All targets are communicated to the stakeholders and are clearly defined Listening skills The supervisor ensures that all team members have the required skills sets relevant to their contribution to the team and that they have been appointed for the relevant tasks assigned to them

	Training and development	2	The supervisor needs to train and develop the team to achieve set goals Both personal development and career development are priority focus areas
Collaboration (Frequency total = 6)	Goal-setting	1	Daily, weekly and monthly targets are set and reviewed, resulting in a corrective plan of action where needed Day, week, month Behavioural, productivity, safety and financial goals agreed to by all team members Goals should be set out clearly and made known to all team members
	Planning	4	To sit and do the planning with the team for the month Interact with the crews, affording them the opportunity to contribute, and then to assist the crews with regard to their needs.
	Vision and mission	1	Once the specific team vision and mission have been interactively established, all parties must adopt, drive and implement them. Both parties must believe and drive the mission and vision.
Support Frequency total = 9	Material	4	It is imperative that the teams have the means (skills, willingness, material/tools and equipment) needed to execute their daily working cycle in a safe and productive way. Supervisors are the link between the team and the management system. Teams cannot really bypass the supervisor; this is not viable. The production plan allows a 1/3 of the budget for material to be available at the beginning of the mining cycle. Accurate production bookings influence the material supply.
	Spiritual	2	Take an interest in individual team members, supporting them in their personal life challenges, goals and aspirations. This requires a relationship, knowing each other, spending time with each other.

	Otherwise	2	The shift supervisor needs to exhibit good leadership and people skills
	Problem-solving	1	Assist the crews in resolving their challenges rather than ignoring and hoping they will resolve themselves.
Communication Frequency total = 10	Informing	7	Inform them about planning, goals, requirements (expectations) Explaining the objective in detail Review and explain the current situation and how to improve it Staying up to date with the industry trends (supervisors) Positive communication and updates. Create clear direction and goals that are achievable, common, medium-, short- and long-term goals. Eliminate boundaries by making use of open communication
	Feedback	1	Performance review and feedback sessions
	Cultural sensitivity	1	Creating an environment conducive to teamwork and high performance Working in a multi-cultural environment and needing to understand each other and the way we communicate with each other. The way we behave towards each other. Ladies are also entering the mining world and this changes the scenario
	Business objectives	1	The supervisors need to communicate the business objectives and understand the business. The supervisor knows the targets, but does not discuss this with the team and together plan how the site-specific solutions can be achieved.
Rewards and Motivation	Social reward	1	When targets are reached, braais are organised and some form of reward and/or recognition is a way of life
	Remuneration and bonus	2	Remuneration is negotiated annually, and bonuses are subject to in-house agreements and results driven. The supervisor needs to ensure that the teams

Frequency total = 7			have all the necessary ingredients to enable them to successfully meet the bonus criteria. Payment is bonus driven, but without available ground to mine, this system fails. The supervisors do not get any extra bonus when they exceed their targets.
	Recognition	2	People are our most valuable resource and we need to communicate this and attach value to our people/crews.
	Motivation	2	If we involve our people throughout the processes we establish, they will be envisioned and positive in their approach to their work. Remain positive and calm during challenging times and develop a plan of action to enable success.
Team Frequency total = 10	Team competition	2	Create a positive flow of inter-team competition with an integrated reward or recognition system.
	Limit unnecessary team movements	1	Try to maintain the teams as they were, in the beginning; try not to add and remove employees to the team.
	Self-management	1	Teams should all, individually and as a team, be empowered and encouraged (authorised) to make good decisions at their own level of operation/understanding and competence.
	Freedom	1	They have control over their own working tasks by allowing them to be the owners. They decide on how things are done daily.
	Building relationships	4	Promote the gang and show you care. Invest time in knowing the crew members beyond supervisor-operator. Create relationships.
	Belonging	1	This is YOUR crew, embrace them, but you must also give yourself to them and serve their pathway to success. Be approachable and be available.
	Honesty	2	Do not deal in false promises or 'fake news'

Supervisory characteristics Frequency total = 27			Dishonest bookings of blasts etc., put unnecessary pressure on the teams to catch up to false expectations and projected performance figures.
	Trustworthy	6	Trust cannot be demanded; we must prove ourselves worthy of trust.
	Transparency approachable	6	The lack of transparency leads to wrong perceptions, and money and effort are then spent fixing what does not need fixing – and the needed fix is hidden leading to a recurrence of the challenge because the real challenges are not recognised and overcome
	Motivational	3	The supervisors need to create and maintain high levels of energy and hope through positive interaction with the team and communication of current performance status. Maintain momentum by establishing a positive plan of action where needed (cheering them on) If we involve our people throughout the processes we establish, they will be envisioned and positive in their approach to their work. Remain positive and calm during challenging times and develop a plan of action to enable success.
	Solution driven	1	The supervisor should not always refer problems to the senior levels but should be able to solve problems at their own levels. Do not expect the team to find solutions individually, but as a team.
	Optimistic	2	Create a culture of possibility rather than a fatalistic (victim of circumstance) approach
	Considerate	1	Respect, care and recognition of individual as well as team actions.
	Fairness	2	This involves recognition of effort and correction of the lack thereof in a fair and individual manner, taking all true contributing factors into consideration The same approach and criteria should apply equally to all team members

	Positive attitude	2	Always attempt to leave a person, team or an area in better condition than when you engaged it/them.
	Servant-leader	1	Do not dismiss challenges presented to you. Be attentive when dealing with your team and assist in a confidence boosting manner wherever this is realistically feasible Serve the success of the team, as this is what will make you successful
	Credibility	1	Go the extra mile in attending challenges of employees
	Solution-driven	1	The supervisor should not always refer problems to the senior levels but should be able to solve problems at their own levels.
Leadership	Lead by example	2	Respect the values of the team and treat all members with respect and dignity
Frequency total = 4	Build self-confidence	2	Direct and guide people in a way that engages, directs and establishes them as the solution to the challenge rather than taking the task out of their hands and doing it for them. Be self-confident first to be able to impart any faith in others.
<p>Highest frequency for hope:</p> <ol style="list-style-type: none"> Supervisory characteristics (27) Providing resources (11) and support (9) 			

3.4.2.2 Results: Supervisory behaviours to support efficacy

Table 18: Efficacy themes

Main themes Efficacy	Sub-themes	Frequency	Example
Support Frequency total = 2	Support services	1	Supervisor should eliminate inadequate material and equipment. Liaise with workshops to ensure quality of the maintenance of machinery.
	Enabling	1	Maximise available compressed air pressures and flow. Give ownership of equipment or environment.
Reward and motivation Frequency total = 21	Recognition	7	Give credit when they do something correctly.
	Motivation	8	Help them achieve success by showing them it is perfect Show the team on the plans that the set goals are possible (written) Build confidence of individuals by allowing them space to be their own person within their skills set. Encourage and give positive reinforcement; Coach and motivate crews.
	Reward	4	For example, the braai that is organised if they reach their targets. Reward positive work.
	Status incentive	1	Promotions or individual developmental projects when there is not a promotional position available.
	Financial incentive	1	Bonus system, but it should be well understood, and feedback given.

Resources Frequency total = 3	Material	2	Need the materials/equipment to be able to execute the work. In a result-driven environment, a lack of material will lead to shortcuts, which, in turn, could lead to a compromise of safety issues. Make optimal use of the systems to enable timeous acquisition of needed resources.
	Skills	1	Competency training; On-the-job coaching and development. Regular monitoring and reviews.
Communication Frequency total = 3	Planning	1	Supervisors must involve the crews for the planning.
	Feedback	2	Need to give feedback on the team mastering special tasks. Constant progress programme feedback and directives to the crews.
Collaborate Frequency total = 5	Building relationships	1	The supervisor needs to spend more time (also face time) with the crew. To be part of the people constantly. Building good relationships with the team. Understanding the people, you work with.
	Accountability	3	Issues must be addressed and cleared out. Miner responsibilities (check quality and control). Ensuring legal requirements
	On-the-job coaching	1	This will contribute to role clarity and clarify the desired outcome quality
Team Frequency total = 3	Team role importance	1	If a team member is absent from work, then the pressure and additional workload it puts on the other members of his crew are explained to them. They must also understand the financial implications as it impacts on the bonuses rest of the crew negatively.
	Team confidence and team cohesion	1	By teams and sub-ordinates excelling, self-confidence will improve, by knowing your standards and improving skills. This encourages the team to pay attention to their personal competence levels.
	Team independence	1	Give them space to do problem-solving by themselves. Recognise that each member is the expert in his field of operation.

Targets/goals Frequency total = 1	Reasonable	1	Be a good listener If targets are unreasonable, the team will give up without even trying to get there.
Supervisory characteristics Frequency total = 10	Trustworthy	3	Give the team your full support and enable them to achieve and beat their targets. If we serve them well, our results will improve together with their quality of life, which will serve as additional motivation.
	Involved	1	Engage with the team and participate in team projects Be involved in the team's success and take an interest in their situation. Recognise their need of the moment and remove any challenges they may be facing in their workplace. For you to be successful, your teams must be successful.
	Set an example	1	Always be respectful and guard the dignity of the individual team members, even when making a tough decision. Be a positive example and earn the respect of your team
	Honest	1	No misinformation. No false promises.
	Open door policy	2	Others must not fear you You must always be available, not too busy, and willing to set aside what you are focused on during the time you interact with your people. Give them your full attention when required. They must know that they can speak to you about anything
	Respect	1	Show them you know your job and trust them to work with you
	Identify capabilities	1	Identify and recognise employees' capabilities. Mark suitable individuals for future development.
Highest frequencies for efficacy: 1. Reward and motivation (21) 2. Supervisor's characteristics (10)			

3.4.2.3 Results: Supervisory behaviours to support resilience

Table 19: Resilience themes

Main theme Resilience	Sub-themes	Freq	Example
Communication Frequency total = 4	Leadership communication	3	Constantly. The current is more instructive and creates more an environment where we have two-way flow of information. Site-specific solutions. Due to time constraints, communication is instructional – move to be more participatory. Lead, direct and maintain a calm, positive approach to challenges and communicate the plan and the desired outcome clearly as an achievable reality.
	Feedback	1	Feedback on the success and desired and development areas of each person.
Support Frequency total = 11	Supervisory support	5	Provide one-on-one support. Help them with physical tasks. When you are underground, helping out a miner that you see is struggling. It creates the sense that I did something for or with my supervisor/shift boss. Providing assistance in understanding the reason for failure. Provide tools for improvement. Stability of the team. Directive leadership during challenges.
	Stand-ins	2	If someone is absent, then someone can stand in for that individual and fulfil his/her work tasks.
	Supervisor and colleague relationship	4	Show humanity and show interest in the teams. Do not lie to them. Fairness and caring.
Rewards and motivation	Financial incentive	5	Bonus system.
	Motivation	6	Recognition and reward. Value team/individual effort and contributions.

Frequency total = 12	Recognition	1	Give credit and recognition for good work.
Compliance Frequency total = 3	Follow strict discipline	3	Do not walk past or accept/condone sub-standard performance, acts, attitudes or conditions. Assist the crews in resolving their challenges rather than ignoring and hoping they will resolve themselves. Show personal discipline.
Planning Frequency total = 5	Reflection	1	Learn from their previous mistakes and other events. Adopt new ways. Be proactive.
	Seek alternatives	2	Review the plan and explain what can be done. and in difficult situations, what to do next after the alternative.
	Skills and knowledge	2	Ensure that all resources and systems are in place. Provide the means to do the job. Ensure that people are skilled, willing and able.
Supervisory characteristics Frequency total = 4	Dependable	1	He can be counted on to come through and to provide a way forward in tough situations. He is consistent in his interactions with his people. He will make the right decisions whenever this is needful
	Going the extra mile	1	Go the extra mile in attending challenges of employees. His people know that he will always be with them in challenging times.
	Solution-driven	1	Example: If the mining layout is not working to full potential, he will find a way to optimise and find a better way.
	Accountability	1	Does not blame others but solves problems. He can be relied on to produce high performance teams and will achieve the set goals.
Highest frequencies for resilience: 1. Reward and motivation (12) 2. Supervisory support (11)			

3.4.2.4 Results: Supervisory behaviours to support optimism

Table 20: Optimism themes

Main theme Optimism	Sub-themes	Freq	Example
Communication Frequency total = 6	Positive communication	2	Vision, mission, how to move forward when encountering a problem, show the team the opportunities. This is specific for the shift boss and upper levels
	Informing	4	On a daily basis Communicates the current status and points out possible challenges or trends that could be developing, as well as the corrective or preventive measures that will prevent unwanted delays or performance drops. To supply as much as possible information Interacting
Supervisory characteristics Frequency total = 22	Optimistic	4	Explain the plan, but the approach must be of a positive nature Positive attitude and relationships He is a natural encourager of people To see issues/problems as challenges
	Sales qualities	1	Sales qualities to sell the plan to the team.
	Responsibility	1	Supervisors should not shy away from their challenges. They take responsibility for the performance of their teams without exception.
	Building relationships	5	To be part of the team and constantly influencing them towards successful performance outcomes. Building good relationships with the team. Understanding the people who you work with

			Has an intent to develop his people and to help them be the best that they possibly can be.
	Ask for help when needed	1	He will benchmark with his peers or with his senior management team in order to solve the internal challenges in his section. It is better to seek good advice before making a poor decision that could lead to personal loss or injury
	Create a comfortable space	1	The team must feel comfortable within the space that is created through the supervisor.
	Confident	3	Be self-confident first to be able to impart any faith in others.
	Proud	1	To be proud of his employees
	Firm	1	He will set high standards and expect his team to deliver
	Assertive	3	Example: No compromise on issues of safety He knows what he expects and will communicate this with the team, leaving no room for doubt or misunderstanding.
	Fair	1	People are treated fairly and consistently, and also held accountable for their responsibilities
Resources	Availability of mining ground	5	He is always busy developing new areas to work in. These areas are equipped ahead of time, and in an emergency, they are immediately available and production continuity is then a reality.
Frequency total = 7	Skills	1	Ensures that his team understands the exact performance qualities he expects and that they are able to deliver.
	Material	1	Give them the means to do the job.
Rewards and motivation	Social rewarding	4	Regularly recognises and rewards team members for good work, not only through the braais that are held when they reach their targets, but also creatively through verbal and other means.

Frequency total = 10	Recognition	2	The reward for good work delivered.
	Accountability	1	Know that if they did something wrong, there would be consequences.
	Motivation	3	Encourage crews to believe in themselves Re-enforce the individual's worth to the team. To emphasise their importance as part of the team
Support Frequency total = 5	Supervisory	3	One-on-one support, go back up you employees
	Performance	2	Shows them their performance – past, present and possible Creates a trust environment and solves challenges that will slow down the production safe process. Regular reviews that serve to identify and solve obstacles to high performance levels. Supervision of in-stope practice and accuracy of blasting practice for maximum returns for production effort. Manages and optimises acceptable strike rates and advance per blast figures. Ensures that cleaning systems and practices are in place for the removal of broken ore.
Teams Frequency total = 3	Compliant	1	They revert to their old ways if you do not drive compliant behaviour
	Conflict management	1	Sort out problems within the team
	Problem-solving	1	Encourage all to take responsibility for and to solve challenges that are within their scope of activity
<p>Highest frequencies for optimism:</p> <ol style="list-style-type: none"> 1. Supervisory characteristics (22) 2. Rewards and motivation (10) 			

3.4.3 Generic supervisory behaviours

Table 21: Generic supervisory behaviours

Main theme of generic	Sub-theme	Example
Systematic supervision	Sustainable	He does not invade his team's space and do their tasks for them, but rather coaches them so that they are proficient and able to sustain the set standards
	Consistency	There is a consistent upward curve in standards set (continuous improvement)
	Schedule	Every task is planned for and schedules for completion dates are respected and achieved
Accountability	Accountability per level	Each team member is accountable for his own area (and level) of expertise and expected to contribute to the success of the team accordingly. Do not blame others, but solve problems Accountability per level . Supervisor at the right level
	Supervisor at the right level	The supervisor will supervise all activities carried out in his area of responsibility, and set appropriate goals and standards
Communication	Information sessions	Sessions for shift bosses to be informed beforehand
Support	Support services	Core mining tasks and visions are supported.
Influencing	External factors	Geology
Rewards and recognition	Motivation	To build them up and tell them they are HEROs
	Supervisor motivation	The supervisors do not get any extra bonus when they exceed their targets.
	Respect	The level and the line of command

Roles and responsibilities	Miner responsibility (check quality and control)	He is responsible for ensuring that those reporting to him maintain a high standard of work with acceptable safety and production results
	Ensuring legal requirements	The supervisor is also knowledgeable concerning legal requirements and accountable the necessary compliance to law
	First-line supervision (does not do safety)	He holds first-line supervisors accountable for the safety practices in the section
	Positive/optimistic	Not only focusing on the negative aspects or factors.

3.4.4 Summary of main supportive supervisory behaviour themes

H – Hope; E – Efficacy; R – Resilience; O - Optimism

Table 22: Summary of main supervisory themes

MAIN THEMES	FREQUENCY	H	E	R	O	Observations on highest rated main themes and frequencies
Supervisory characteristics	56	27	14	3	12	Being optimistic (9) impacts on hope (4) and optimism (4), Being trustworthy (9) on hope (6) and efficacy (3) Being approachable (6) impacting on hope (6)
Rewards and motivation	38	7	21	0	10	Motivation (13) on hope (2), efficacy (8) and optimism (3); Social reward (9) on hope (1), efficacy (4) and optimism (4); Recognition (11) on hope (2), efficacy (7) and optimism (2).
Support	27	8	3	11	5	Supervisory support (8) on resilience (5) and optimism (3) towards the team, colleagues and provision of material.
Communication	22	10	2	4	6	Informing (11) on hope (7) and optimism (4)
Resources	21	11	3	0	7	Providing workplace equipment (9) on optimism (6) hope (1) and efficacy (2); Planning (5) on hope (4) and efficacy (1) Providing knowledge and skills (5) on hope (3), efficacy (1) and optimism (1)
Teamwork	15	9	3	0	3	Building relationships (4) on hope (4)
Collaborate	7	6	1	0	0	Planning together (5) impact on hope (4) and efficacy (1)
Leadership	7	4	0	0	3	Building confidence (5) on hope (2) and optimism (3)
Compliance	3	0	0	3	0	Compliance (3) on resilience (3)

3.4.5 Chapter summary

Chapter 3 described the empirical research design, including the approach, strategy and research method; the research procedure followed to collect and analyse the qualitative data; the important aspects of the ethical procedure and how to ensure rigour in the research process; the overview of the HERO mining teams programme and HERO development process, with reference to the participants, learning programme structure, the environment and learning resources. The HERO teams process map as structure was used to gather data from the facilitators towards identifying themes on how the development process of HERO was approached, key learnings and summary of key learnings. The following results tables were presented:

1. Reflection on each phase of the HERO mining teams process map (Tables 8-13)
2. Key learnings based on HERO mining teams process map (Table 14)
3. HERO development summary (Table 15)
4. Results of HERO development guidelines (Table 16)

Palo (2015) identified the positive impact of supportive supervisory behaviour (competence, relatedness and autonomy) on levels of psychological capital, and the positive levels are indispensable for job performance. The chapter concludes by reporting on the findings of the supportive supervisory behaviours and the following results tables were presented:

1. Hope themes (Table 17)
2. Efficacy themes (Table 18)
3. Resilience themes (Table 19)
4. Optimism themes (Table 20)
5. Generic supervisory behaviours (Table 21)
6. Summary of main supervisory themes (Table 22)
7. Global supportive supervisory behaviours (Addendum B)

4 CHAPTER 4: CONCLUSION AND RECOMMENDATIONS

The value of unlocking the internal resources and capability of people in the mining industry and the mechanism of HERO mining teams and supportive institutional practices, provide the impetus to explore all possible opportunities to modernise the SAMI approach. The modernisation refers to a positive-oriented approach to develop, support and sustain the capability of mining teams, the way supervisors display the requisite supportive behaviours, and institutional practices to sustain positive levels of hope, efficacy, resilience and optimism.

The purpose of this chapter is to conclude the empirical study by summarising the findings of what was learned from the workplace learning intervention implemented for HERO mining teams and the supervisory behaviours identified, which are believed to be required or requisite to support and sustain the HERO workplace learning intervention. Chapter 4 also revisits the research objectives and provides a review of the primary and secondary objectives, concluding with recommendations and suggestions for future research.

4.1 CONCLUSIONS ON THE EMPIRICAL STUDY: HERO DEVELOPMENT PROCESS

The data gathered from the facilitator focus groups were themed and analysed; member checking was concluded and documented. The conclusions will seek to interpret the outcome of the empirical research, and reference the reader to some important literature review areas, the facilitator learning as discovered in phases 1 to 7, concluding with a conclusion from the researcher within each phase of the HERO teams process map.

4.1.1 HERO development process

As noted, the objectives of developing PsyCap through intervention are summarised by Luthans *et al.* (2013:18):

1. The ability to accurately frame adverse events
2. Devising strategies to leverage personal resources
3. Honing ability to
 - a. set goals
 - b. identify multiple pathways
 - c. identify obstacles to goals accomplishment and contingency plans

Table 15 in Chapter 3 refers: The following key results were reported and themed; some detail will be presented. Below are the reflections on the various results:

Experienced HERO facilitators

Be able to contextualise the mining environment and the HERO foundations. Experienced and able to engage at various levels in the business.

Work-based programme structure

Important to include the workplace as a part of a HERO learning intervention. Workplace follow-up is important for team, supervisors and management engagement

Practice-based learning environment

Underground is ideal, and surface environment should be conducive for activity-based learning

Activity-based learning resources

Use blended and activity-based learning; enough to stimulate the teams to participate and to experience the making of HERO

Johnson and Bragar (1997) state that learning is most effective when it addresses issues that are relevant to the learner. Reference is made to section 2.7.5.1 point nr 3, which stated: “People learn what they need to know, for them to respond to conditions in their environment. They are motivated by either a personal desire to acquire new knowledge and skills or by understanding the consequences of not learning. When learning activities are linked to personal or organisational problems or challenges, learning is accelerated”.

Conclusion: When initiating a programme of this nature, it is clear from the research that the selection of the facilitator team is an important decision; this is for the programme to be relevant and well contextualised. The programme structure and the facilities of the learning programme should take into account of relevance of content, place and work-based examples. The evidence showed that this was achieved with the HERO mining team programme, attributed to the a very strong and long association with SAMI. The guidance from the leadership and sponsor from BRPM mine shaped the programme context to make it relevant, also to make resources available for a blended and activity-based approach and ensured liaison throughout. Trust in the facilitator team plays an important role in making the learning relevant to the learner, the team, the mine and the industry, as the facilitator is the point of contact.

4.1.2 Phase 1: Initiate and mandate

Themes: 1. Strategic intent; 2. Co-design the requirements; 3. HERO as framework; 4. Positive desired outcome.

The conceptualisation of the interventions should happen with a specific mandate, including the stakeholders. HERO provides a framework not only for the content, but also the process and engagement. Provide a positive approach rather than risk-based approach.

Strategically align initiatives. Section 2.5.4 has reference, where Burger (2016:266) rightfully identified the risk within mining companies at a local level as misalignment between the vision, values and objectives of the company and stakeholders (which include the mining teams). If not addressed purposefully, it remains a challenge, and overall misalignment of managerial and worker-level employees with the strategic vision of the organisation is at an unacceptably high level. Burger (2016:227) further noted that enablers towards change should include alignment initiatives such as clarifying of objectives, creating and enabling organisational culture together with sharing of knowledge and information relevant and vital for the mining industry.

Four (4) facilitator learnings were identified during first phase:

1. Sponsorship; 2. Stakeholder engagement, 3. Clarify requirements; 4. Change agents

Conclusion: Interventions should be a mechanism for strategic execution, the 'way' should be known, and the 'will' should be unlocked towards creating a pathway to achieve the goal. The HERO development process was very well aligned through the interaction of the sponsor, managerial workshop and stakeholder engagements' this shaped the context and desired context. Learning interventions without managerial commitment and intent become a compliance event. Co-designing the programme and process provided the much-needed guidelines for the desired outcomes. Interventions require the various role players such as the sponsor, stakeholders, and change agents. HERO as a developmental framework was well researched as a mechanism and provides the capability for SAMI to align strategic initiatives with the required people resources.

4.1.3 Phase 2: Content design

Themes: 1. HERO as framework; 2. Assessment opportunity; 3. Experienced design team; 4. Co-created; 5. Learning principles, 6. Integrated framework

HERO as framework structures the message and can also be observed in the workplace in the form of workplace assessment. The team should have a sound understanding of the context and the foundational theories; be able to engage with the teams. Follow the learning principles of learning

and not instructing. Ensure that workplace realities, safety, mining production and behavioural aspects are integrated.

Luthans and Youssef (2004:8) provide psychological capital (HERO) developmental guidelines that were highly valued as part of the content design phase. Reference are made to:

1. Developing efficacy/confidence through: Mastery experiences, vicarious learning/modelling, social persuasion, positive feedback, physiological and psychological arousal.
2. Developing hope through goal setting, 'stepping' (acknowledge small wins), participative initiatives, showing confidence, 'preparedness', contingency planning, mental rehearsals, 're-goaling'.
3. Developing optimism through having leniency for the past, appreciation for the present, opportunity-seeking for the future, realistic perspectives, flexible perspectives.
4. Developing resiliency through asset-focused strategies, risk-focused strategies, process-focused strategies.

The HERO content design team responded by following an integrated approach to content design. The various activities address hope, efficacy, resilience and optimism in a variety of modules and work-based activities; examples were given as follows:

- *Assist them in the workplace, give feedback during follow-ups, measure their drilling practices;*
- *Ask them to identify areas they have improved on, request feedback from their supervisor, give them recognition;*
- *Provide 'tricks of the trade', acknowledge their safe work conditions, identify what is possible in their work area, discuss the mining cycle, identify blockages to performance;*
- *Develop a plan for the next four weeks after HERO, confirm what they can control, show them where they can improve, review the past performance, identify current mining opportunities and resources;*
- *Measure what is possible in 22 shifts, identify what can be done with the available resources, identify risk areas, devise plans to work according to operating standards, clarify the roles and responsibilities in the team.*

Five (5) facilitator learnings were identified during phase 2:

1. Learner-centric;
2. HERO framework;
3. Facilitator profile;
4. Integrated lesson planning;
5. Learning environment

Conclusion: The approach to creating the context for the learners/teams is based on the process of identifying, unlocking and developing the resource base of the teams. The process provides a realistic reframing opportunity of current realities and how a team can use their available resources towards achieving goals. The capability development process is acknowledged, as teams should identify what it is that they value or need to value. The content design values an integrated approach of dealing with safety, production, team and personal resources, within the context of the teams' daily work realities. The planning of the content is structured around themes; it is also observable that the context of the teams, the language, the culture and the value of team PsyCap are planned and accounted for.

4.1.4 Phase 3: Stakeholder engagement

Themes: 1. Co-creation; 2. Relevance; 3. Alignment; 4. Continuous process

Include the various levels in the organisation to benefit from experience at all levels. Ensure the relevance to the work domain, address the team's realities. Ensure alignment with the mine's strategic planning and keep a close alignment agenda.

Alignment of resources barriers: Point 2.5.4.1 of Reeves and Haanaes (2015:10) has reference, as the existence of barriers to implementing the strategy is attributed to either macro- or micro-barriers ranging from managerial, resources, people or vision. These barriers can be clustered into factors referred to as strategic leadership and organisational culture; should barriers not be identified and removed, a strategy and associated interventions will not result in the envisaged benefits (Lazenby, 2018:338).

Three (3) facilitator learning themes were identified during phase 3:

1. Co-creation;
2. Continuous;
3. Review and improve

Conclusion: The continuous stakeholder engagement of the HERO mining teams process map ensures that stakeholder engagement happens at various levels. The engagement process, co-creation and review remove barriers towards achieving the vision of BRPM and benefit from the contribution of the HERO mining teams intervention. The sponsor is informed of progress, the management of problems identified and the supervisors of areas to be impacted. The result is that

the teams are supported at various levels in the organisation towards supporting the pathway of the teams. The design of stakeholder engagement in the process seems vital and is well intended.

4.1.5 Phase 4: Scheduling

Themes: Intentional Scheduling; 2. Flexibility; 3. Engagement

Scheduling is done in liaison for specific needs at specific times. The work realities need to be accommodated. This is a do-with process and not a do-to process.

Learning is most effective when people learn with others (Johnson & Bragar, 1997)

Section 2.7.5.1 point nr 4: When people share their learning experience together, they share and build on one another's perceptions. They hear other interpretations and test their own. This increases the likelihood of their creating new interpretations that can guide more effective personal and organisational actions.

Three (3) facilitator learnings were identified during phase 4:

1. Accountability, 2. Parameters; 3. Pre-engagement

Conclusion: HERO mining teams are scheduled to provide a full team (day and night shift) the benefit of learning together; they share their experience and collectively address their workplace problems. The collective team approach versus individual learning approach supports the development of intended team PsyCap. The scheduling is part of the intervention and not just a transactional human resources development function and should be viewed as such. The visit of the facilitators to the team in the workplace, before the surface learning days, stimulates positive emotions in the team members, who reported the value they placed on this.

4.1.6 Phase 5. Facilitation process

Themes: 1. Contextualised; 2. Provide experience; 3. HERO as Framework; 4. Identify workplace constraints; 5. Capability of team; 6. Discover pathway; 7. Personal /team resources; 8. Workplace realities; 8. Workplace requirements; 9. Integrated learning

Contents and examples should be addressing the team's world; they should experience success through application of HERO tools. Provide structure to show what this looks like in the workplace. Underground, the real constraints are identified and rectified; they see a pathway. The importance of each member to identify their role in dealing with the workplace realities is important. Identifying what the team requires and how to get access to resources are critical. Ensure a good integration approach between the workplace, life, safety, production and team dynamics.

Johnson and Bragar (1997) state that learning is occurring best when taking place in a supportive and challenging environment. Section 2.7.5.1 point nr 5: In a non-threatening environment to status or security, people are more willing to take risks, explore new ideas, and to try new actions. Balance the support given with enough levels of challenge. Unless people are challenged on an intellectually and emotionally level, they typically will rely on existing habits and will not stretch themselves to find new ways to think and act. Workplace learning interventions based on these foundational principles should impact the approach taken during a design phase.

Four (4) facilitator learnings were identified during phase 5:

1. Mining team dynamics; 2. Facilitator profile; 3. Activity-based learning; 4. Lesson planning

Conclusion: HERO mining teams programme provides a well-contextualised environment, structured content for the learning and the opportunity to address challenges in the workplace. The experience provided through work-based assessments teams and stakeholder alignment integrated the learning. Real challenges are identified, addressed through teamwork and create pathways to explore their current reality in a new way. Understanding of the mining dynamics makes it easier to plan for the relevant examples during the programme. Activity-based learning as a vehicle stimulates team dynamism.

4.1.7 Phase 6: Follow-up process

Themes: 1. Closing gaps; 2. Workplace realities; 3. Feedback; 4. Observe change

Follow-ups assist in closing the gaps in the workplace and also between team and supervisor. Give positive feedback to the members and the supervisor. Feedback to observable change and positive enforcement of success.

Learning following a continuous cycle of action and reflection (Johnson & Bragar, 1997)

Section 2.7.5.1-point nr 2: People learn by doing and then thinking, reflecting consciously on what they did. New understandings emerge as actions that have been reflected on (examined and assessed), which, in turn, guide future actions.

A transformation that takes place over time (Johnson & Bragar, 1997)

Section 2.7.5.1-point nr 1: Learning is the process by which people change their interpretations of experience or make sense of it. Learning changes and creates new frames of reference; this new frame guides future ideas and actions. The learning process occurs in phases over time, from preparation to a form of apprenticeship towards mastery. In reaching mastery, it is necessary to

engage in learning activities that build awareness, provide practice and encourage the application of new ideas and actions.

Three (3) facilitator learning were identified during phase 6

1. Observe change; 2. Identify barriers; 3. Resolved barriers

Conclusion: The HERO programme achieves this continuous cycle through the workplace observations, visits, feedback given to teams and follow-ups being done with teams after four weeks. Feedback session with supervisors and managers and the sponsor facilitate learning and reflection. The HERO development process is directed at a focussed intervention in time, the once-off intervention therefore will not lead a team towards mastery, but should be a continuous cycle. The role of the institutional practices of strategic orientation, supervisory support and workplace learning should therefore be seen as the mechanisms over time, and not just based on a once-off. It is of vital importance to observe and resolve current blockages or barriers towards team performance; if the supervisor does not resolve the HERO team's frustrations, the team might experience learned helplessness, as identified by Seligman (2001).

4.1.8 Phase 7: Reporting and feedback

Themes: 1. Timeous, 2. Enable HERO Support, 3. Material provision, 4. Trends and solutions
5. Skills training, 6. Positive results

The continuous engagement at the various levels in the organisation ensures that blockages are removed. These support areas include material, skills requirements, mining practices and information requirements. This should happen on a continuous basis to enable the teams to perform to the level they want to.

Six (6) facilitator learnings were identified during phase 7:

1. Timeous; 2. Enable HERO Support; 3. Material provision; 4. Trends and solutions; 5. Skills training; 6. Positive results

Conclusion: Facilitators should value the follow-up process, give immediate feedback (support the social capital agenda) and enable support, identify trends and recommend human capital where required (training) or economic capital investments (material shortages) towards achieving results. Time to reflect on the process, the results and the process is an integral part of building organisational learning and provides the environment for increased psychological safety.

4.1.9 Observations from HERO implementation

The research journey provided valuable insights, as noted below:

4.1.9.1 *Managerial strategic intent*

Workplace learning interventions intended to build the capacity of underground mining teams are a result of a managerial intent to build the capability of their people. The feedback from the supervisory levels and facilitator participants presents evidence of the managerial support towards a people-centred approach to mining.

Positive psychology provides the guidelines for team development within a positive institution, as Kelloway *et al.* (2017) reflect on the influence of managers not only on teams, but also on safety practices and cultures. The allocation of resources, procedures and practices to build a positive institution is seen as the managerial role and responsibility.

4.1.9.2 *Positive institutional practices*

This intent is reflected through institutional practices, namely a strategic alignment mindset to align the people towards having hope for the future (showing the way) by creating mining opportunities (resources) and building the capability of the people to benefit from this resource.

Building the efficacy of the teams to be able to benefit from the opportunity in a safe and productive manner. This is reflected in the commitment to release the mining teams to attend the HERO mining teams intervention and the supervisors' responses of their understanding of supportive behaviours. A positive indication of having the confidence (efficacy) to take on and put the necessary effort in, to succeed at challenging tasks.

Resilience is reflected through the institutional practices to commit to a workplace learning intervention of this nature, where more than 40 teams (April 2019) have already been afforded the opportunity to attend, stakeholders visit the intervention, and reports submitted by the facilitators are acted upon. These actions indicate that when faced with challenges, problems and adversity, the managerial team keeps on sustaining and bouncing back and even beyond (resilience) to attain success.

The commitment to advance the business and the people capability is approached with optimism about succeeding now and in the future. The investment in resources to make the HERO mining team programme successful and provide the means towards implementation within a short period of time is observable.

4.1.9.3 Approach to workplace learning

Workplace learning interventions presented at mine level should adhere to guidelines as presented in theory. Following a science-based approach, the learning intervention is better framed and executed. This includes a clear understanding of what the capability required for developmental input is, why it is required and how it can be best developed and sustained.

Correct framing relates to the strategic alignment of the intervention and the contribution expected from the intervention. The 'why' of an intervention should be well conceptualised and the mandate confirmed. The intent of the program need to be shared with the participants. The 'how' of a learning intervention should be well contextualised, address the challenges of the workplace and in the same time build the capability of people.

Execution can be successful if barriers are removed, alignment is in place and the resources are unlocked. The 'what' of an intervention should be done last to ensure that interventions are not lost in content, but rather viewed from a strategic perspective.

4.1.9.4 View of capability development

Capability development should be contextualised where the individual and teams unlock their personal resources, recognising their own abilities and collective. The world of the team should be contextualised to understand their contribution; this should be experienced on a daily basis. The support given to teams should also be felt; it is in the perception of support or absence of it, which will impact on a team's level of positive HERO levels. The best a team can be and become, should be realistic and achievable, efforts to make them successful by the institutional practices, efforts initiated for strategic orientation, supervisory support and workplace learning, are experienced.

The next section of Chapter 4 reflects on the second part of the empirical investigation, dealing with supportive supervisor behaviours to support the HERO mining teams workplace learning intervention.

4.2 CONCLUSION ON THE EMPIRICAL STUDY: SUPPORTIVE SUPERVISORY BEHAVIOURS

The themes identified in support of the HERO construct, as identified by supervisors, were documented in the following tables

1. Hope themes (Table 17)
2. Efficacy themes (Table 18)
3. Resilience themes (Table 19)
4. Optimism themes (Table 20)
5. Generic supervisory behaviours (Table 21)
6. Summary of main supervisory themes (Table 22)
7. Global supportive supervisory behaviours (Table 22 in Addendum B)

A network diagram was constructed to reflect on the supportive supervisory behaviours that are believed to be requisite or required to support, but also sustain positive levels of HERO in the workplace. The diagram reflects the five (5) highest reported supervisory behaviours, over a range of hope, efficacy, resilience and optimism.

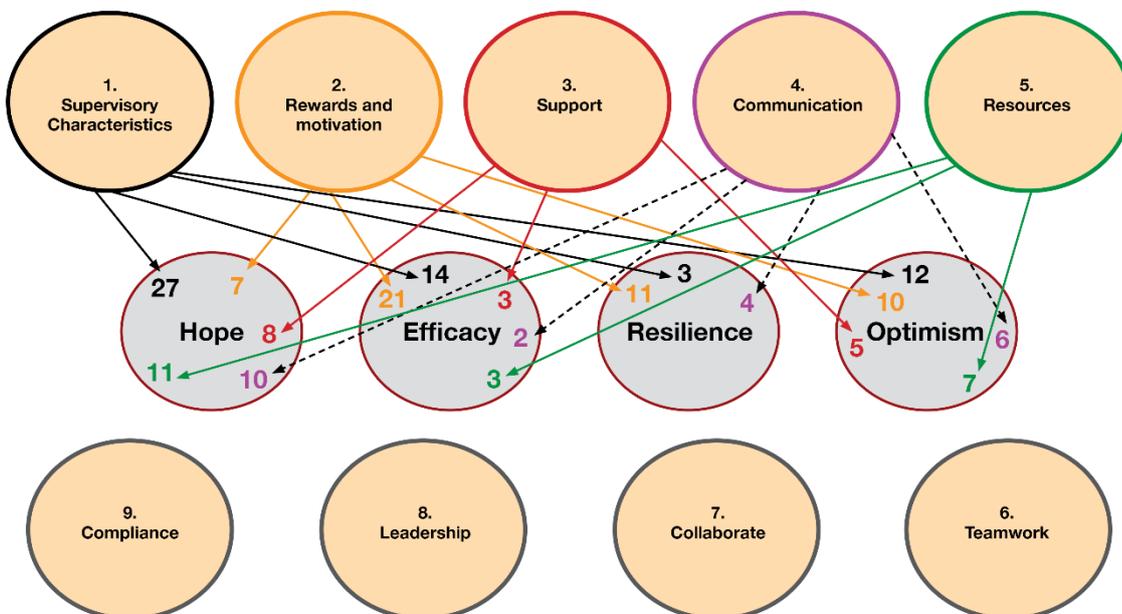


Figure 23: Network diagram: Requisite supervisory behaviour themes

The top line in the diagram illustrates the five (5) supervisory behaviour themes, believed to be supportive of HERO as perceived by the research participants. These themes consist of identified behaviours that would best support the HERO team in the workplace.

1. The supervisory characteristics as theme refer to three specific behaviour orientations, namely being optimistic, trustworthy and approachable

As stated by Seligman (2010), positive interventions are an approach to enable individuals (and teams) and institutions to flourish, through the optimal expression of personal resources within a positive-oriented workplace. Luthans *et al.* (2015:33) confirm that supervisors who are both high in PsyCap and authenticity, support and develop their followers, and leverage the personal resources of their teams. Authentic leaders are viewed as being confident, hopeful, **optimistic**, resilient, transparent, mora/ethical, future-oriented and associate building.

The level of **trust** between supervisors and a team, the quality of relationships and the lack of psychological needs satisfaction all impact on members' intention to leave an institution, as found in the South African agricultural sector (Rothmann, Diedericks & Swart, 2013:11).

2. Providing rewards and motivation as theme; refer to motivation, giving social reward and recognition

Rewards for the sake of positive emotions do not have meaning. Rewards based on results, mastery and achievement are aligned to a positive approach to support teams. The experience of positive emotions, however, should not cause people to neglect the other portions of life, as the PERMA model encourages a balanced approach. "Experiencing a pleasant life in the absence of engagement (where you experience flow), in the absence of positive relationships (where positive experiences and meaningfulness are experienced), in the absence of meaning (serving something greater than the self) and in the absence of accomplishment (achievement and mastery), cause only enjoyment in the here and now without an impact on flourishing" (Seligman, 2011:60).

3. Support theme; refer to daily supervision support

Helping the teams to win on a daily basis builds the pathway of success. The mining cycle needs to occur on a daily basis, and the absence of a daily systematic supervision routine will impact on the effectiveness of the completion of the daily mining cycle.

4. Communication refers to providing information

Providing information would satisfy the needs of team members to be informed and have autonomy. Basic needs satisfaction theory is essential, as highlighted by Van den Broeck, Vansteenkiste, De Witte, Soenens and Lens (2010:981), stating that “the construct of basic need satisfaction may be useful to gain insight in employees functioning and to examine the motivational potential of organisational factors.”

5. Resources relate to providing workplace equipment, planning and knowledge and skills

The support of teams is of vital importance to provide the strategic resources towards performance; if the supervisor does not resolve the HERO team’s frustrations, the team might experience learned helplessness, as identified by Seligman (2001).

4.2.1 Requisite supervisory behaviours as institutional practice

The explanation of resources is used to conclude how the requisite supervisory behaviours can be viewed as an institutional practice to support and contribute to sustained levels, as proposed by Luthans *et al.* (2004):

Physical resources commonly deal with the tangibles (what you have) in the form of finance and tangible assets.

The intangible resources are in the form of human capital (what you know), including experience, education, knowledge, skills, ideas;

Social capital (whom you know), including networks, relationships, and friends;

Positive psychological capital (who you are), having hope, efficacy/confidence, resilience and optimism”

The support required from teams, as perceived by the supervisors, reflects on the role of supervisors from a resource-based view, be it tangible or intangible resources. Psychological capital or PsyCap is concerned with ‘who you are’, but, more importantly, and from a developmental perspective, ‘whom you are becoming’. PsyCap describes the positive levels as “a state of development that is characterised by hope, efficacy, resilience, and optimism” (Luthans, Youssef, & Avolio, 2007b:20). Requisite supervisory behaviours make HERO possible, as described in paragraph 4.2.2 by means of the requisite supervisory support model.

Conclusion: Supervisors assist in creating a pathway for teams to have access to the strategic resources required for safe production performance, relating to the resource-based view as discussed in paragraph 2.4.2.1 in this study.

4.2.2 HERO mining teams: requisite supervisory support model

The three proposed institutional practices as they relate to the development of HERO mining teams are placed at the bottom of the table. Highlighting the requisite supervisory behaviours as institutional practice to support HERO in teams is indicated within each area of either economic capital or physical resources, human capital, social capital and psychological capital. The placement of these supportive supervisory behaviours indicates the importance of adopting a resource-based view for supervisory support.

During the analysis of the supervisory themes, the support requirements from team performance, the dependency on the supervisory supportive behaviours were observable. A mining team can within the work environment create a pathway for the team, engage in goals setting, and show resilience and optimism. The dependency on the supervisory levels to provide the means to do the job provides a minable stope or workplace, having access to equipment, being allowed to attend the learning programme was evident. The co-dependency of the supervisor and the team was evident.

The close working relationship between supervisors and team should also impact on the levels of PsyCap between supervisors and teams. Palo (2015) identified the positive impact of supportive supervisory behaviour (competence, relatedness and autonomy) on levels of psychological capital, and the positive levels are indispensable for job performance.

Table 23: Requisite supervisory behaviours for HERO mining teams

STRATEGIC RESOURCES			
TANGIBLE	INTANGIBLE		
<i>Economic capital</i>	<i>Human capital</i>	<i>Social capital</i>	<i>Psychological capital (PsyCap)</i>
WHAT YOU HAVE	WHAT YOU KNOW	WHOM YOU KNOW	WHO YOU ARE
Your finance and assets	Your experience, education, knowledge, skills and ideas	Your networks, relationships and friends	Positive levels of Hope, Efficacy, Resilience, and Optimism
5. RESOURCES Workplace equipment Planning	5. RESOURCES Knowledge and skills	2. REWARDS & MOTIVATION Motivation, Social Reward, Recognition 4. COMMUNICATION Providing information	1. SUPERVISORY CHARACTERISTICS Optimistic, Trustworthy, Approachable 2. SUPERVISORY SUPPORT Daily work activities
INSTITUTIONAL PRACTICES			
STRATEGIC ORIENTATION WORKPLACE LEARNING INTERVENTIONS SUPERVISORY SUPPORT			

(Adapted from Luthans *et al.* 2004)

The supervisor has a definite role in providing the strategic resources for the HERO team to be able to unlock the value.

4.2.3 Economic capital provision

In the mining teams working environment, the team is not able to do work in their underground minable stope (working area) in the absence of the supervisor providing the workplace and planning for the area. The team also requires the supervisor to provide the equipment and financial means to produce. The planning of where to mine platinum, how to do this, who should be working where, are all critical supervisory activities in support of the mining teams functioning.

Moving towards modernisation in mining, the supervisory role to provide a different type of workplace and different resources or modernised equipment will even require a greater role in this supervisory support function.

Identified areas of impact: Table 22 in Chapter 3

Providing workplace equipment (9) on optimism (6) hope (1) and efficacy (2);

Planning (5) on hope (4) and efficacy (1)

4.2.4 Human capital provision

The supervisor is exposed to different skills and also has different sets of capabilities. The traditional role of supervisor is explained to be consisting of plan, organise, lead and control (POLC); it is in fulfilling this role where the supervisor provides his/her capability to the benefit of the team. Providing the HERO mining teams with competence in the supervisory levels builds their confidence. Additional work will be the role the supervisor fulfils in ensuring selection and training of team members and daily people-related activities.

Identified areas of impact: Table 22 in Chapter 3

Providing knowledge and skills (5) on hope (3), efficacy (1) and optimism (1)

4.2.5 Social capital provision

The underground mining teams mostly interact with other teams and their direct supervisor, the influence on daily motivational levels, providing social reward and recognition to facilitate the investment and development of social capital. Providing information with regard to the plan provides skills that culminate into a deposit into the social capital of the team.

Identified areas of impact: Table 22 in Chapter 3

Motivation (13) on hope (2), efficacy (8) and optimism (3);

Social reward (9) on hope (1), efficacy (4) and optimism (4);

Recognition (11) on hope (2), efficacy (7) and optimism (2);

Informing (11) on hope (7) and optimism (4)

4.2.6 Psychological capital support

Psychological capital or PsyCap is concerned with 'who you are', but, more importantly, and from a developmental perspective, 'whom you are becoming'. PsyCap describes the positive levels as "a state of development that is characterised by hope, efficacy, resilience, and optimism" (Luthans, Youssef & Avolio, 2007b:20).

Identified areas of impact: Table 22 in Chapter 3

Supervisory support (8) on resilience (5) and optimism (3)

Being optimistic (9) impacts on hope (4) and optimism (4),

Being trustworthy (9) on hope (6) and efficacy (3);

Being approachable (6) impacting on hope (6)

The last four (4) supportive behaviours could have been clustered towards the social capital and compliance under knowledge and skills. The lower frequency of these responses does not disregard the importance of these behaviours.

Teamwork	Building relationships (4) on hope (4)
Collaborate	Planning together (5) impact on hope (4) and efficacy (1)
Leadership	Building confidence (5) on hope (2) and optimism (3)
Compliance	Compliance (3) on resilience (3)

Developing team PsyCap through a HERO workplace learning intervention integrated with supportive supervisory behaviours is seen as mechanisms towards improving HERO mining team performance. Supportive supervisory behaviours might be an antecedent for team PsyCap. Rebelo, *et al.* (2018:373) noted that transformational leadership could be seen as an antecedent of team PsyCap, which enhances team learning behaviours, which, in turn, are related to team performance. The transformational leadership style was found to indirectly contribute to team performance via PsyCap and learning behaviours.

4.3 ACHIEVEMENT OF STUDY OBJECTIVES

In realising the primary and secondary objectives, defined in section 1.3 in Chapter 1, the success of this research journey is confirmed.

Primary and secondary objectives

The primary research of this study was to explore the workplace learning intervention implemented to develop and cultivate HERO mining teams and identify the supervisory behaviours required to sustain the levels of hope, efficacy, resilience and optimism. To achieve the success of the primary objective, the following secondary objectives had to be achieved, namely:

- To clarify how the HERO construct, the theoretical foundation and developmental interventions are conceptualised in literature;
- To highlight the importance of a positive institutional practice for HERO support;
- To learn from the workplace learning intervention implemented for HERO teams; and
- To identify the supervisory behaviours required to support and sustain the intervention;

The study realised the first and second secondary objectives, **to clarify how the HERO construct, the theoretical foundation and developmental interventions are conceptualised in literature;** and **to highlight the importance of a positive institutional practice for HERO support,** by means of a literature study by conducting a literature review on HERO (psychological capital), the theoretical foundations as provided through positive psychology and positive organisation behaviour, how HERO is developed and the importance of business in mining. The review then reflects on positive institutional practices, including strategic orientation, workplace learning and supervisory support.

A qualitative empirical study was conducted as discussed in Chapter 3 and concluded in Chapter 4 to support and realise these two secondary objectives, namely, **to learn from the workplace learning intervention implemented for HERO teams** and **to identify the supervisory behaviours required to support and sustain the intervention.**

The finalisation of the literature review and the empirical research supported the researcher in obtaining the primary objective, i.e. to explore the workplace learning intervention implemented to develop and cultivate HERO mining teams and identify the supervisory behaviours required to sustain the levels of hope, efficacy, resilience and optimism.

4.4 RECOMMENDATIONS AND FUTURE RESEARCH

The recommendations made are based on a combination of the theory and what should be beneficial to unlock the HERO mining team's potential as a workplace intervention: Avey (2014:141) reflects on the characteristics of PsyCap, as summarised in bold below; the results will be discussed after each characteristic:

1. PsyCap is a multidimensional construct: PsyCap is not a single dimension alone, but rather the shared variance of the four dimensions of hope, efficacy, optimism and resilience are members of a broader construct called PsyCap

Recommendation: The integrated learning framework with work-based learning will be the recommended approach for HERO mining teams, where activity-based learning is directed to unlock the HERO construct rather than only one aspect. Future research in how other learning programmes in SAMI are approached will identify synergies between HERO mining teams and skills training.

2. PsyCap is domain specific, usually operationalised at the work domain. This characteristic implies an individual may be high in work PsyCap but low in sport or family PsyCap

Recommendation: The work-based learning approach followed by HERO mining teams does assist in the development of HERO levels in dealing with the specific challenges of mining production teams. The team development journey should assist in the SAMI as a domain and is therefore recommended for the industry as an approach to people development. Future research will be required to determine how the work-domain is approached in SAMI to develop PsyCap.

3. PsyCap is seen to be more stable than emotions, but is more open to change than, for example, personality. Open for developmental interventions, but the sustaining nature of this developmental change has yet to be tested over time

Recommendation: Because HERO can be developed, it provides the leverage for people's capability development and requires investments into this area of leverage. Reference to Figure 12: An evidence-based continuum of PsyCap, change and development (Luthans *et al.* 2015:25). Future research is needed to identify the focus of various interventions and at which mining operations the people capability resources are being leveraged with success.

4. PsyCap is the self-opinion operationalisation; the primary operationalisation of PsyCap has been from the self, an individual's state of development

Recommendation: The power of beliefs is well recognised; if a team believes that they are a HERO team and the supervisor provides the experience to support this mind-set, then they are HEROs. This, however, requires the investment of providing the most needed means for the team, and then also keeping the team accountable for the means provided. Future research on how HERO mining teams experience their level of supervisory support would close the gap in perception.

5. PsyCap is measurable: the primary instrument for PsyCap is the PCQ-24 (Luthans *et al.* 2007), which contains 24 items (six items for each of the four components) that were adapted from existing measures of each individual construct and includes three reverse-coded items

Recommendation: The HERO mining teams did not use the PCQ during implementation, mostly because of the target population's diverse language difference and constraint around practicality. This can be explored in the form of future team PsyCap measurements. Future research should measure team PsyCap as part of the HERO intervention; this would make a great contribution.

6. PsyCap is predictive of performance

Recommendation: The business case for HERO mining teams should be initiated; as this was not the mandate, it should provide positive evidence of the return of investment. The feedback and observable results are noted, but not documented. Future research to integrate the HERO journey with a baseline in safety and performance will confirm/dispute the claims made.

7. PsyCap level of analysis is confirmed on the individual level and emerging as a team-level construct. Clapp-Smith *et al.* (2009) considered the role of team-level PsyCap using a referent shift model

Recommendation: The nature of mining teams provides the research opportunity to provide investment in the emerging field of team PsyCap and should be done within the context of HERO mining teams implementation. Future research on how to institutionalise team PsyCap in SAMI will unleash the possible latent capability of mining teams and supervisors.

4.5 CHAPTER SUMMARY

Chapter 4 reflected on the HERO development process, the results and learnings within each phase in the HERO teams development model. The facilitator learnings, as experienced, were shared and observations were made by the researcher.

The chapter secondly reflected on the supportive supervisory behaviours as identified and by means of a network map, and illustrated the integrative nature of supportive behaviours for HERO teams. The behaviours, which are seen as requisite, are described as an institutional practice, which relates the supervisory to the importance of the resource-based view.

Chapter 4 provides proof of the achievement of the study objectives and makes recommendations pertaining to the advancement of HERO mining teams and requisite supervisory development, concluding with recommended future research.

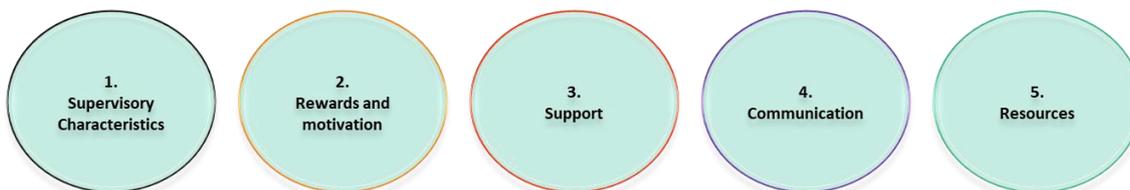
4.6 CONCLUSION

HERO mining teams is a workplace learning intervention, designed and implemented to develop and cultivate positive levels of hope, efficacy, resilience and optimism. The foundation of positive interventions was laid by Seligman (2010) and, within the work context, guided by Luthans *et al.* (2007b), explaining the psychological capital being concerned with 'who you are', but from a developmental perspective 'who you are becoming'. PsyCap is a state of development that is characterised by hope, efficacy, resilience and optimism. Because of the state-like characteristics of PsyCap, it is malleable and open to developmental inputs.

PsyCap is of importance as a strategic resource, as people can unlock economic capital, human capital and social capital. The HERO mining teams as a positive intervention invests in mining teams

at a platinum mine as part of the strategic intent to build and sustain positive levels of hope, efficacy, resilience and optimism, as a capability to be able to function successfully within the daily workplace realities of underground mining. The importance of positive and resourceful people within the South African mining industry (SAMI) is evident. The mining industry is on a quest to save more than 200 000 jobs, create more jobs and modernise the industry towards safe production practices. This is done within the context of the 4th industrial revolution; the need to modernise the institutional practices is paramount.

Through exploring the HERO mining team intervention, presented at Bafokeng Rasimone platinum mine in Rustenburg, the research identified positive learnings for workplace learning interventions. Workplace learning as a positive institutional practice, combined with a strategic orientation and supervisor support, is believed to support and sustain interventions of this nature. The learning approach taken is work and practice-based and supports mining teams to work towards the goal and reframe the way they view the daily 'challenges'. Supportive supervisory behaviours, seen as requisite to support the HERO mining teams, requires supervisors to adopt a resource-based view. These requisite behaviours include the daily tasks to unlock the tangible resources, the human capital, social capital and cultivate the psychological capital. The guidelines of what is required are documented under the five (5) most important supervisory behaviours, seen as requisite in the mining domain:



Interventions, supported by a managerial intent, do provide the developmental inputs towards developmental impacts towards sustainable performance. Most important is the capability approach that guides the intervention to see people as the end, and not as a means to an end.

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6 LIST OF ADDENDA

A: Data collection instrument

B: Results: Global supervisory behaviours

ADDENDUM A

- **Data collection instrument**

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FACILITATOR FOCUS GROUP: SESSION 4

Dear participant

Please review the seven phases of the HERO mining teams process map and respond in your own words to the following question: What have you learned about the implementation of HERO within each phase. The comments of the 4 participants will be combined, and checked with you for clarity.

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NO	FOCUS	WHAT HAVE YOU LEARNED ABOUT THE IMPLEMENTATION OF HERO IN EACH PHASE?
1	Initiate and Mandate	
2	Content Design	
3	Stakeholder Engagement	
4	Scheduling of Teams	
5	Facilitation Process	
6	Follow-Up Process	
7	Reporting and Feedback	

ADDENDUM B

- Global Supportive Supervisory Behaviours -

Key for abbreviations used in frequency Colum

- H-Hope
- E-Efficacy
- R-Resilience
- O-Optimism
- G-Generic themes

Main themes for global themes	Sub-themes	Frequency	Example
Communication (22)	Leadership Communication	(R-3)	Constantly The current is more instructive and creates more an environment where we have 2-way flow of information. Site-specific solutions Due to time constraint communication is instructional- move to be more participatory Lead, direct, and maintain a calm, positive approach to challenges and communicate the plan and the desired outcome clearly as an achievable reality.
	Feedback	(R-1) (H-1) (E-2)	Feedback on the success and desired and development areas of each person. Performance review and feedback sessions Need to give feedback on the team mastering special tasks. Constant progress programme Feedback and directives to the crews
	Informing	(H-7) (O-4)	Inform them to planning, goals requirements (Expectations) Explaining the objective in detail Explain the current situation and how to improve it

			<p>Staying up to date with the industry (supervisors)</p> <p>Positive communication and updates.</p> <p>Create clear direction and goals that are achievable, common goals, medium, short- and long-term goals.</p> <p>Eliminate boundaries by making use of open communication</p> <p>On a daily basis</p> <p>Communicates the current status and point out possible challenges or trends that could be developing, as well as the corrective or preventive measures that will prevent unwanted delays or performance drops.</p> <p>To supply as much as possible information</p> <p>Interacting</p>
	Cultural Sensitivity	(H-1)	<p>Creating an environment conducive to teamwork and high performance</p> <p>Working in a multi-cultural environment and need to understand each other and the way we communicate with each other. The way we behave towards each other. Ladies are also entering the mining world, and this change the scenario.</p>
	Business Objectives	(H-1)	<p>The supervisors need to communicate the business objectives and understand the business.</p> <p>The supervisor knows the targets but does not discuss this with the team and together plan how the site-specific solutions can be achieved.</p>
	Positive communication	(O-2)	<p>Vision, mission, how to move forward when encountering a problem, show the team the opportunities. This is specific for the shift boss and upper levels</p>
Provide Support (26)	Supervisory support	(R-5) (O-3)	<p>Provide one on one support</p> <p>Help them with physical tasks-When you are underground helping a miner out that you see he/she is struggling. It creates the sense that I did something for or with my supervisor/shift boss.</p>

			<p>Providing assistance in understanding the reason for failure. Provide tools for improvement.</p> <p>Stability of the team</p> <p>Directive leadership during challenges.</p> <p>One on one support</p> <p>To back up your employees</p>
	Stand-ins	(R-2)	If someone is absent, then someone can stand in for that individual and fulfil his/her work tasks.
	Supervisor and colleague relationship	(R-4)	<p>Show humanity (empathy) and show interest in the teams.</p> <p>Don't lie to them</p> <p>Fairness and caring</p>
	Material	(H-4)	<p>It is imperative that the teams have the means (skills, willingness, material/tools and equipment) needed to execute their daily working cycle in a safe and productive way.</p> <p>Supervisors are the link between the team and the management system.</p> <p>Teams cannot really bypass the supervisor this is not viable.</p> <p>The production plan allows a 1/3 of the budget for material to be available at the beginning of the mining cycle. Accurate production bookings influence the material supply.</p>
	Performance	(O-2)	<p>Show them their performance - past, present and possible</p> <p>Create a trust environment and solve challenges that will slow down the production safe process.</p> <p>Regular reviews which serve to identify and solve obstacles to high-performance levels.</p> <p>Supervision of in stope practice and accuracy of blasting practice for maximum returns for production effort.</p> <p>Manages and optimizes acceptable strike rates and advance per blast figures.</p> <p>Ensures that cleaning systems and practices are in place for the removal of broken ore.</p>

	Spiritual	(H-2)	Take an interest in individual team members, supporting them in their personal life challenges, goals and aspirations. This requires a relationship, knowing each other, spending time with each other.
	Otherwise	(H-2)	The Shift Supervisor needs to exhibit good leadership and people skills
	Support services	(E-1)	Supervisor should eliminate inadequate material and equipment. Liaise with workshops to ensure quality of the maintenance of machinery. Core mining tasks and visions are supported.
	Enabling	(E-1)	Maximize available compressed air pressures and flow Give ownership of equipment or environment
Compliance (3)	Discipline	(R-3)	Do not walk past or accept/condone sub-standard performance, acts, attitudes or conditions. Assist the crews in resolving their challenges rather than ignoring and hoping they will resolve themselves, show personal discipline.
Planning (6)	Reflection	(R-1)	Learn out of their previous mistakes and other lessons learned New ways Proactive
	Seek alternatives	(R-2)	Review the plan and explain what alternative action can be taken. And in difficult situations what to do next after the alternative
	Skills and knowledge	(H-3)	All targets are communicated to the stakeholders and are clearly defined Listening skills The Supervisor ensures that all team members have the required skill-sets relevant to their contribution to the team and that they have been appointed for the relevant tasks assigned to them. The team require trained eyes, observation skills to be able to perform in the absence of the supervisor.
	Dependable	(R-1)	He can be counted on to come through and to provide a way forward in tough situations.

Supervisory characteristics (56)			<p>He is consistent in his interactions with his people.</p> <p>He will make the right decisions whenever this is needful if you say you will get material in two days, the team expect that from you.</p>
	Going the extra mile	(R-1)	<p>Go the extra mile in attending challenges of employees It is the difference between doing your job</p> <p>His people know that he will always be with them in challenging times be there for the team.</p>
	Solution-driven	(H-1)	<p>The supervisor should not always refer problems to the senior levels but should be able to solve problems at their own levels.</p> <p>Do not expect the team to find Solutions individually, but rather as a team.</p>
	Accountability	(E-3) (R1)	<p>Do not blame others but solve problems</p> <p>Accountability per level</p> <p>Supervisor at the right level</p> <p>Issues must be addressed and cleared out.</p> <p>Miner responsibilities (check quality and control)</p> <p>Ensuring legal requirements</p> <p>Each team member is accountable for his own area (and level) of expertise and expected to contribute to the success of the team accordingly</p> <p>Does not blame others but solves problems.</p> <p>He can be relied on to produce high performance teams and will achieve the set goals.</p> <p>Know that if they did something wrong, there would be consequences.</p>
	Honesty	(H-2) (E-1)	<p>Do not deal in false promises or 'fake news'</p> <p>Dishonest bookings of blasts etc., puts unnecessary pressure on the teams to catch up to false expectations and projected performance figures.</p> <p>No Misinformation.</p>

		No false promises.
Trustworthy	(H-6) (E-3)	Trust cannot be demanded; we must prove ourselves worthy of trust. The supervisor should not change the plan the whole time. When they arrive at the workplace later than the team and change the whole morning's work. Give the team your full support and enable them to achieve and beat their targets. If we serve them well our results will improve together with their quality of life, which will serve as additional motivation.
Transparency (approachable)	(H-6)	The lack of transparency leads to wrong perceptions, and money and effort is then spent fixing what does not need fixing – and the needed fix is hidden leading to a recurrence of the challenge because the real challenges are not recognised and overcome The supervisor should be connected to there is a good relationship you will be able to withdraw from them.
Motivational	(H-3)	The supervisors need to create and maintain high levels of energy and hope through positive interaction with the team and communication current performance status. Maintain momentum through establishing a positive plan of action where needed. (Cheering them on) If we involve our people throughout the processes we establish, they will be envisioned and positive in their approach to their work. Remain positive and calm during challenging times and develop a plan of action to enable success.
Optimistic	(H-4) (O-4)	Explain the plan, but the approach must be of a positive nature Positive attitude and relationship To see issues/problems as challenges Not only focusing on the negative aspects or factors. Create a culture of possibility rather than a fatalistic (victim of circumstance) approach
Considerate	(H-1)	Respect, care, and recognition of individual as well as team actions.

Assertive	(O-3)	<p>Example: No compromise on issues of safety</p> <p>He knows what he expects and will communicate this with the team, leaving no room for doubt or misunderstanding.</p>
Ask for help	(O-1)	<p>He will benchmark with his peers or with his senior management team in order to solve the internal challenges in his section.</p> <p>It is better to seek good advice before making a poor decision that could lead to personal loss or injury</p>
Proud	(O-1)	To be proud of the employees
Create a comfortable space	(O-1)	The team must feel comfortable within the space that is created through the supervisor.
Reasonable	(E-1)	<p>Be a good listener</p> <p>If targets are unreasonable, the team will give up without even trying to get there.</p>
Involved	(E-1)	<p>Engage with the team and participate in team projects</p> <p>Be involved in the team's success and take an interest in their situation. Recognize their need of the moment and remove any challenges they may be facing in their workplace. For you to be successful, your teams must be successful.</p>
Set an example	(E-1)	<p>Always be respectful and guard the dignity of the individual team members, even when making a tough decision.</p> <p>Be a positive example and earn the respect of your team</p>
Open door policy	(E-2)	<p>Others must not fear you</p> <p>You must always be available, not too busy, and willing to set aside what you are focused on during the time you interact with your people.</p> <p>Give them your full attention when required.</p>

			They must know that they can speak to you about anything
	Respect	(E-1)	The level of command Show them you know your job and trust them to work with you
	Identify capabilities	(E-1)	Identify and recognize employees' capabilities. Mark suitable individuals for future development.
	Fairness	(H-2)	This involves recognition of effort and correction of the lack thereof in a fair and individual manner, taking all true contributing factors into consideration The same approach and criteria should apply equally to all team members
	Responsibility	(O-1)	Supervisors should not shy away from their challenges. They take responsibility for the performance of their teams without exception.
	Sales qualities	(O-1)	Sales qualities to sell the plan to the team.
	Servant-leader	(H-1)	Do not dismiss challenges presented to you. Be attentive when dealing with your team and assist in a confidence boosting manner wherever this is realistically feasible Serve the success of the team, as this is what will make you successful
	Credibility	(H-1)	Go the extra mile in attending challenges of employees
Provide Resources (21)	Workplace Equipment	(H-1) (E-2) (O-6)	Give them the means to do the job. He is always busy developing new areas to work in. These areas are equipped ahead of time, and in an emergency, they are immediately available and production continuity is then a reality. The team needs the required workplace resources and services to be able to mine, material. Need the materials/equipment to be able to execute the work. In a result driven environment, a lack of material will lead to shortcuts which in turn could lead to a compromise of safety issues. Make optimal use of the systems to enable timeous acquisition of needed resources.
	Immediate Mineable Stope	(H-1)	The employees have the need to have this available to be able to mine. This requires good vision and good planning skills.

	Stopes must be available		
	Effective change management	(H-3)	<p>Planning will make changes of working areas take place efficiently and effectively without major disruptions</p> <p>Alternative stope faces need to be available (reef development) and equipped to avoid delays when a crew is moved to a new area</p>
	Good planning	(H-1)	This will avoid congestion and overloading of existing infrastructure, making targets realistic and achievable.
	Knowledge and Skills	(H-3) (E-1) (O-1)	<p>Communication is one of the anchors of good supervisory practice. You cannot listen. Listening skills</p> <p>Develop the skills within the team to be able to cope with any eventuality or emergency</p> <p>Competency Training communicate what you do not know.</p>
	Training and development	(H-2)	<p>The supervisor needs to train and develop the team to achieve set goals</p> <p>Both personal development and career development are priority focus areas</p>
Collaborate (7)	Goal setting	(H-1)	<p>Daily, weekly, and monthly targets are set and reviewed, resulting in a corrective plan of action where needed</p> <p>Day, week, month</p> <p>Behavioural, Productivity, Safety and Financial goals agreed to by all team members</p> <p>Goals should be set out clearly and made known to all team members</p>
	Planning	(H-4) (E-1)	<p>To sit and do the planning with the team for the month</p> <p>Interact with the crews, affording them the opportunity to contribute and assist the crews with regards to their needs.</p> <p>Supervisors must involve the crews for the planning</p>

	Vision and Mission	(H-1)	Once the specific team vision and mission has been interactively established, all parties must adopt, drive and implement them. Both parties must believe and drive the mission and vision.
Rewards and Motivation (38)	Social Reward	(H-1) (E-4) (O-4)	When targets are reached braai`s are organised and some form of reward and/or recognition is a way of life For example, the braai that is organized if they reach their targets. Reward positive work Regularly recognizes and rewards team members for good work, not only through the braais that are held when they reach their targets, but also creatively through verbal and other means.
	Remuneration and bonus	(H-2)	Remuneration is negotiated annually, and bonuses are subject to in-house agreements and results driven. The supervisor needs to ensure that the teams have all the necessary ingredients to enable them to successfully meet the bonus criteria Payment is bonus driven, but without available ground to mine, this system fails. The supervisors do not get any extra bonus when they exceed their targets.
	Recognition	(H-2) (E-7) (O-2)	Ensure you make them feel wanted Give credit when they do something correctly.
	Motivation	(H-2) (E-8) (O-3)	Remain positive during challenging times. Help them achieve success by showing them it's perfect Show the team on the plans that it is possible (written) Build confidence of individuals by allowing them space to be their own person within their skill set. Encourage and give positive reinforcement Coach and motivate crews

			Encourage crews to believe in themselves Re-enforce the individual's worth to the team. To emphasize their importance as part of the team.
	Accountability	(O-1)	Know that if they did something wrong, there would be consequences.
	Status Incentive	(E-1)	Promotions or individual developmental projects when there is not a promotional position available
	Financial Incentive	(E-1)	Bonus system but it should be well understood, and feedback given.
Team Enable (15)	Team competition	(H-2)	Create a positive flow of inter-team competition with an integrated reward or recognition system.
	Limit unnecessary team movements	(H-1)	Try to maintain the teams as they were, in the beginning, try not to add and remove employees to the team.
	Self-management	(H-1)	Try to maintain the teams as they were, in the beginning, try not to add and remove employees to the team. Teams should all, individually and as a team, be empowered and encouraged (authorized) to make good decisions at their own level of operation/understanding and competence Empowers crew to make good decisions at the appropriate levels and to take ownership of their performance as a team, solving the problems they encounter along the way
	Freedom	(H-1)	They have control over their own working tasks by allowing them to be the owners. They decide on how things are done daily
	Team role importance	(E-1)	If a team member is absent from work, then it is explained to them the pressure it puts on the other members of his crew.

	Team independence	(E-1)	Give them space to do problem-solving by themselves
	Conflict Management	(O-1)	Sort out problems within the team Encourage the team to solve internal conflict in a positive manner
	Compliant	(O-1)	They revert to their old ways if you do not drive compliant behaviour
	Team confidence and team cohesion	(E-1)	By teams & sub-ordinates excelling, self-confidence will improve, by knowing your standards and improving skills
	Building relationships	(H-4)	Promote the gang and show you care. Invest time in knowing the crew members beyond supervisor-operator. Create relationships.
	Problem-solving	(O-1)	Leave space for their own problem solving
Leadership (7)	Lead by example	(H-2)	Respect the values of the team and treat all members with respect and dignity
	Build self-confidence	(H-2) (O-3)	Direct and guide people in a way that engages, directs and establishes them as the solution to the challenge rather than taking the task out of their hands and doing it for them. Be self-confident first to be able to impart any faith in others
Roles and Responsibility (10)	Building relationships	(E-1) (O-5)	The supervisor needs to spend more time (also facetime) with the crew. To be part of the people constantly. Building good relationships with the team. Understanding the people, you work with.
	Accountability	(E-3)	Issues must be addressed and cleared out. Miner responsibilities (check quality and control) Ensuring legal requirements

	On the job coaching	(E-1)	Consistent coaching aimed at continuous improvement
Targets/goals (1)	Reasonable	(E-1)	Goals set that can be achieved through effort and teamwork
Systematic Supervision (3)	Sustainable	(G-1)	Sets high standards of safety and good housekeeping and holds miners and team members accountable
	Consistency	(G-1)	The same high standards are applied consistently to all involved
	Scheduling	(G-1)	Always has a plan of action and a schedule to maintain high standards of safety and production
External Factors -No control (1)	Geology	(G-1)	The ground is not easily accessible, and the slopes cave in a lot of the time.

THE END

“YOU MAKE A PATH BY WALKING IT”