THE ROLE OF THE SCHOOL PRINCIPAL IN FOSTERING THE CREATIVITY AND INNOVATIVENESS OF EDUCATORS

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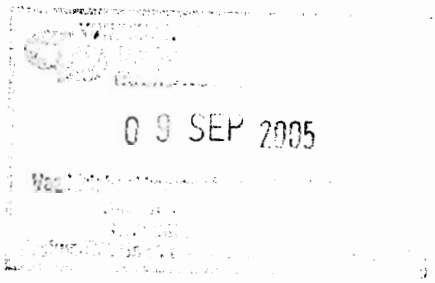

DEDICATION

I hereby dedicate this work to my late parents , my father, Richard Salathiel Papa Khumalo and my mother, Seipati Rose Khumalo. "My parents, even though you left us, I thank you for the education legacy that you left for us, your four children. May your souls rest in peace."

To my son, Khumalo Ramatomane Samuel. Thank you for your bravery during our times of turmoil. Your outstanding support during the ordeals we have gone through. You are a real man! May God be with you in this life's testing moments and help you to accomplish all your ambitions. Remember that "Education is the key to success". Nobody can take it away from you, maintain it!" "God bless."

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ABSTRACT

Key words: creativity, innovativeness/innovation, professional development and staff development programmes, organisational climate, intrinsic motivation.

The aim of this research was to determine the role of the school principal in fostering the creativity and innovativeness of educators. This aim was explored by:

- determining the nature of creativity and innovativeness;
- determining the role of the principal in fostering the creativity and innovativeness of educators at schools; and
- investigating how the creativity and innovativeness of educators is currently fostered at schools.

The literature survey on the nature of creativity and innovativeness revealed creativity as the generation of novel and useful ideas and the ability to combine them in a unique way, while innovativeness is the ability to be innovative, i.e. to implement creative outcomes to benefit an organisation or the practical application of ideas towards the organisation's objectives.

Creativity and innovativeness can thus be fostered by creating a stimulating work environment that advocates enriched jobs and supporting management practices, an organisational culture that supports innovativeness and an environment that provides adequate resources. Therefore, creativity and innovativeness are a function of an organisational climate that promotes nine dimensions, namely, challenge and involvement, freedom, trust and openness, idea time, idea support, debate, risk-taking, conflict management and humour and playfulness.

The empirical survey found that school-organisational climates generally foster educators' creativity and innovativeness in terms of the dimensions thereof. However, it was found that some dimensions enjoy more prevalence at schools than others. It was also found that some aspects of these dimensions were inconsistent with the general finding that schools portray

climates conducive to educators' creativity and innovativeness. For instance, the involvement of educators in vision review as a way of setting standards or as a pace-setter for performance, and educators having to seek permission before implementing their creative ideas were seen as not fostering creativity and innovativeness at schools. Although there were statistical differences in responses between principals and educators on all creativity and innovativeness dimensions, it was found that these were of no practical significance and thus could be attributed to chance or coincidence.

This study therefore recommends that principals should adopt a holistic approach to school organisational creativity and innovativeness. In this way, all the dimensions will be fostered, thus creating school organisational climates that engender the creativity and innovativeness of all educators and focussing on all aspects of their work. Principals should also receive capacity-building exercises, initiated both at school and at departmental levels. These exercises should focus on staff development that relates creativity and innovativeness to the achievement of teaching and learning outcomes.

ABSTRAK

Key words: kreatiwiteit, innoverendheid, professioneelontwikkeling en personeelontwikkelingsprograme, organisasieklimaat, intrinsieke motiveering.

Die doelwit van hierdie navorsing was die bepaling van die skoolhoof se rol in die bevordering van die kreatiwiteit en innoverendheid van opvoerders. Hierdie doelwit is nagevors deur:

- die aard van kreatiwiteit in innoverendheid te bepaal;
- die rol van die skoolhoof in die bevordering van die kreatiwiteit en innoverendheid van opvoerders te bepaal; en
- om the bepaal hoe die kreatiwiteit en innoverendheid van opvorders tans op skole bevorder word.

Die literatuur-oorsig oor die aard van kreatiwiteit en innoverendheid het aan die lig gebring dat kreatiwiteit neerkom op die voortbring van ongewone en bruikbare idees en die vermoë om hulle op 'n unieke wyse te kombineer, terwyl innoverendheid die vermoë is om innoverend te wees, d.w.s. om kreatiewe uitkomste te implementeer om 'n organisasie te bevoordeel of die praktiese toepassing van idees om die organisasie se doelwitte te bereik.

Kreatiewiteit en innoverendheid kan dus bevorder word deur 'n stimulerende werksomgewing te skep wat verrykte werksgeleenthede en ondersteunde bestuurspraktyke voorstaan, 'n organisatoriese kultuur wat innoverendheid ondersteun en 'n omgewing wat doelmatige bronne voorsien. Dus is kreatiwiteit en innoverendheid funksies van 'n organisatoriese klimaat wat nege dimensies bevorder, naamlik, uitdaging en betrokkenheid, vryheid, vertroue en openheid, ideetyd, idée-ondersteuning, debat, waagmoed, konflikbestuur en humor en vrolikheid.

Die empiriese oorsig het bevind dat 'n skoolorganisatoriese klimaat oor die algemeen opvoerders se kreatiwiteit en innoverendheid bevorder ooreenkomstig hul dimensies. Daar is egter bevind dat sommige dimensies meer algemeen op skole voorkom as ander. Daar is ook bevind dat sommige aspekte van hierdie dimensies teenstrydig was met die algemene bevinding

dat skole `n klimaat uitbeeld wat bevordelik is vir opvoerders se kreatiwiteit en innoverendheid, bv. die betrokkenheid van opvoerders in die hersiening van 'n skool se toekomsblik as 'n manier waarop standaarde of 'n pasaangeër vir prestasie of optrede vasgelê kan word en opvoerders wat verlof moet kry om hul kreatiewe idees te implementer, is vertolk as nie bevorderlik vir kreatiwiteit en innoverendheid op skool nie.

Hoewel daar statistiese verskille tussen skoolhoofde en opvoerders se antwoorde ten opsigte van alle dimensies van kreatiwiteit en innoverendheid was, is daar bevind dat dit van geen praktiese betekenis is nie en gevolglik toegeskryf kan word aan waarskynlikheid of toevalligheid.

Hierdie studie bevel dus aan dat skoolhoofde 'n holistiese benadering tot skoolorganisatoriese kreatiwiteit en innoverendheid moet aanneem. Op hierdie manier sal al die dimensies bevorder word, waardeur 'n skoolorganisatoriese klimaat geskep sal word wat die kreatiwiteit en innoverendheid van alle opvoerders voortbring en op alle aspekte van hul werk focus. Skoolhoofde behoort ook oefening te kry, vanuit skool en departmentele vlak, in die opbou van hul vermoëns. Hierdie oefeninge moet fokus op personeelontwikkeling wat kreatiwiteit en innoverendheid inskakel by die bereiking van onderrig- en leeruitkomste.

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CHAPTER ONE

ORIENTATION

1.1 INTRODUCTION

Schools, as sites of learning and teaching, face enormous challenges regarding education delivery and the effectiveness thereof. Even more of a challenge, is the task of school principals to manage and lead schools in directions that not only ensure effective teaching and learning, but also ensure that the learning and teaching outcomes are in line with society's expectations. Doing so requires that the school principal leads educators in ways that allow them to express their skills, talents and experiences in ways that promote the attainment of high standards and ideals. The school principal is therefore challenged by the requirement to engender and foster educators' creativity and innovativeness.

This research sets out to explore the principal's role in fostering the creativity and innovativeness of educators in schools. In doing so, this chapter outline the research problem and design.

1.2 PROBLEM STATEMENT

The education transformation in South Africa has far-reaching implications in the roles of the school principal in fostering the creativity and innovativeness of educators. The prevailing situation at schools whereby educators seem unwilling to stand up and formulate their own ideas, to be able to start their own activities and strive for their accomplishment is of great concern (Mangena, 2001; SADTU: www.sadtu.org.za/ev/Jan2001/seven.htm).

Educators seem to be bored, confused, demotivated and frustrated by the introduction of the outcomes-based education system and policy (Steyn, 2000:83). A number of factors appear responsible for making them unwilling to execute their tasks as required. For example, the assessment standards that are required are seen as a threat and, as such, educators attempt to

implement them rigidly as "prescribed" without taking the initiative to create their own ideas and merge them with the expected assessment prescriptions (Motseke, 2002). As a result, educators are largely frustrated by the apparent failure to apply the new prescriptions. Engaging in team-planning as required for the planning processes seems to be another discouraging aspect for educators, especially having to be creative in formulating phase organisers and being innovative in planning lessons such that outcomes are covered. Educators reportedly regard these activities as simply an innovativeness load to contend with (Garson, www.teacher.co.za/9810/idasa.htm).

As a result of these frustrations, most educators express a wish to leave the system and resort to other careers (Xaba, 2003:287). The education system accordingly faces losses of good and experienced educators. It is therefore an imperative role of the school principal as an educational leader to foster the creativity and innovativeness of educators in order to promote a motivated host of educators and to curb the prevailing frustrating situation for educators. This role must enhance the high standards of performance among educators and thus result in creative, innovative and highly motivated educators.

There are good and compelling reasons why educators should be motivated to be creative and innovative. Klemm (http://www.au.af.mil/au/awc/awcgate/au24-401.htm) advocates that leaders should stimulate creativity to prevent obsolescence and to increase productivity. Klemm (http://www.au.af.mil/au/awc/awcgate/au24-401.htm) explains creativity as the utility of deliberately searching for many alternatives so that many combinations and perspectives can be considered and asserts that a superior creative effort occurs when a person considers many options and invests the time and effort to keep searching, rather than settling for mediocre solutions. In this regard, Klemm (http://www.au.af.mil/au/awc /awcgate/au24-401.htm) further points out that a creative person is self-directed and self-starting. Klemm (http://www.au.af.mil/au/awc /awcgate/au24-401.htm) mentions that studies have made it clear that creativity and innovativeness are not beyond the control of enlightened leaders and principals can thus play their roles

effectively if they pay attention to what they should do to foster the creativity and innovativeness of educators.

Hargreaves (2000:5) defines an innovative educator as an educator who always learns to do things differently in order to do them better. According to Education Queensland (2000:3), a significant challenge for the schooling system is to develop a pervasive culture of innovativeness that is stimulated by possibilities of educator innovativeness and this is unlikely to occur in passive environments where embedded routines and inflexible approaches are dominant. This can, however, be done by ensuring that educators are supported with tools and resources, as well as with ways of creating their own ideas during the execution of their work. This will result in threats experienced from new developments in the system being minimised. It is clear that if the school principal promotes this kind of environment, educators will be willing to work and achieve high performance standards (*cf.* Education Queensland, 2003:3). This is because innovative educators are willing to take risks, try new things and do what is needed to create schools for the future (Glor, 1997:1; Education Queensland, 2003:3).

Klemm (http://www.au.af.mil/au/awc/awcgate/au24-401.htm) asserts that creativity can be transitioned into the innovation of a new product or service and that innovative people need the kind of mind-set that can produce the succession of processes that lead to successful innovativeness. Fostering the creativity and innovativeness of educators will ensure that the implementation of new policies is handled with confidence, because educators will be able to think about how to handle issues, generate ideas, inform others about them, sell their ideas effectively, plan the development process and overcome constraints. The problem of educators leaving the system will then be minimised and human resource maintenance will improve in the education system.

As educators seem largely bored, it is imperative to nurture creativity and innovativeness. For this reason, it is necessary to pay attention to the kind of work environment that enhances educators' sense of professionalism and increases their motivation and morale (Steyn, 2000:84). This will enhance

educators' abilities to be flexible and ensure the maintenance of good and experienced educators who will enable the system to achieve high standards of performance by *inter alia*, nurturing creative and innovative school organisations (Glor, 2001:1).

This study advocates that the school principal has a role of fostering the creativity and innovativeness of educators by ensuring that the school organisational climate allows for educator creativity and innovativeness. This, according to Selman (http://www.innovation.cc/discussion-papers/selman.pdf), relates to making new tools, products or processes, bringing forth something 'new' which allows human beings to accomplish something they were not able to accomplish previously.

This study will therefore focus on the following questions:

- What is the nature of creativity and innovativeness?
- What is the role of the principal in fostering the creativity and innovativeness of educators at schools?
- How is the creativity and innovativeness of educators currently fostered at schools?
- How can the school principal foster educators' creativity and innovativeness at schools?

1.3 AIMS OF THE STUDY

The overall aim of the study was to help school principals with creating enabling school environments in order to foster the creativity and innovativeness of educators. The overall aims of the study were thus operationalised:

- by determining the nature of creativity and innovativeness;
- by determining the role of the principal in fostering the creativity and innovativeness of educators at schools;
- by investigating how the creativity and innovativeness of educators is currently fostered at schools; and
- by providing guidelines on how the school principal can foster educators' creativity and innovativeness at schools.

1.4 METHOD OF RESEARCH

1.4.1 Literature review

Primary and secondary literature sources will be studied to gather information on the nature of creativity and innovativeness and the role of school principals in fostering the creativity and innovativeness of educators. An extensive database search did not find studies about the principal's role in fostering the creativity and innovativeness of educators. The following key words were used: creativeness/creativity, innovativeness/innovation, professional development and staff development programmes, organisational climate, motivation and life-long learning.

1.4.2 EMPIRICAL RESEARCH

1.4.2.1 *Aim*

An empirical investigation was conducted to gather information that describes how creativity and innovativeness is currently fostered at schools.

1.4.2.2 *Measuring instrument*

Information gathered from the literature study was used to develop and design a questionnaire to gather information from school principals and educators at schools. The study thus employed a quantitative methodology to data collection, analysis, organising and interpretation (cf. MacMillan & Schumacher, 2001:257). If necessary, follow-ups were be conducted among the target population for clarity-seeking purposes.

1.4.2.3 *Population and sampling*

The study population was from the Sedibeng districts and comprised both primary and secondary school principals and educators. Random samples of primary and secondary school principals (n=150) and educators (n=350) were selected for the study. The sample size was informed by guidelines espoused by Strydom and Venter (2002:201), Leedy and Omroyd (2005:205) and MacMillan and Schumacher (2001:177) that, *inter alia*, the larger the

population, the smaller the percentage of that population the sample size needs to be and it will be influenced by the relative homogeneity of the population.

1.4.2.4 *Pilot survey*

The questionnaire was pre-tested with a selected number of respondents from the target population regarding its qualities of measurement and appropriateness and to review it for clarity to determine such aspects as the duration it would take to complete it and the clarity of instructions and items, and to detect any ambiguities in the questionnaire items (MacMillan & Schumacher, 2001:267).

1.4.2.5 *Ethical aspects*

The prescribed research request form of the Gauteng Department of Education was completed and submitted to the Department for approval to administer the research questionnaire to the target population. The form was obtained from the Department's website (http://www.education.gpg.gov.za).

The questionnaire was accompanied by a covering letter requesting respondents to complete it and assuring them of the confidentiality with which their responses would be handled (MacMillan &Schumacher, 2001:196). The letter of approval was also attached to the questionnaire.

1.5 STATISTICAL TECHNIQUES

The statistical consultancy services of the North-West University: Vaal Triangle Campus was approached for assistance in the analysis of data collected from questionnaires.

1.6 CHAPTER DIVISION

- Chapter 1: Orientation
- Chapter 2: The nature and scope of creativity and innovativeness
- Chapter 3 The role of the principal in fostering creativity and innovativeness of educators
- Chapter 4: Research design
- Chapter 5: Data analysis and interpretation
- Chapter 6: Summary, recommendations and conclusions

1.7 SUMMARY

This chapter outlined the problem statement of this research. The research design was subsequently exposed. This presented the roadmap this study would pursue, which included the research aims, and research method, including the research instrument and the description of the population. Finally, the chapter division for the study was outlined. The next chapter investigates the nature of creativity and innovativeness in organisations by means of a literature study.

CHAPTER 2

THE NATURE OF CREATIVITY AND INNOVATIVENESS

2.1 INTRODUCTION

Education is a powerful tool for opening doors to learning and advancement. Schools as education delivery sites are appropriately positioned to actualize this. To achieve this end, it is imperative that educators be allowed to be creative and innovative in their work. School principals thus have a duty to unleash educators' creativity and innovativeness by creating conditions that foster educators' abilities for creativity and innovativeness.

This chapter sets out to define the nature of creativity and innovativeness, as well as to discuss the role of the principal in fostering them.

2.2 THE NATURE OF CREATIVITY AND INNOVATIVENESS

2.2.1 What is creativity?

Creativity is generally defined as the generation of new, novel and useful ideas, services and products or as being the capacity to generate a new idea within a particular form of life - a discipline or medium (Pienaar, http://hagar.up.ac.za/catts/learner/heilap/createlesing/index.htm; Hargreaves, 2000:2). Politis (2004:23) cites Amabile to define creativity as the ability to combine ideas in a unique way or to make unusual associations between ideas. This implies that creativity is an overwhelming ability to bring various dimensions together to create something that would normally not be created, given the same circumstances.

Ormrod (1995) sees creativity as being about a new and original behaviour that has not specifically been learned from someone else, and as a product of effective problem-solving. Kroon (1996:446) defines creativity as a combination of a specific environment, which forms a permissive climate, a specific time and the place where creativity is stimulated.

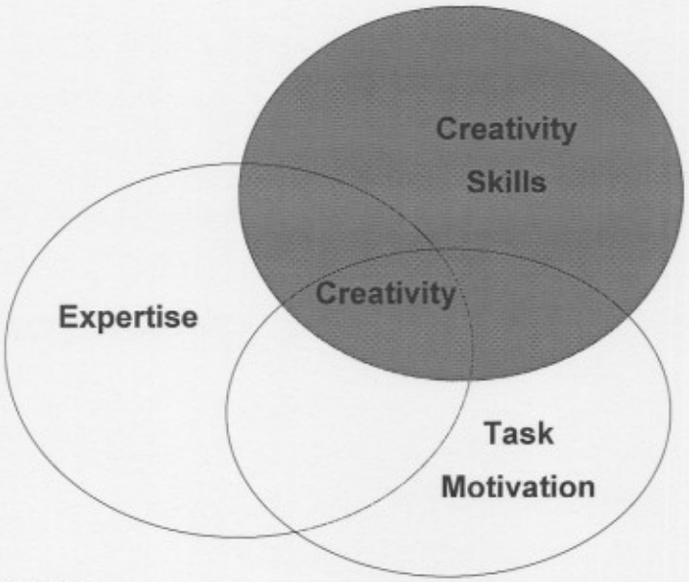
According to Jordaan and Jordaan (1998:432), creativity is influenced by, among others, aspects like the creative process, circumstantial factors, attributes of people and their creative abilities, as well as their capacity to learn to be creative. In this regard, Ormrod (1995) postulates that creativity is not a single entity, but a combination of many specific characteristics, thinking processes and behaviours. Consequently, creative people are apt to be highly motivated, able to set themselves goals, can interpret and conceptualize problems and situations in a flexible manner and possess a great deal of information relevant to their task.

Jordaan and Jordaan (1998:432) assert that creativity can be achieved by creating an appropriate climate. Since every person or individual possesses some form of creativity, it is important that creativity be well managed so as to lead to maximum output. This implies that the organisational climate must be motivating because creative people are apt to be highly motivated, are able to set themselves goals, can interpret and conceptualize problems and situations in a flexible manner and possess a great deal of information relevant to their task (Ormrod, 1995). Amos and Ristow (1999:152) assert in this regard that a group should be managed in a manner which permits the emergence of creativity and that creativity is unleashed when group members are involved and feel free to contribute.

Anderson (2002:1) contends that creative educators enjoy autonomy to create the curriculum they teach and have control to bend it or to move spontaneously beyond it. In this regard, Anderson (2002:4) asserts that the educator is free of conventional constraints on his activities and thus takes risks and brings life to teaching. This, however, implies a heavy responsibility for the educator in developing a curriculum, teaching a class and ultimately judging the successes and the failures they encounter.

Amabile (1997:42-46) developed the componential model of creativity (figure 2.1). According to this model, three components, namely expertise, creative thinking skills and intrinsic task motivation are a function of a person's creativity.

Figure 2.1 The componential model of creativity



(Amabile, 1997)

Expertise is the foundation of all creative work and includes memory for factual knowledge, technical proficiency and special talents in the target work domain. *Creative thinking* provides an impetus for creative performance and includes a cognitive style favourable to taking new perspectives on problems and applying techniques for the exploration of new cognitive pathways and working styles conducive to persistent and energetic pursuit of one's work. Therefore, creative thinking depends on personality characteristics related to independence, self-discipline orientation towards risk-taking, tolerance for ambiguity, perseverance in the face of frustration and a relative lack of concern for social approval and it can be increased by learning and proactive skills to improve cognition, flexibility and intellectual independence.

Task motivation determines what a person can actually do. It can either be intrinsic, i.e. driven by deep interest and involvement in the work, by curiosity, enjoyment or a personal sense of challenge or extrinsic, i.e. driven by the desire to attain some goal that is part of the work itself, such as achieving a promised reward or meeting a deadline or winning a competition. Task motivation determines the extent to which a person will fully engage his or her expertise and creative thinking skills and can be influenced to some extent by the social environment.

Majaro, according to Flynn, O'Sullivan, Dooley and Cormican (2003:420), divides creativity into three categories, namely:

- *Normative creativity*, which focuses on generating ideas to solve specific needs, problems and objectives;
- *Exploratory creativity*, which focuses on generating a broad spectrum of ideas which may not necessarily be related to known requirements or demands, but reveals opportunities; and
- *Creativity by serendipity,* which relates to ideas discovered by accident.

The exposition above emphasises the role of the principal in fostering the creativity of educators as that of creating an enabling and conducive climate for educators to be creative. Most important, is the significance of understanding what creativity entails, as well as promoting an intrinsic motivational climate in order to foster educator creativity (cf. Parker, http://www.ccc.agsm.edu.au/papers/researchBriefings/A09_Paper_SParker_MaxInnov.pdf). In this regard, it is important for the school principal to tap individual and collective creativity and establish the development of organisational contexts for creativity. These features are considered as contemporary primary management and leadership challenges (Gilmartin, 1999:2).

Creativity manifests itself in different ways. It can be manifested in individuals or in groups of people or at different levels.

2.2.1.1 *Types of creativity*

This research identifies individual and organisational creativity as crucial at schools and consequently as the principal's leadership task.

(i) *Individual creativity*

Kroon (1996) contends that individual creativity differs from person to person and that there are underlying personality traits that creative individuals have in common, namely, intellectual, emotional and motivational behaviour.

Firstly, intellectual traits refer to a superior reality orientation, objectivity, originality, explorative disposition, logic, discipline, a preference for complexity instead of the simple expression of new or unusual ideas without limitation or prejudice, and for rejecting old ideas and focusing on new concepts.

Secondly, emotional traits relate to constant introspective discovering of feelings, emotional openness, honesty, uninhibitedness, freedom and non-conformity, self-knowledge, self acceptance, an active fantasy world and the ability to integrate the past, present and future meaningfully.

Lastly, the motivational aspects reside in the internal locus of control which results in a person making his own life choices rather than responding to others' expectations. Clearly then, motivation comes from within and from a person's own involvement and being interested in the problem rather than from material gain, perseverance and commitment.

Individual creativity finds expression in an organisational setting. It is therefore important to have a grounding of organisational creativity within which individuals perform and express their creativity.

(ii) *Organisational creativity*

According to Thomson Course Technology (2003:56-57), organisational creativity is a function of such factors as the distribution of authority, the flow of information and culture. The leader's role is asserted as being influential in promoting organisational creativity. In this regard Kroon (1996) postulates that businesses differ in their abilities to utilise the talents or skills of their staff members in creating new products, processes and services and the onus is on the management to be aware of the process of creativity and innovativeness and how it is stimulated. Thomson Course Technology (2003:3-3) therefore advocates an organisational structure that promotes creativity through permitting both a horizontal and vertical information flow and a decentralized authority that is flexible and willing to tolerate errors.

Kroon (1996) emphasises an organisational climate in which creativity can be stimulated by the following characteristics:

- permissiveness – where it is accepted that change will serve the benefit of the total business;
- clearly formulated objectives-where objectives of the business are integrated with those of the individual;
- openness, honesty and respectfulness - communication between all involved, respect for and acceptance of differences, support and cooperation in a spirit of "we against the problem" rather than a "me against you" attitude;
- commitment to the stimulation of technical, social and behavioural development and the freedom to experiment;
- adequate resources in terms of time and material; and
- positive criticism in order to stimulate creative ideals.

Heerwagen (2002:5) categorises organisational creativity as including proximate and distal factors. Proximate factors are close to daily experiences such as the job design, managerial behaviours and work group diversity, while distal factors are more remote, for example, organisational structure, resources, climate and levels of internal strife.

It is crucial for the school principal to have an understanding of creativity as a process. This is explained in terms of the four stages of the creative process.

2.2.1.2 *The four stages of the creativity process*

Schuler (www.Schulersolutions.com) posits four stages of creativity based on Amabile's work, namely, preparation, incubation, illumination and execution.

- ***Stage 1:*** *Preparation*

This is the stage where the creative person or team becomes immersed in the problem. It is in essence, an information-gathering stage and involves forming of roles, areas of special individual interest and coordination of tasks. Palombo (2001:62-62) explains this stage as the exploring stage where people's creative ideas flow when they find the answer to "what do we want?" Antonites (2003:85) adds divergent thought processes at this stage where many possibilities are explored, ambiguity is tolerated and there is a willingness to redefine concepts. Laurel and Associates, Ltd. (2003)

conceptualises this stage as the knowledge stage where all relevant information is gathered before the creative act.

- ***Stage 2:*** *Incubation*

At this stage the original problem may appear distant, forgotten or neglected, but the mind is still at work, i.e. the subconscious mind which synthesizes and makes new weird and original connections. While the problem may seem neglected, people will still be thinking or have ideas occur to them, for instance in the shower or they will write their thought on anything like cocktail napkins. According to Antonites (2003:85), incubation includes imagination, absorption, seeking ideas, possible answers and solutions, and psychological freedom.

- ***Stage 3:*** *Illumination*

This stage involves the emergence of ideas at any time, i.e. the "Aha!" experience. Some new angle may occur or some sudden burning and unexplainable need to return to work and work on the problem. Antonites (2003:85) sees this as the insight stage and explains it as displaying the ability to switch from intuitive to analytic patterns of thought.

- ***Stage 4:*** *Execution*

Palombo (2001) describes this as the final stage of getting creativity to work and putting an idea into practice. This stage separates mere creativity from successful innovativeness. New ideas are put into action. This stage needs organisational management to be actively helpful in promoting creativity. Evaluation is crucial at this stage, since verification of the supposed solution takes place (Laurel & Associates, Ltd., 2003).

Creativity takes place within a particular environment. It is, therefore, important to take cognisance of the creative environment in order to promote creativity in the organisation.

2.2.1.3 *The environment for creativity*

Creativity takes place within a particular context. In an environmental context, creativity is assessed in terms of factors that contribute to creative productivity

(Antonites, 2003:86). Antonites (2003:86) contends that the environment within which one finds him/herself radically actuates the existence of creative behaviour and performance. Gilmartin (1999:4) asserts that in an organisational context, people are mostly creative when they are primarily intrinsically motivated.

Gilmartin (1999:4) further advocates a work environment that encourages risk-taking and idea-exchanging, where employees have autonomy over work and information flow in conjunction with creativity-training and rewards for innovative behaviour (cf. Anderson, 2002; Stenmark, 2003:208).

Parker (http://www.ccc.agsm.edu.au/papers/researchBriefings/A09PaperSParker_MaxInnov.pdf) posits that research identifies three broad categories of the work environment that are influential in stimulating creativity, namely,

- *enriched jobs and supporting management practices*, i.e. challenging and autonomous, diverse but cohesive work groups, supportive and non-controlling supervision;
- *an organisational culture* that supports innovativeness, i.e. having goals for creativity, encouraging risk-taking and free exchange of ideas, legitimising constructive dissent, stimulating participation where it is 'psychologically safe' to make suggestions; and
- *adequate resources*, i.e. time, funding, expertise and training.

From this exposition, it is clear that fostering creativity requires creating organisational conditions that allow creative behaviour to permeate the organisation. More precisely, the creation of an organisational climate that is free from factors stifling and killing creativity is the key.

2.2.1.4 *Barriers to creativity in organisational environments*

Antonites (2003:89-93) describes the following barriers to creativity in organisational environments:

- *The social environment*

The social environment entails all the variables affecting the human being, whether individually or in group format on a societal level, *inter alia*, a lack of

understanding and support for new ideas, an autocratic decision-making structure that does not allow independent thinking, risk-taking disallowed, culture and some customs or beliefs, e.g. women being disallowed to own or run entrepreneurial ventures.

- *The economic environment*

The economic environment comprises such issues as no financial support being available for the development process of new products, risk-taking being seen as a negative element of the economy or finances and no rewards existing for new and feasible ideas.

- *The physical environment*

This relates to continuous or once-off distractions in the thinking process such as disruptive sounds, climate and energy, conventional venues for education and training (such as even rows and dull colours), the existence of routine or related tasks and the work routine consisting of always completing or performing the same tasks at the same time and in the same way.

- *Cultural barriers*

This stage relates to generic cultural barriers like cultural mindsets, e.g. going to school university or college and then finding a job where entrepreneurial endeavours are not featuring in such a cultural mindset, the unknown being regarded as unsafe, an expectation being created in certain cultures which prescribe that one be practical and think economically before generating ideas, asking questions being unacceptable and impertinent, stereotyping and policies that dictate following strict orders and procedures and staying in line with organisational structures.

- *Perceptual blocks*

These are barriers in the way of perceiving things clearly and correctly such as applying a narrow mindset to analyse problems, making assumptions about a problem or idea without a holistic viewpoint or displaying an inability to structure the problem and evaluate the smaller elements prematurity, i.e. relying on the intuitive ability only, characteristics and utilities of new products sometime being perceived differently in comparison to the potential client.

Barriers to creativity in organisational environments imply an understanding of requisites for creativity.

2.2.1.5 *Requisites for creativity*

Kokot (1992) indicates that man's creative abilities are dependent on certain conditions not all of which are absolutely necessary for the creative process to occur, but which are generally applicable, namely:

- *Receptivity,* which relates to a highly creative person having to be sensitive and perceptive to influence both from without and within, which can initiate imaginative ideas and implies an attitude and a learned disposition towards looking for the new or unusual.
- *Recession*, which relates to the fact that a highly creative person cannot be hurried and must be given time to unfold, be allowed to think deeply and extensively about his/her ideas and be given time to structure, rearrange, systematise and even err, in order to obtain a new perspective on a problem.
- *Imagination and judgement*, which implies that imagination awakens ideas, but it does not communicate them and that in the preparation and incubation phases, imagination plays a significant role. The final product or achievement must be evaluated and judged, certain parts eliminated, others added, the product be subjected to the censorship of opinion or judgement, which necessitates logical thought.
- *Doubting*, which implies that highly creative thinkers are never satisfied with the ordinary and the everyday, and they are always actively questioning, exploring, experimenting and investigating, and yet always doubt that their behaviour is characterised by the fact that they are always critical of the status quo. These people require time to weigh up all possibilities and such doubting or query can generate new ideas, solutions and achievements.
- *Uses of mistakes*, which implies that in any search by a creative person, mistakes will occur and that errors must be allowed, as they could lead to new insights and a new achievement. An error may cause a falling back into the incubation phase and inspire more original solutions.

2.2.2 Summation

From the afore-mentioned exposition, it is clear that creativity in organisations can be fostered through awareness and understanding of what it is and how it can be nurtured. For the school principal, nurturing creativity implies managing the school environment and more precisely, the school climate in such a way that it allows for creativity and intrinsic motivation of educators. It also implies being aware of what makes educators creative, both as individuals and groups or teams at the school. It implies knowing what to do with all the creative efforts of educators and not letting their creativity be an end in itself, but rather ensuring the implementation of their creativity outcomes.

As will subsequently be highlighted, motivating people to be creative leads to their being innovative, i.e. being able to implement new ideas, products and services. It is therefore necessary to have an insight into how the creative outcomes should be implemented. Innovativeness addresses this aspect.

2.2.3 What is innovativeness?

Many definitions of innovation are used and seem to differ according to the analysis used. The dictionary meaning of innovation is: introducing new things or methods (Hawkins, Delahunty & M^{c}Donald, 1998). Smith (1999) defines innovativeness as the application of creative, new ideas and the implementation of inventions. Therefore innovativeness means being innovative. In this study, innovativeness relates to the product of being innovative and the main focus will thus be on innovativeness.

Flynn *et al.* (2003) advocate that, in its broadest sense, the term 'innovation' originates from the Latin *innovare*, meaning "to make something new" and therefore assert that innovativeness is a process of turning opportunity into new ideas and of putting them into widely used practice. Therefore innovativeness is a core process concerned with renewing what the organisation offers and optimising the way it generates and delivers its output.

Innovativeness is thus generally defined as the implementation of creative outcomes to benefit organisations and society, or the practical application of ideas towards meeting the organisation's objectives in a more objective way (Rickards, 1996; West & Altink, 1996; Amabile, 1997; Edwards & Walton, 2000; Hargreaves, 2000).

West and Altink (1996) postulate that a useful distinction can be drawn between technical and administrative innovations. They propound that

> *technical* innovations are those innovations that occur in the technical systems of an organisation and are directly related to the primary work activity of the organisation, like the implementation of an idea for a new product or a new service, or the introduction of new elements in an organisation's production or service operations;

while,

> *administrative innovations* are those that occur in the social system of an organisation ... the implementation of a new way to recruit personnel, allocate resources and structure tasks, authority and rewards, (thus) it comprises of innovations in organisational structure and in the management of people.

Majaro, according to Antonites (2003:109), differentiates between creativity and innovativeness as constructs. Creativity is seen as the thought process that leads to the development and generation of ideas, while innovativeness is the practical implementation of the ideas. Innovativeness is therefore the implementation of ideas that seem to be newer, faster, more cost effective and possibly more aesthetical. This implementation should be usable, practical and aimed at showing results.

Gilmartin (1999:34) locates innovativeness between creativity and opportunity identification, and regards creativity as the foundation for innovative behaviour. Zimmerer and Scarborough (1999:80-95) broaden this view point by stating that, between the idea-generating process and the innovativeness process, a systematic filtering process takes place. This process acts as a

development mechanism, with the aim of changing "raw" ideas into tangible, value-driven innovations. Antonites (2003) cites Cummings who divides the innovativeness process into three consecutive steps, namely the birth of the initial idea (creativity), the successful development of that idea and the successful application of the idea. Thus, innovativeness should be seen as a process beginning with creativity and transcending to implementation of the creative outcomes.

Innovativeness in organisations can be understood in terms of various aspects such as, the levels at which it occurs, types and styles thereof.

2.2.3.1 *Levels of innovativeness*

West and Altink (1996) propound four levels at which innovativeness occurs, namely the individual, group, organisational and socio-cultural levels. It is important to note that innovativeness is a process that begins with idea generation, i.e. creativity. The levels of innovativeness can therefore be best understood within this context. West and Altink (1996:6-11) describe these levels thus:

- *Individual innovativeness level*

According to West and Altink (1996:6), individual innovativeness is influenced by two central axioms of human behaviour, *viz.* that human beings are motivated to explore and manipulate their environment in ways that are essentially creative and that human beings are driven by a need to be free from threat and to have a sense of psychological safety. In terms of the former axiom, human development from infancy shows that exploratory behaviour, curiosity, effectiveness or mastery motivation strongly influence relationships with the environment. Thus, given the appropriate circumstances, the appropriate level of stimulation and sufficient security, human beings explore and manipulate their environments in creative and adaptive ways.

The latter axiom posits that individual innovativeness is inhibited when people feel insecure and unsafe at work. In this regard it follows that when people feel that their jobs are threatened if they make mistakes, there is more likelihood that they will play safe and avoid taking risks and experimenting,

which are essential to innovativeness. They will tend to stick to established and tested routines, rather than attempt new ways of dealing with their environment.

Individual innovativeness is thus more likely when people perform tasks which intrinsically interest them and present a whole, meaningful piece of work, rather than a limited atomistic piece of assembly line functioning (cf. Amabile, 1997:48). Furthermore, people are more likely to be innovative when they have sufficient autonomy and control over their work to be able to try new and improved ways of doing things.

- *Group innovativeness*

This refers to creativity and innovativeness in teams. West and Altink (1996:7) assert that by creating teams, managers hope to increase effectiveness and adaptability in complex organisations and to promote creativity and innovativeness. Accordingly, to generate team innovativeness, the following factors are necessary (cf. Isaksen & Lauer, 2002):

  - training and development;
  - setting clear objectives and ensuring that team members participate in the setting of those objectives;
  - interaction among team members, open information sharing and shared influence over decisions;
  - task orientation or the preparedness of teams to engage in constructive controversy and conflict aimed at promoting excellence in task performance; and
  - the practical support for innovativeness attempts within teams.

- *Organisational innovativeness*

West and Altink (1996:8) submit that despite lack of hard research evidence to support assertions about organisational innovativeness, it has been found that organisations with flat structures and high levels of communication between departments and functions are likely to be more innovative than traditional, hierarchical organisations characterised by predominantly vertical communication. These organisations foster innovativeness by allowing

greater autonomy, which enables people to utilise their natural creativity and innovativeness in order to promote greater effectiveness in organisational functioning.

Organisational innovativeness is also promoted by tolerance to minority and deviant views within organisations because such groups encourage others to think independently and creatively around issues addressed by the minority (cf. Nemeth, 1997).

- *Socio-cultural innovativeness*

This level of innovativeness advances the consideration of historical, economic and cultural differences affecting innovativeness. Accordingly, this level raises the importance of taking into account the cultural differences and social and political trends which affect innovativeness processes and outcomes in work organisations.

An understanding of the levels of innovativeness implies that innovativeness is a process. A thorough grounding of the phases of innovativeness is therefore prerequisite to fostering a favourable climate for it.

2.2.3.2 *Phases of innovativeness*

Literature generally identifies three phases of the innovativeness process, namely generation, application and transfer of an idea.

- *Generation of an idea* suggests using creativity to develop ideas and the fact that that idea must be "new" in so far as it is an improvement on something that exists, the invention of something that is fundamentally new or the application of existing ideas into a new context (Anon., 2000).
- *Application of an idea* relates to the exploitation, deployment, leveraging, putting to work and diffusing creative or generated ideas in some organisational activity (Anon., 2000).
- *Transfer of an idea* refers to the transfer of the generated and applied idea beyond the organisation (Anon., 2000).

An understanding of the phases of innovativeness implies cognisance of how innovativeness manifests itself. This can be seen in the different innovativeness styles.

2.2.3.3 *Innovativeness styles*

Creative Advantage (http://www.creativeadvantage.com/visioning.htm) contends that every person is unique, with his or her own way of expressing his or her talents, knowledge, values and interests. Therefore each innovativeness style is fundamentally different from the entire process of innovativeness and, even though there might be a preference for one innovative style, it will have seeds for all four styles. The following innovativeness styles are identified:

- *Visioning*

This relates to people who like to focus on results by providing direction and inspiration. Such people emphasise visioning, and people trust their instinctive decisions by seeking solutions that focus more on maximizing than on what has gone into the past. This is indicative of people who drive organisations' goals and missions and solve problems by focussing on the vision of the future to guide them. These people are persistent, determined, hardworking and focused. This style supports innovativeness using three categories, namely:

  - providing the big picture and long term direction;
  - focusing on the vision even though the end result is uncertain; and
  - touching on what people really want.

- *Exploring*

In this style, people like to explore uncharted, unknown and unpredictable territory and tend to add a sense of adventure to open up the potential for dramatic breakthroughs by exploring. This style involves using thoughts, questioning assumptions and often relying on own ideas despite resistance from others. This style supports innovativeness by:

  - challenging accepted ways of seeking things in novel approaches to problems;

- dealing with turbulent change through fortitude; and
- being risk-takers.

- *Experiencing and Experimenting*

In this style people like to experiment once they agree on something or on a way of thinking. They can troubleshoot anything and work as a team by adding careful testing and getting input from a certain order to confirm ideas. Experimenting is emphasised to seek solutions and when a problem occurs, as many facts and opinions as possible are collected before a decision is made. This style is characterised by curiosity, practical and good team participation. This style supports innovativeness by:

- providing methods or systems to take a stance towards a good research design even when the results are uncertain;
- getting people to collaborate and become part of the decision-making;
- developing a process of planning and working; and
- leveraging existing technologies or methods.

- *Modifying*

In this style people feel comfortable moving forward one step ahead to build on what they already know as true and provide the team with the stability and thoroughness it needs to emphasise modifying. People who take a modifying approach to innovativeness when working with facts and making decisions, seek solutions by applying methods that have weight. These people tend to be precise, reliable, efficient and work hard. This style supports innovativeness by:

- being responsive to immediate needs and other resources;
- helping the short-term motivation of groups to engage in ways of getting immediate success; and
- keeping change relevant to current organisational needs.

The above information explains how people bring about innovativeness in different situations. Equally important to understanding this, is insight into the scope of innovativeness in organisations.

2.2.3.4 *Scope of innovativeness*

The scope of innovativeness highlights the fact that some innovations have only a small impact on the organisation while other innovations can transform an industry and produce huge returns. The scope of innovativeness is divided into three categories:

- *Incremental innovativeness*

This refers to small improvements in the organisation employing more, faster, slower, bigger or better tools or techniques. Kotelnikov (2004) describes incremental innovativeness as a potential marketable improvement to an existing product or service, which exploits existing technology and focuses on competitiveness within current markets or industries. The scope of incremental innovativeness can thus be seen as evolutionary as it builds on the existing organisational performance.

- *Breakthrough innovativeness*

This kind of innovativeness relates to "beyond new and improved" and produces a substantial competitive edge for a time, as in refrigerators, minivans and digital cameras (GoInnovate, 2002). Barker (2002:4) terms this, product or service innovativeness, and describes it as being oriented towards improving the features and functionality of existing products and services.

- *Transformational innovativeness*

Transformational innovativeness refers to a new innovation that transforms the way people live and work and often creates a new industry (GoInnovate, 2002; Kotelnikov, 2004).

The scope of innovativeness underlines the way in which innovativeness occurs. This in essence, implies that innovations also vary in respect to what they impact on in the organisation.

2.2.3.5 *Types of innovativeness*

Four types of innovativeness are distinguished, namely (GoInnovate, 2002):

- *Strategic innovativeness,* which includes changes in direction, approaches or competitive positioning, involving products, markets, customers, core competencies, allocations of strategic assets or the organisation's value network.
- *Structural innovativeness*, which includes the redesign of the organisational chart, the installation of new equipment or software, changes in the physical environment and how people relate to one another.
- *Process innovativeness*, which modifies the way the business is conducted.
- *Cultural innovativeness*, which occurs when people's values and/or perspectives change.

The different types of innovativeness imply a knowledge and understanding of levels at which innovativeness occurs.

It is important to explore creativity and innovativeness in the context of organisations. This is done, bearing in mind that creativity and innovativeness are a process that culminates into the implementation and application of creative outcomes.

2.3 CREATIVITY AND INNOVATIVENESS IN ORGANISATIONS

It is clear from the foregoing exposition that creativity and innovativeness are interrelated and interdependent concepts. Clearly, creativity relates to the generation of ideas for innovativeness while innovativeness relates to the implementation of creative ideas. It is conceivably obvious that for innovativeness to exist, creativity must be factored in. In essence, this implies that organisational conditions must be such that creativity and innovativeness are encouraged. This, in essence, implies fostering a climate for innovativeness. This implies an insight into the organisational climate for innovativeness.

2.3.1 A climate for creativity and innovativeness

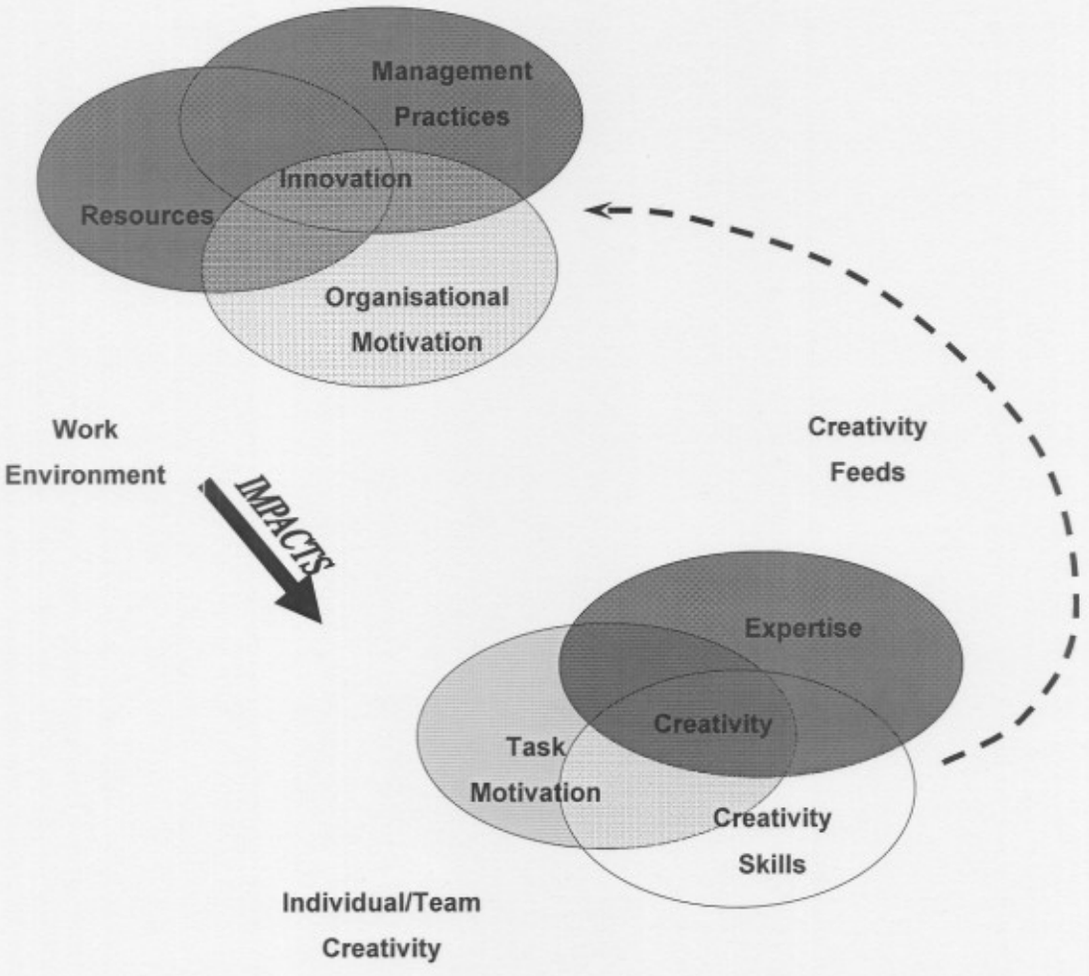
Ekval (1996:1) regards climate as an attribute of the organisation, a conglomerate of attitudes, feelings and behaviours which characterise life in the organisation and exists independently of the perceptions and understandings of members in the organisation. Isakson and Lauer (2002:79) assert that climate influences organisational processes, which in turn influence the overall productivity and well-being of the organisation by influencing such processes as problem-solving, decision-making, communication and coordination, individual processes such as learning and creating, and levels of motivation and commitment.

Amabile (1997:52) integrates individual creativity (figure 2.1) into the organisational work climate to illustrate the impact of climate on creativity and innovativeness (figure 2.2).

Figure 2.2 illustrates that the work environment (upper circles) impacts (solid arrow) on creativity produced by individuals and teams (lower circles) and that this creativity serves as a primary source for innovativeness within the organisation (dotted arrow). This model asserts that the organisational climate influences organisational creativity which in turn feeds organisational innovativeness.

Taking this model as a point of departure, it is clear that the organisational climate has an impact on organisational creativity and innovativeness. In this regard, Isaksen and Lauer (2002:80) identify nine dimensions which indicate the degree to which climate supports creativity and innovativeness, *viz.* challenge and involvement, freedom, trust and openness, idea time, playfulness and humour, conflict, idea support, debate and risk-taking.

Figure 2.2 Impact of the organisational climate on creativity and innovativeness



(Amabile, 1997)

- ***Challenge and involvement***

Challenge and involvement means the extent to which teams are given opportunities to get involved in the daily operations, long-term goals and visions of the organisation (Isakson & Lauer, 2002:80). Ekval (1996:107) posits that a high challenge climate is one in which people experience joy and meaningfulness in their jobs and therefore invest much energy, while a low challenge environment is one in which there are feelings of alienation and indifference, apathy and lack of interest for the job. This is a dynamic, electric and inspiring climate.

- ***Freedom***

Freedom refers to the degree to which that teams can take initiative or are at liberty to act without constantly referring to higher authorities or "rule books" for decisions (Isakson & Lauer, 2000:80). Ekval (1996:107) asserts that in this climate people make contacts, give and receive information, discuss problems and alternatives, plan and take initiatives of different kinds and make decisions, while the opposite climate would include people who are passive, rule-bound and anxious to stay inside established boundaries.

- ***Trust and openness***

This refers to the degree of emotional safety in relationships. Isaksen and Lauer (2002:80) state that when there is a high degree of trust, team members trust each other and feel safe enough to be open and honest with their colleagues in the spirit of constructive relationships. Ekval (1996:107) refers to this as emotional safety in relationships and in this organisation, people dare to put forward ideas and opinions and take initiative without fear of reprisal and ridicule in case of failure. It is clear that in this climate, there is open and straight-forward communication.

- ***Idea time***

This is the time the team takes off to generate new ideas or consider the merits of existing ideas and opportunities. According to Isakson and Lauer (2002:80) in a high idea-time climate, possibilities exist to discuss and test suggestions not included in task assignments and there are also opportunities to take time to explore and develop new ideas.

- ***Playfulness and humour***

This refers to the amount of spontaneity and levity displayed within teams. Isaksen and Lauer (2002:80) see this climate as a professional and yet relaxed atmosphere where good-natured jokes and laughter occur often and where team members have fun within the team at work. This is clearly an organisational climate where interpersonal relationships are healthy, devoid of stiffness, gloominess and cumbrousness (Ekval, 1996:108).

- ***Conflict***

This means the presence of personal and emotional tensions within the team and between team members. When the level of conflict is high, team members dislike and even hate each other and the climate can be characterised by "interpersonal warfare" rife with plots, traps, power and territory struggles, gossip and slander (Isaksen & Lauer, 2002:81). In the opposite climate, the team welcomes, accepts and deals effectively with diversity and with people behaving in a more mature manner and having psychological insight and control of impulses (Isaksen & Lauer, 2002:81; Ekval, 1996:108).

- ***Idea support***

Idea support refers to the way new ideas are considered, taken up or advocated by the team. Isaksen and Lauer (2002:81) espouse this climate as supportive, where ideas and suggestions are received in an attentive and professional way by team members who listen to one another and encourage initiatives. The team's atmosphere is constructive and positive when considering new ideas. The opposite climate is characterised by an automatic "no", fault-finding, obstacle-raising and counter-arguing (Isaksen & Lauer, 2002:81; Ekval, 1996:107).

- ***Debate***

This is the occurrence of encounters and disagreements between viewpoints, ideas and differing experiences and knowledge within the team (Isaksen & Lauer, 2002:81). These authors emphasise that debate, unlike conflict, relates to idea-tension and not to personal tension. In this climate, many voices are heard and people are keen on espousing their views (Ekval, 1996:81).

- ***Risk-taking***

This relates to the tolerance of uncertainty in the organisation. According to Ekval (1996:108), in a high risk-taking climate, decisions and actions are prompt and rapid, arising opportunities are taken and concrete experimentation is preferred to detailed investigation and analysis, and teams take bold initiatives even when outcomes are unknown and team members

feel as though they can "take a gamble" on ideas and will often "go out on a limb" to put an idea forward (Ekval, 1996:108; Isaksen & Lauer, 1996:81).

This exposition highlights the challenge facing school principals in fostering creativity and innovativeness at schools. It is clear that the school principal should be, a proponent of a school climate that allows for challenge and involvement, freedom, trust and openness, idea time, playfulness and humour, less negative conflict, idea support, debate and risk-taking.

2.4 SUMMARY

This chapter explored the nature of creativity and innovativeness and related these to organisations. It strongly emerged that for innovativeness to exist in an organisation, creativity is prerequisite. Most important, is the exposition of the nine dimensions for a creativity and innovativeness climate.

This following chapter explores the role of the school principal in fostering the creativity and innovativeness of educators.

CHAPTER 3

THE ROLE OF THE PRINCIPAL IN FOSTERING THE CREATIVITY AND INNOVATIVENESS OF EDUCATORS

3.1 INTRODUCTION

This chapter reviews the role of the principal in fostering the creativity and innovativeness of educators. An orientation to creativity and innovativeness in a school context is first presented. An explication of how innovativeness is fostered in organisations foregrounds an exposition of the principal's role in fostering creativity and innovativeness of educators in school organisations.

the relationship between creativity and innovativeness was exposed in the previous chapter. While the two concepts do not mean the same thing, it is clear, however, that creativity is the basis of innovativeness. Therefore, in this section of this research, reference is mostly to innovativeness which is understood as meaning a process that begins with and encompasses creativity.

The nature of creativity and innovativeness in organisations was described. In this chapter, focus is on the school as an organisation. Therefore, an understanding of the school as an organisation is necessary.

3.2 THE SCHOOL AS AN ORGANISATION

An organisation is a cooperative social system involving coordinated efforts of two or more people pursuing a shared purpose/goal, and consists of people standing in relation to one another, acting together to achieve certain common objectives. In this way organisations are characterised by a formal structure of authority, consist of more than one person with differentiated tasks, are constituted and managed to achieve specific aims and objectives, are exposed to external influences and are characterised by coordinated and collective activities (Theron, 2002:79).

The school therefore qualifies to be an organisation. This is, according to Theron (2002:113), because the school meets all the universal and general requirements of organisations. However, the school has an individual characteristic which makes it different from other organisations. It is qualified by educational factors, i.e. it is exclusively concerned with the teaching and learning situation. Therefore the school is an educational organisation.

While the exposition on the nature of creativity and innovativeness related to general organisations, these concepts are equally applicable to the school as an organisation. This is made clearer with the consideration of innovativeness in the context of the school.

3.3 INNOVATIVENESS AT SCHOOLS

Watt (2002:8) asserts that innovativeness is a process that can be managed by considering factors like the organisational capacity, individual skills and external working and learning environments. This implies managing the fundamentals needed to enhance innovativeness, like skills, attitudes and behaviours of individuals and teams, the leadership qualities of an organisation or school and the social and working environment in which people function. Therefore, according to Watt (2002:8), the school's ability to be innovative is a function of the interaction of three main elements, namely:

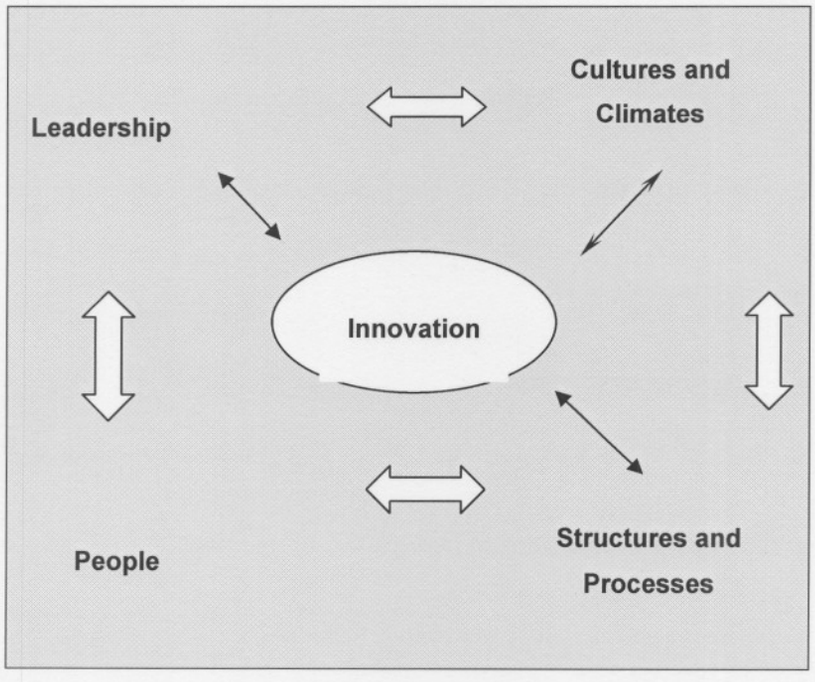
- *The school organisational or institutional context,* which determines the extent to which the innovativeness process can occur effectively within a company or school.

- *The collaboration context,* which relates to the availability of opportunities for partnerships, alliances and collaborative efforts, creates the collaboration context that enhances a school's internal abilities to innovate.

- *The public policy context,* which determines the general environment in which schools operate, and can have a strong influence on such key innovativeness-related issues as skills availability, protection of intellectual property, curriculum, pedagogy and the amount of available professional development.

Watt (2002:8) further expounds that the context within which innovativeness occurs inside a school is shaped by four basic elements which do not bring about innovativeness to organisations and institutions, but rather offer a framework from which the complex process of innovativeness can be better understood and studied. These elements are referred to as the pillars of innovativeness at schools and are people, leadership, culture and climate and structures and process (figure 3.1).

Figure 3.1 The four pillars of innovativeness in schools



(Watt, 2002:2)

The following exposition details these pillars.

3.3.1 Staff members

Watt (2002:2) asserts that schools are innovative because of their people - people who are creative risk-takers and who are constantly seeking to improve themselves and the environments in which they work. Therefore innovative schools have on their staff a broad range of educators and administrators who are dedicated and committed to learning and development, passionate about what they do, are not interested in the *status*

quo or the comfort zones of teaching and are both advocates and champions of new ideas, projects and approaches.

Innovative educators share some common traits. They tend to think "outside of the box", approach challenges and opportunities in a creative manner, are risk-takers, adapt well to situations and are flexible, demonstrate great tenacity, are open-minded to new ideas and approaches, are passionate about education and learning, and are proactive rather than reactive.

Clearly then, innovative educators have diverse and complementary competencies including creativity and continuous improvement skills, implementation skills, risk-taking skills and relationship-building skills, and are individuals who take initiative, generate new ideas, embrace change and seek to learn continuously.

These kinds of educators, while being creative and intent on innovativeness, can only succeed in conditions with a certain kind of leadership.

3.3.2 Leadership

According to Watt (2002: 10), innovative organisations require leaders who have a clear vision, who are passionate about the organisation and its future, and who are able to think and act in new ways and motivate others to do the same. Leadership sets the direction, communicates the priority on innovativeness and influences whether the conditions are in place for innovativeness to thrive and demonstrate their commitment to innovativeness—within and outside the organisation—by what they say, where they put their priorities and how they support their priorities with resources. Klemm (http://www.au.af.mil/au /awc/awcgate/au24-401.htm) postulates that leadership can and does create a climate that encourages creativity and innovativeness

Clearly, the capacity of a school to be innovative is the measure of its principal's commitment and the passion he has for change, influenced by a clear vision of where he wants to take the school. Accordingly, Watt (2002:22)

advocates the notion that innovative schools have principals who constantly seek new ways of doing things and display themselves as:

- leaders who have vision and communicate the vision to the school and its educators;
- leaders who inspire and motivate others to work hard and who always value the contributions of colleagues;
- leaders who develop good working relationships;
- leaders who allow staff opportunities to debate issues;
- leaders who are committed to excellence;
- leaders who work with all stakeholders;
- leaders who are open and supportive;
- leaders who recognize and celebrate achievement;
- leaders who take on the role of facilitator rather than authoritarian; and
- leaders who are creative with resources, money, timetables, staffing and professional development.

Good leadership within the school will promote acceptable cultures and climates necessary for enhancing innovative thoughts and actions.

3.3.3 Cultures and climates

Innovative organisations have an entrepreneurial and risk-taking spirit. They are open to sharing ideas and learning new ways of doing things. Innovative organisations encourage collaborative approaches and they provide the necessary resources and environments needed to think and act in new ways. Most importantly, innovativeness requires a work environment in which ideas and initiatives are celebrated, risk is tolerated, and learning and change are valued. In such working and learning environments, employees tend to behave in a way that results in continued innovativeness across an organisation. In this regard, Education Queensland (2000:6) advocates that school organisational structures that allow for freedom of innovators to create and sustain an innovative culture are those that allow for flexibility and freedom for development.

Watt (2002:24) further indicates that innovativeness flows from culture-building and innovative schools tend to subscribe to a number of determinants of culture, including the following aspects:

- Mission statements that are simple and focused.
- Vision statements that are capable of stimulating enthusiasm and commitment.
- Clearly articulated values that convey innovative change to all stakeholders as well as institutional learning.
- Recognition systems that support and reinforce the school's value and priorities.

Therefore an innovative organisational culture and climate conveys an openness to sharing ideas and trying new things, collaborative and shared decision-making processes, a good chemistry among staff—a spirit of trust and professional camaraderie between educators and between educators and a school's administration and a climate where successes and achievements are celebrated—no matter how big or small (Watt, 2002:24).

3.3.4 Structures and processes

Watt (2002:30) propounds that these are systems and structures that enable and encourage innovative thinking, acting and doing among the members of the staff. These structures promote and allow for the sharing of knowledge and information, the ability to work in teams and across departments in an atmosphere conducive to the development of innovativeness. Structures and processes include, among others, curriculum, timetable and scheduling, standardized testing, provincial outcomes-based learning, facilities and buildings, working in seclusion from the world of work and the community.

It is clear, therefore, that innovativeness at schools will be enhanced by the consideration of the four pillars of education, namely people (referring to human resources or educators), leadership, cultures and climate, as well as structures and processes. A school consists of team work and the principal and the leader should ensure that the school climate is favourable for innovative processes to take place.

Consideration of the pillars of innovativeness highlights the role of the principals in creating an organisational climate that fosters creativity and innovativeness. In considering this, an understanding of innovative schools is necessary.

3.4 INNOVATIVE SCHOOLS

This study considers innovative schools as schools that allow creativity in educators and creates conditions that foster innovativeness. Watt (2002:15) tabulates the following about innovative schools:

- ***Innovative schools focus their attention on learners and their learning***

Innovative schools encourage educator innovativeness in instruction through the employment of various methodologies and teaching strategies, including implementation of information and communication technologies across the curriculum as an important goal of the school. Staff, as a whole, is continually searching for better access and improving technological services to learners and educators, and classrooms contain technological components that are intended to enhance the learning environment and enrich the delivery of instruction.

Schools achieve this status of innovativeness by focusing on their core function, namely learner achievement. In this regard, Watt (2002:15) asserts that this includes a need for a more coherent approach to curriculum that includes an overt focus on intellectual quality and the integration of ideas, concepts and knowledge across curriculum areas, on connections with the world beyond school; and on recognising and celebrating diversity to maximise participation in learning and civic life within an environment supporting purposive learning and constructive relations and interactions.

Education Queensland (2000:8) includes an approach that embraces the design of relevant, inclusive, flexible, intellectually challenging and innovative learning experiences and assessment strategies, integrating information technology, fostering the social development and participation of young people and, working across generations to share and develop new blends of

skills and knowledge, working collaboratively in professional teams and working with parents, communities and business organisations.

- ***Innovative schools recognise people and their accomplishments***

Watt (2002:30) espouse that innovative schools recognise innovative teaching and learning initiatives. He states that in the business world financial rewards are prevalent, linked variously to individual performance, team performance or organisational performance on such key indicators as customer satisfaction, employee satisfaction and quality, and argues that in schools, recognition can be as simple as having a principal write a detailed thank you note to educators commending them on their efforts, or as quick as holding an impromptu staff meeting with cake and coffee.

Watt (ibid) recognizes that at schools there is not a lot of money available for celebrating successes, however, schools can make sure that staff members can be duly recognized for their accomplishments, whenever and wherever possible, as it brings considerable value to the school by enhancing its climate and culture and by keeping the spirit and drive of students and staff high. An example is one staff member in one school who announced that "respect and recognition breeds good things".

- ***Innovative schools are committed to professional development***

In terms of innovativeness, Watt (2002:31) asserts that professional development is not only about learning how to apply the curriculum or learning how to work within the confines of the current education system, but it is also very much about seeking out new ways of doing things and taking on professional development that leads to innovative thinking, acting and doing.

Innovativeness at schools, as well as the fact that the school as an organisation comprises educators, managers and support staff, implies that the fostering of innovativeness should focus on school organisational dynamics. More precisely, it implies that the principal's role is basically that of creating suitable conditions.

3.5 THE ROLE OF THE PRINCIPAL IN FOSTERING INNOVATIVENESS

Fostering the creativity and innovativeness of educators as the principal's role includes taking cognisance of the four pillars of innovativeness espoused above and finding the right mix of these within the context of teaching and learning at the school. A clear understanding of the nine dimensions for creativity and innovativeness gives expression to how the principal can foster creativity and innovativeness.

These dimensions are re-examined in the context of the role of the principal in promoting conditions for them. These dimensions can be presented in three categories (cf. Prather, 1996) in order to highlight the role of the principal, namely, those related to resources, personal motivation and exploration. In essence, the principal's role involves creating a school climate that provides creativity and innovativeness resources, provides opportunities for educators' personal motivation and allows them opportunities for exploration.

3.5.1 Resources

Providing resources involves idea time, idea support and challenge and involvement. According to Prather (1996), this involves using a process to get the best ideas from everyone and encouraging people to try new ideas and warmly receiving them when they are offered. Surry, Porter, Jackson and Hall (http://iphase.org/papers/site2004.pdf) advise that innovativeness is a process and thus urges principals to build and nourish innovativion friendly environments on a continual basis by providing time for learning. Among others, these writers suggest hiring substitutes, altering time schedules, holding in-service development sessions and temporarily altering class schedules and rosters to allow idea time and support to educators.

An important aspect of the principal's role involves providing the mandate and vision needed for innovativeness as a way of showing and encouraging commitment (Surry *et al.*, http://iphase.org/papers/site2004.pdf). In this regard, it is important to highlight that challenge and commitment involve allowing for educator participation in decision-making, visioning and creating missions, as well as involvement in evaluation and the monitoring thereof on a

continuous basis. Klemm (http://www.au.af.mil/au/awc/awc gate/au24-401.htm) advocates getting people involved and immersed in problems and giving people some slack, freedom and time for meditation, to let emerging ideas take them where they will, even if they violate common wisdom or the constraints of time, money, and facilities, and he asserts that a creative and innovative person must have time where he or she does nothing, as viewed in conventional terms by superiors in an organisation.

The principal's role is therefore imbued in examining the school organisational culture and climate in terms of (cf. Sexton & McDermott, 2000:11):

- how challenged and emotionally involved educators feel about their work;
- how deeply educators feel committed to their work; and
- whether there are opportunities for educators to share and act on their ideas.

Closely related and complimentary to providing idea time, support and challenge and involvement, is the provision of personal motivation for educators.

3.5.2 Providing personal motivation

Providing personal motivation involves trust and openness, playfulness and humour, and absence of interpersonal conflicts (Pather, 1996). In this regard, the principal's role is that of leading by example by admitting when things go wrong and engaging in dialogue about how to improve, as well as by insisting that people get along. Leading by example includes being reliable, keeping promises, acting out of principle and being consistent, keeping confidences, being honest and sustaining integrity, preserving the dignity of individuals and recognising the uniqueness of each educator (Saskatchewan Resource for the Principalship, http://www.sasked.gov.sk.ca/branches/legschooladmin/pdf/create.pdf). This includes managing conflict as close to where it occurs and as timeously as possible.

Humour and playfulness necessitates the principal's creating the expectation that educators can have fun at work and this refers to how relaxed the

workplace is. This includes providing space for fun, an easygoing and light-hearted climate and team-orientedness (Sexton & McDermott, 2000:11).

Conflict situations at schools can result in poor motivation, low morale and an absence of innovativeness. Clearly, educators in a conflict-ridden school environment would be unwilling to venture out and try new ideas, mainly because such environments would be infested with lack of trust and openness.

To minimize conflict, the principal must encourage and insist on a climate where educators get along (Pather, 1996). This implies all efforts to manage conflict. This will be complemented by engendering trust and openness, as well as providing educators with the autonomy to be creative. This, however, can only occur where trust is a key component of the school environment. In this regard, Klemm (http://www.au.af.mil/au/awc/awc_gate/au24-401.htm) propounds open communication between educators and the school management. In that way, the principal can openly solicit their ideas, and listen to what they say, which not only serves the positive motivational purpose of making them feel as if they are important, but also gives the principal access to information and ideas they might otherwise not obtain. This also breaks down interdepartmental barriers among educators.

Personal motivation of educators is a broad and challenging phenomenon for the principal. The major challenge is for the principal to provide educators with opportunities for exploration.

3.5.3 Providing opportunities for exploration

Opportunities for exploration involve risk-taking, debates about the issues and freedom. Risk-taking implies the cultivation of an expectation for "mistakes" and is allied with the dimension of trust and openness (Pather, 1996).

According to Klemm (http://www.au.af.mil/au/awc/awcgate/au24-401.htm), leaders must allow workers to experiment and use their thinking errors to grapple with their creative ideas because mistakes can be useful in posing issues in a new way and inviting unique approaches to a problem. This can

happen if the principal encourages educators to take risks and even to use unconventional methods of doing things.

Risk-taking can be useful when coupled with allowing debates over issues and giving educators freedom to explore. Giving educators autonomy encourages each team member to know that he or she is responsible to the team and that the team is responsible for its own success or failure, because where teams are allowed to operate in an environment where nobody can get the credit and nobody can take the blame for foul-ups, there is little incentive to do one's best (Klemm, http://www.au.af.mil/au/awc/awcgate/au24-401.htm). In this regard, Isaksen and Lauer (2002:80) assert that allowing for risk-taking makes people feel as though they can 'take a gamble' on ideas and that they will often 'go out on a limb' to put an idea forward and, as a result, team members are provided the opportunities and take initiatives to acquire and share information about their work.

Isaksen and Lauer (2002:80) propound that debate is related to idea-tension and that, in debating, all the voices of team members are heard, and they are keen on putting forward their ideas for consideration and their merits are openly debated and resolutions reached.

It is clear from this exposition that the role of the principal in fostering educators' creativity and innovativeness is mainly based on creating an enabling environment where educators can be creative, but also where there are support systems for the innovation of such ideas. This is clearly a challenging task for the school principal.

3.5.4 Synopsis

It is clear from the exposition above that creativity and innovativeness at schools require of the principal to create a school organisational climate that fosters the nine dimensions of innovativeness. The principal's leadership is therefore at the core of fostering educators' innovativeness. In this regard, Principia (http://www.nccmembership.co.uk/pooled/articles/BF_WEBART/view.asp?Q=BF_WEBART_113281) postulates that because innovativeness involves journeying into the unknown, it is critical that organisations have

confidence in the vision, strategies and intentions of their leaders. The principal's task is therefore that of articulating the school's vision, strategies and intentions in such a way that they are enthusiastically adopted and lived out by educators. This includes such innovativeness drivers as core values such as learning, commitment, people development and contribution

Fostering creativity and innovativeness implies creating an environment that is flexible and empowering, that welcomes ideas, tolerates risk, celebrates success, fosters respect and encourages fun (Principia, http://www.nccmembership.co.uk/pooled/articles/BF_WEBART/view.asp?Q=BF_WEBART_113281). In this regard, Watt (2002:2) asserts that there are several important components or elements that innovative schools collectively support and acknowledge as being critical, and lists the following elements as being critical:

- financial and other resources committed to create, develop and implement new ideas;
- teamwork and collaboration between educators, and between educators and school administrators;
- all activities and initiatives focused on student learning and student development;
- educators and school administrators having a passion to seek out new and better ways of doing things;
- access to new technologies and programmes to learn and use; and
- time and resources are made available to educators and school administrators to think and learn, create and implement.

It is crucial at this point to highlight the fact that for the principal to foster the creativity and innovativeness of educators at the school, he/she must also be creative and innovative. It is only then that he/she can be able to motivate educators and create enabling conditions for innovativeness.

3.6 SUMMARY

This chapter outlined the role of the school principal in fostering educators' creativity and innovativeness. This was done in terms of the school as an

organisation. It is clear that creating school organisational climates that promote creativity and innovativeness of educators is of paramount importance. The exposition of the four pillars of innovativeness highlighted the importance of a consideration of the nine dimensions for creativity and innovativeness in terms of providing resources, opportunities for personal motivation and exploration.

The next chapter outlines the research design.

CHAPTER 4

EMPIRICAL RESEARCH DESIGN

4.1 INTRODUCTION

In the first two chapters, the nature of creativity and innovativeness was investigated from a conceptual point of view, i.e. the conceptualisation of creativity and innovativeness, school organisational climate, the dimensions for creativity and innovativeness, and the role of the school principal in fostering the creativity and innovativeness of educators. This was done through a literature study. The focus will now shift to the empirical aspect of the dimensions for fostering creativity and innovativeness of educators i.e. the perceptions of both principals and educators about how creativity and innovativeness of educators are fostered at their schools.

This chapter proposes to present the research design with regard to the research method, the development of the research and the description of the pilot study.

4.2 THE RESEARCH INSTRUMENT

4.2.1 The questionnaire as a research tool

It was decided to use a questionnaire for the purpose of this research. In determining the role of the school principal in fostering the creativity and innovativeness of educators, the questionnaire was deemed appropriate to finding out how creativity and innovativeness is currently fostered at schools. The advantages of a questionnaire were a big consideration in this regard (Leedy & Omroyd, 2005:185). Among other advantages, costs of administering questionnaires are relatively low, the geographical area covered can be large enough, respondents' complete questionnaires anonymously and a large sample can be reached (Delport, 2002:172).

School principals were initially considered for this research. However, due to the disadvantages of questionnaires, especially regarding responses that are deemed to be socially acceptable and pleasing to the researcher (Leedy & Omroyd, 2005:185), it was decided to include a sample of educators in order to get a balanced view of how creativity and innovativeness is fostered at schools.

Therefore the questionnaire in this study was used to investigate the perceptions of principals and educators on how creativity and innovativeness dimensions are promoted at their schools.

The suitability of the questionnaire is supported by the fact that principals and educators would be interested profoundly in the final outcome of the research and its implication for the betterment of their working conditions (cf. Delport, 2002:172).

4.2.2 The Questionnaire Design

The questionnaire was designed in line with guidelines proffered by Delport (2002:175). The following are cited in this regard:

- The nature of the questionnaire was determined on the basis of the study variable and in line with the information required. Thus, the dimensions for creativity and innovativeness were identified as variables to be investigated. This led to the identification of the target population of principals and educators. This informed the length of the questionnaire and the clusters of questions per dimension.
- The questionnaire format was informed by the fact that this would be a questionnaire delivered by hand, through personal administration and the assistance of contact persons at schools. This was accompanied by a covering letter detailing the purpose of the study and indicating for whom the study was meant.
- The writing of questions was guided by basic principles like brief sentences, clear language, unambiguity, relevance and non-threatening phrasing.

On the basis of these guidelines for questionnaire designing, the final questionnaire was constructed.

4.2.3 Construction of the questionnaire items

The literature study (cf. chapters 2 & 3) was a basis on which perceptions of principals and educators on how creativity and innovativeness of educators is fostered at schools was examined. This focused on the dimensions of creativity and innovativeness of educators as well as the principals' role in the fostering thereof. Although aimed mainly at business and industrial settings, questionnaires designed by Destination Innovation (http://www. destination-innovation.com/test_yourself.cfm), Warner (2004), Watt (2002) and Prather (1996) were used in order to achieve a satisfactory measure of standardisation and thus reliability in so far as creativity and innovativeness dimensions are concerned. These sources provided a basis and framework for items included in the study.

Questions were designed to elicit responses from principals and educators concerning their perceptions about what is happening at schools with regard to the dimensions for fostering creativity and innovativeness of educators. Questions were structured so that they related to the principals and educators (respondents) in the work situation as identified in the literature (cf. chapters 2 & 3). Nine dimensions of creativity and innovativeness in organisations were used, namely:

- Challenge and involvement
- Freedom
- Trust and openness
- Idea support
- Debate
- Risk-taking
- Conflict management
- Humour and playfulness

A total of 33 questions were used in the questionnaire. Each dimension was allotted a number of questions covering as much information as possible in

that dimension. A four point Likert-type rating scale was used The balanced four-point scale was firstly chosen in order to eliminate the tendency of respondents to provide socially desirable responses so as to please the researcher or to appear helpful. To this end, Garland (http://marketing-bulletin.Massey.ac.nz/article2/ research3b.asp) contends that these tendencies can be minimised by eliminating the mid-point category from the Likert scale. Secondly, the researcher sought to elicit definite answers from respondents since the questionnaire content was deemed to be specific to the listed dimensions (Hitchkock & Porter, 2002: http://www.arches.uga.edu/~porterk/likertscale.html).

4.2.4 The structure of the questionnaire

The questionnaire was sub-divided into two main sections (see Appendix A) *viz*:

- ***Section A: General information:***

  Items in this section related to the biographical information of the respondents. This information is essential as it contributes to the researcher's understanding of the responses and the possible reasons for them. Questions in this section related to information about respondents' age, experience, position held at school, qualifications, school type, number of educators at the school, location of the school, number of learners and merit awards received by educators.

- ***Section B: Dimensions for fostering creativity and innovativeness of educators*:**

  Questions in this section were categorized according to dimensions identified from the literature study. They were clustered as follows:

  - Challenge and involvement - Questions 1, 2, 3, 4
  - Freedom - Questions 5, 6, 7, 8, 9, 10
  - Trust and openness - Questions 11, 12, 13, 14
  - Idea time - Question 15, 16, 17
  - Idea support - Questions 18, 19
  - Debate - Questions 20, 21, 22, 23

- Risk-taking - Questions 24, 25, 26, 27
- Conflict management - Questions 28, 29, 30, 31
- Humour and playfulness - Questions 32, 33

Respondents were asked to indicate on a four point rating scale the degree to which they view each item in their present work situation, that is, *strongly agree, agree, disagree, strongly disagree*.

4.2.5 Pilot survey

The questionnaire was pre-tested with a sample of principals and educators from both primary and secondary schools in the Sedibeng District (n=20 respectively). This was aimed at ensuring that errors, as well as ambiguities and vagueness in questions, were rectified (Delport, 2002:177). Space was left for comments and evaluations so as to determine the feasibility of the questionnaire. The pilot survey, including discussions of the questionnaire with the study leader and peers, was done to ensure a reasonable and acceptable measure of reliability of the questionnaire.

4.2.6 Final questionnaire

After the pilot study and its results were noted, necessary adjustments were made and after discussions with the study supervisor, the final questionnaire was developed (see appendix A). The questionnaire was then distributed to the target population. A covering letter was enclosed (see appendix C). The covering letter was aimed at orientating the respondents to the questionnaire and assuring them of confidentiality and anonymity (Delport, 2002:176).

4.3 POPULATION AND SAMPLING

The target population identified comprised school principals and educators in the Gauteng Province. According to the district's personnel, there were 277 schools in the Sedibeng District. The number of principals at the time of inquiry was 275. The sample was then pegged at 150 to attempt to be as representative as possible. A snap survey of local schools yielded an average of 20 educators per school. Consequently, the number of educators was approximated to be 5 500 at an average of 20 educators per school. The

sample was thus pegged at approximately 6% (350) of the possible population. The sample sizes were determined using guidelines provided by Strydom and Venter (2002:200), Leedy and Omroyd (2005:207) and McMillan and Schumacher (2001:177). The homogeneity of the population was a major consideration for the sample size as suggested by the afore-mentioned authors.

4.4 RESPONSE RATE

Questionnaires were distributed to principals (150) and educators (350) at schools in the Sedibeng District. Table 4.1 shows the response rate of principals and educators. It can be seen that of the total sample population, 70% of the principals and 79.4% of the educators returned usable questionnaires. According to Diem (2002), a response of 50 to 60 percent is often considered an acceptable return rate for survey research and can be considered a "usable" response rate. In this research, both response rates warrant the usability of the responses and can be considered representative of the research target population.

Table 4.1 Response rate

Questionnaires Distributed		**Questionnaires Received**	**%**
Principals	150	105	70%
Educators	350	278	79.4%

4.5 ADMINISTRATIVE PROCEDURES

4.5.1 Approval from the Gauteng Education Department

The final questionnaire was submitted to the Gauteng Education Department for scrutiny and subsequent approval to conduct the research at schools using the prescribed form found on the department's website (http://www.education.gpg.gov.za). The questionnaires were subsequently distributed to principals and educators.

4.5.2 Follow up of questionnaires

A follow up on questionnaires that were not returned on time was done personally, as well as through contact persons. However, not all questionnaires could be retrieved, reportedly due to the Integrated Quality Management Systems programme in which schools were engaged at the time.

4.6 STATISTICAL TECHNIQUES

The North-West University: Vaal Campus Statistical Services processed the data collected by means of a computer using the SAS-Programme. The SAS-Programme was used to find the frequencies and means according to the PROC FREC (Frequency Procedure). Data was analysed using the frequency counts and percentages as well as the t-test, to determine the significance of perceptual differences between principals and educators' perceptions regarding how creativity and innovativeness are fostered at schools.

4.7 SUMMARY

This chapter has briefly outlined the research design with regard to the research method, the development of the research and the pilot study description. Finally, the questionnaire was used as a research instrument because of its advantages and was distributed and collected through contact persons at schools.

The next chapter will submit the data analysis and interpretation.

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

This chapter presents a report of the empirical investigation conducted through a questionnaire to determine the perceptions of principals and educators regarding how the creativity and innovativeness of educators is fostered at schools.

The summary of the data collected is discussed below.

5.2 GENERAL INFORMATION

5.2.1 Review of respondents

A total of 500 questionnaires were distributed. This amounted to 350 questionnaires for educators and 150 for principals. Of these questionnaires, 381 usable questionnaires were returned. The response rate was therefore representative of the sampled group. It is, however, important to note the possible reasons for the less than 100% response rate. It is possible that the response rate was affected by the timing of the distribution of questionnaires. They were distributed at the time when schools were busy with surveys, as well as with the implementation of the integrated quality management systems (IQMS). Schools were therefore preoccupied with the IQMS.

5.2.2 Demographic data

The tables under each aspect depict the biographical information of the respondents.

5.2.2.1 *Gender of respondents*

Table 5.1 depicts data on the gender of respondents. The data indicates that there are more male principals (61.0%) than female principals (36.2%). There

are also more female educators (53.6%) than male educators (43.5%). This implies that gender equity is still to be addressed with regard to senior positions. It is interesting to note that the principalship is dominated by males while the educator corps is female-dominated. This could have a bearing on how creativity and innovativeness is fostered at schools in terms of management styles of female principals compared to male principals.

Table 5.1 Data on respondents' gender

Gender	Principals		Educators	
	f	%	*f*	%
Male	64	61.0	121	43.5
Female	38	36.2	149	53.6
NR	03	2.8	08	2.9
Total	**105**	**100**	**278**	**100**

5.2.2.2 *Age of respondents*

Table 5.2 illustrates data on the ages of respondents. From the data collected, it seems that the majority of principals (64.8%) fall within the 41-49 year category, followed by the 50^{+} year category (23.8%), while the majority of educators fall within the 31-39 years (34.9%) and 41-49 years (49.6%) categories. It can be noted from the age distribution of respondents that the majority of them are at the higher age category, which should have a bearing on the need for school climates fostering creativity and innovativeness. These are educators in the age range that allows for maximum productivity engendered by creativity and innovativeness. These are educators who should be retained in the teaching profession and afforded opportunities to utilise their age-related stability and maturity for the benefit of schools.

Table 5.2 Data on the ages of respondents

Age	Principals		Educators	
	f	%	*f*	%
20-30	1	0.9	13	4.7
31-39	9	8.6	97	34.9
41-49	68	64.8	138	49.6
50^{+}	25	23.8	26	9.4
NR	2	1.9	4	1.4
TOTAL	**105**	**100**	**278**	**100**

5.2.2.3 *Teaching experience*

Table 5.3 illustrates data on the teaching experience of respondents. From the data collected, it seems that the majority of principals (53.33%) fall within the twenty plus years of teaching experience, followed by the 15-20 years of experience (24.76%), while the majority of educators (23.38%, 23.74% and 23.38% respectively) fall within the 10-15, 16-20 and 20^{+} age category. The majority of educators have relatively long teaching experiences, which should have significant implications for keeping them motivated and retaining them in the teaching profession by, among other things, fostering their creativity and innovativeness.

Table 5.3 Data on teaching experience

Experience	Principals		Educators	
	f	%	*f*	%
1-5	3	2.86	26	9.35
6-10	5	4.76	46	16.55
10-15	11	10.48	65	23.38
15-20	26	24.76	66	23.74
20	56	53.33	65	23.38
NR	4	3.81	10	3.60
TOTAL	**105**	**100**	**278**	**100**

5.2.2.4 *Highest academic qualification*

Table 5.4 illustrates data on the highest academic qualification of respondents. From data collected, it seems that the majority of principals (54.29%) have degrees, followed by 21.90% who have matric as their highest academic qualification. Most educators (40.65%) have matric while 31.65% have degrees. The number of educators (both respondent groups) who are in possession of degrees is an encouraging sign for professional and personal growth at schools and is indicative of the fertile ground in which principals can foster creativity and innovativeness.

Table 5.4 Data on highest academic qualification

Academic qualification	Principals		Educators	
	f	%	*f*	%
Matric	23	21.90	113	40.65
Degree	57	54.29	88	31.65
2nd degree	10	9.52	25	8.99
3rd degree	5	4.76	7	2.52
NR	10	9.52	45	16.19
TOTAL	**105**	**100**	**278**	**100**

5.2.2.5 *Professional qualification*

From Table 5.5 it seems that most principals (65.71%) have diplomas, followed by 28.57% who have BEd degrees, while the majority of educators (78.78%) have diplomas, followed by 16.19% who have BEd degrees. The majority of respondents have diplomas, which is the minimum qualification needed for entry into teaching. This means educators need to be encouraged to empower themselves to be productive, creative and innovative and indicates the role that principals must play in this regard.

Table 5.5 Data on academic qualifications

Academic qualification	Principals		Educators	
	f	%	*f*	%
Certificate	3	2.86	10	3.60
Diploma	69	65.71	219	78.78
Degree	30	28.57	45	16.19
NR	3	2.86	4	1.44
TOTAL	**105**	**100**	**278**	**100**

5.2.2.6 *School type*

Table 5.6 illustrates data on the school type of respondents. From the data collected there is a balance between primary and secondary school principals (46.67%), while the majority of educators (53.32%) are at primary schools. The school type may not have any bearing on the creativity and innovativeness of educators. It can, however, be suggested that the types of work challenges at primary and secondary schools differ and, as a result, pose different challenges for educator creativity and innovativeness.

Table 5.6 Data on respondents' school type

Academic qualification	Principals		Educators	
	f	%	*f*	%
Primary	49	46.67	151	54.32
Secondary	49	46.67	121	43.53
Combined	3	2.86	4	1.44
Other	4	3.81	2	0.72
TOTAL	**105**	**100**	**278**	**100**

5.2.2.7 *Number of educators at schools*

Table 5.7 illustrates data on the number of educators at respondents' schools. From the data collected, it seems that most principals (53.33%) are at schools with 21-40 educators, followed by 26.67% who are at schools with 10-20 educators. The majority of educators (50.0%) are at schools where they are

between 21 and 40, followed by 25.90% who are at schools where they are between 10 and 20. These numbers have significant implications for principals who strive to foster educators' creativity and innovativeness. Quite clearly, the more educators there are on the school staff, the more onerous the task of the principal in treating them equally, without seeming to display favouritism to certain groups, as well as being able to pay attention to all their needs for, *inter alia*, development, recognition, freedom, risk-taking and challenge.

Table 5.7 Data on the number of educators in the school

Number of educators	Principals		Educators	
	f	%	*f*	%
Less than 10	5	4.76	12	4.31
10-20	28	26.67	72	25.90
21-40	56	53.33	139	50.0
40^{+}	12	11.43	49	17.63
NR	4	3.81	6	2.16
TOTAL	**105**	**100**	**278**	**100**

5.2.2.8 *Location of school*

Table 5.8 illustrates data on the location of respondents' schools. From the data collected, the majority of principals (74.29%) are at township schools followed by 19.05% at town schools, while the majority of educators (81.29%) are at township schools, followed by 12.95% at town schools.

Table 5.8 Data on location of schools

Location of school	Principals		Educators	
	f	%	*f*	%
Township	78	74.29	226	81.29
Town	20	19.05	36	12.95
Farm/Rural	3	2.86	11	3.96
NR	4	3.81	5	1.80
TOTAL	**105**	**100**	**278**	**100**

The fact that most schools are located in the township indicates the demographic make-up of schools in Gauteng and consequently in South Africa. In terms of historical disadvantagedness, it can be expected that many more challenges will exist at these schools, especially in the provision of resources engendering creativity and innovativeness. This, coupled with the high enrolments (Table 5.9), is especially noteworthy.

5.2.2.9 *Number of learners at schools*

Table 5.9 illustrates data on the number of learners in respondents' schools. From the data, it seems that the majority of principals (37.14%) are at schools with between 0-1000 learners, followed by 25.71% with 1000^{+} learners who are, while the majority of educators (39.21%) are at schools with 1000+ learners, followed by 21.22% who are at schools with 0-1000 learners. This means that schools with many learners have many educators, which poses a challenge to principals to devote their efforts to encouraging educators to be creative and innovative for better performance standards and excellence. The high number of learners can also have an impact on educators' ability to be creative and innovative.

Table 5.9 Data on learner numbers at schools

Number of learners	Principals		Educators	
	f	%	*f*	%
0-500	15	14.29	47	16.91

0-800	21	20.00	57	20.50
0-1000	39	37.14	59	21.22
1000^{+}	27	25.71	109	39.21
NR	3	2.88	6	2.16
TOTAL	**105**	**100**	**278**	**100**

5.2.2.10 *Merit awards received*

Table 5.10 illustrates the data on merit awards received by respondents. From the data collected, the majority of principals (30.48%) did not receive any merit award, followed by 24.76% who received two merit awards, while the majority of educators (47.12%) did not receive any merit award followed by 17.99% educators who received one merit award. This implies that great effort should be made to encourage them by recognising for their achievements and innovativeness. This could have some bearing on the quality of education and performance standards in terms of risk-taking influenced by managerial styles.

Table 5.10 Data on merit awards received

Number of learners	Principals		Educators	
	f	%	*f*	%
0	32	30.48	131	47.12
1	13	12.38	50	17.99
2	26	24.76	44	15.83
3	25	23.81	31	11.15
4^{+}	9	8.57	22	7.91
TOTAL	**105**	**100**	**278**	**100**

5.2.3 Analysis of creativity and innovativeness dimension

Data collected was divided into the nine identified dimensions for fostering creativity and innovativeness in organisations, namely challenge and involvement, freedom, trust and openness, idea time, playfulness and humour, conflict, idea support, debate and risk-taking (cf. 2.3.1). This data is presented in this section. For the purpose of analysis, the responses

pertaining to "agree" and "strongly agree" were combined to denote *agree*, and those for "disagree" and "strongly disagree" were combined to denote *disagree*.

5.2.3.1 *Challenge and involvement*

Questions in this dimension sought to find out the extent to which teams are given opportunities to get involved in daily operations, long-term goals and visions of the schools since a high challenge and involvement ensure that people experience joy and meaningfulness in their jobs and therefore invest much energy.

From the data collected (Table 5.11), it can be seen that most principals and educators agree that staff is always involved in drawing up the vision and mission statements of the schools (87.6% and educators 81.3% respectively). A significant number of educators (15.8%) disagree with this statement and could be feeling that there are inadequate or opportunities for challenge and involvement at their schools.

Most principals (93.3%) and educators (75.5%) agree that educators are often involved in decision-making on new innovations to be implemented at the school. A significant number of educators (22.7%) disagree with the statement and could allude to those educators who feel sidelined in decision-making processes at schools. There is however, agreement from both principals and educators on being often involved in decision-making on new innovations implemented in the schools.

The majority of principals (91.4%) and educators (77.7%) concur with the statement that educators are continuously updated on issues which affect their lives. This implies that generally, educators are updated on issues that affect their lives, especially their work lives. However, a significant number of educators (20.9%) disagree. This response could imply a feeling of neglect and non-involvement which educators are subjected to as a result of, *inter alia*, poor consultation and lack of transparency practised by some school principals.

While agreeing that staff is involved in drawing up vision and mission statements of schools, most respondents (67.6% principals and 71.2% educators) disagree that the vision is reviewed and discussed with educators every term as a standard or pace-setter for the term. This could imply lack of inadequate time allocation for reviewing the vision statements of the schools, which should serve as the threshold for good performance standards in teaching or could allude to the fact that educators are not given the challenge of using their creativity and involvement, as well as decision-making, in school innovations. This seems to contradict the previous findings in this dimension. This indicates a weakness in the way schools monitor and evaluate their performance. Clearly, this points to a need for capacity building in this regard.

Table 5.11 Data on challenge and involvement

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
1. Staff is always involved in drawing up the vision and mission statements of the school.	92	87.6	9	8.6	3.8	226	81.3	44	15.8	2.9
2. Educators are always involved in decision-making on innovations for the school.	98	93.3	6	5.7	1.0	210	75.5	63	22.6	1.8
3. Educators are continuously updated on issues which affect their lives.	96	91.4	8	7.6	1.0	216	77.7	58	20.9	1.4
4. The vision is reviewed and discussed with educators every term as a standard or pace-setter for the term.	33	31.4	71	67.6	1.0	77	27.7	198	71.2	1.1

- *Summation*

On the whole, it does seem as if educators experience a great deal of challenges and involvement in daily school operations and visions and, should

be experiencing meaningfulness in their duties. However, it is disconcerting that educators are not involved in the review of the school vision, since they would then not be challenged to seek to improve their performance creatively and innovatively. Clearly, without standards or pace setters for performance, creativity becomes stifled to limited scopes of operation or *ad hoc* operations and quite obviously, fostering innovativeness is limited in such conditions.

5.2.3.2 *Freedom*

This dimension sought to find out the extent to which educators are allowed to take the initiative or to act without constantly referring to higher authorities or "rule books" for decisions and whether they are allowed to make contacts, give and receive information, discuss problems and alternatives, plan and take initiatives of different kinds.

It can be seen from table 5.12 that the majority of respondents (89.5% principals and 67.2% educator) agree that teams at the school are free to make their own choices on handling creative ideas and bringing about innovative changes.

Table 5.12 Data on freedom

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
5. Teams at the schools are free to make their own choices on handling creative ideas and bringing about innovative changes.	94	89.5	09	8.6	1.9	187	67.2	88	31.7	1.1
6. Educators are allowed to initiate and try out their daily activities for advancement of the school.	98	93.3	06	5.7	1.0	216	78.4	58	20.9	0.7
7. Educators are free to call for ideas and help from other departments.	100	95.2	04	3.8	1.0	213	76.6	59	21.2	2.2
8. Educators are allowed to select teams and projects	96	91.4	08	7.6	1.0	225	80.4	46	16.6	3.0

on which they want to serve.										
9. Teams carry out their tasks without being threatened by circumstances in the entire school.	76	72.4	28	26.6	1.0	176	63.3	98	35.3	1.4
10. Teams have freedom to make decisions and implement them without having to ask for permission.	24	22.8	78	74.3	2.9	56	20.2	220	79.1	0.7

However, a sizeable number of educators (31.7%) disagree. This could allude to certain school principals lacking flexibility and being rigid in their leadership approaches. It could also be a sign of distrust of educators in being able to do things on their own and principals preferring to sanction any initiative taken by educators.

Of the respondents, most principals (93.3%) and most educators (78.4 %) agree that educators are allowed to initiate and try out their daily activities for the advancement of the school. Once again, a significant fifth of educators (20.9%) disagree with this statement. This response could be due to a feeling of uncertainty in educators as a result of dominance by principals in the school activities, as well as a possible suspicion of educators' motives and intentions concerning the advancement of the school.

Most of the respondent principals (95.2%) and educators (76.6%) agree that educators are free to call for ideas and help from other departments. A significant number of educators (21.2%) disagree with the statement. This could mean that these educators are not allowed to canvass ideas and are expected to comply with laid-down rules and directives.

On whether educators are allowed to select teams and projects on which they want to serve, respondent principals (91.4%) and educators (80.4%) agree. This bodes well for schools and educators in terms of freedom to explore their talents and skills in areas and groups that create synergy and cooperation.

Of the respondents, most principals (72.4%) and educators (63.3%) agree that teams carry out their tasks without being threatened by circumstances in

the entire school. However, more than a third of respondent educators (35.3%) disagree with the statement. This is a significant number and could imply inconsistency in some educators who feel they are threatened by circumstances at the school. For instance, it could mean that while they carry out their tasks "freely", they have to take cognisance of various circumstances at the school, like conflict situations and feelings of others.

Of the respondents, most principals (74.3%) and educators (79.1%) disagree that teams have freedom to make decisions and implement them without having to ask for permission. Though significant, few principals (22.8%) and educators (20.2%) agree with the statement. These responses are quite significant and seem to contradict responses to the other questions in this dimension. This could be that principals attach great importance to being "gatekeepers" of decisions made at the school, maybe because they are finally accountable for all school processes. It could also be that principals feel that educators are not competent enough to make decisions and implement them, hence they have to seek permission. It could also be that educators are used to the culture of seeking permission before implementing decisions. This situation is indeed a serious barrier to a climate of creativity and innovativeness.

- *Summation*

On the whole, it seems that educators do experience some form of freedom. A high number of principals agree with this as compared to that of educators. This could imply that even though educators are granted the freedom needed in the execution of their tasks, they are not assertive enough to accept the freedom granted. In contrast, most principals and educators disagree that teams have freedom to make decisions and implement them without having to ask for permission. This implies that freedom is not fully granted because if that was the case, teams would be allowed to initiate, start and try their ideas without having to ask for permission. This could be seen as a normal way of executing one's tasks. This would then serve as an indication for self-starters, which is one of the qualities needed for fostering one's creativity and innovativeness.

5.2.3.3 *Trust and openness*

This dimension sought to find out the degree of emotional safety in relationships, where there is trust and educators feel safe enough to be open and honest with their colleagues in the spirit of constructive relationships.

From data collected in this dimension (Table 5.13), it is observed that most principals (72.4%) agree that educators' honest and original mistakes are recognised as an indication of initiative and courage. However, a significant number (25.7%) disagree with the statement. Just a little more than half of the educators (56.1%) agree with the statement, while almost half (41%) disagree. These responses point to a fertile situation for creativity and innovativeness at schools in that educators can take risks without worrying about negative repercussions when mistakes are committed. It implies that mistakes committed are seen in the context of attempts within which they occur. It does raise a concern, though, that a significant number of educators perceive this differently, that is, they disagree. It could be that such educators constantly face situations of personal criticism and attack when mistakes occur.

Table 5.13 Data on trust and openness

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
11. Educators' honest and original mistakes are recognized as an indication of initiative and courage.	76	72.4	27	25.7	1.9	156	56.1	114	41.0	2.9
12. Educators are encouraged to be open and honest, even if it is painful.	80	76.2	22	21.00	2.8	168	60.4	106	38.2	1.4
13. Favouritism is discouraged and objective thinking is encouraged.	83	79.1	18	17.1	3.8	164	59.0	110	39.6	1.4
14. Every educator is seen as a person and	83	79.0	19	18.1	2.9	173	62.2	95	34.2	3.6

not as the same as others in the team.										

Of the data collected, it is clear that most principals (76.2%) and educators (60.4%) agree that educators are encouraged to be open and honest, even if it is painful. This is good for the fostering of creativity and innovativeness in that it also promotes a climate of truthfulness and openness, which should allow for educators' ability to take risks, venture into new things while, being sure of the genuineness of reactions to their endeavours. However, a significant number of principals (21.0%) and educators (38.2%) disagree with the statement. This could allude to a feeling of educators' helplessness resultant from constant criticism and fear of getting into "a trap" by being honest. Principals, on the other hand, could be feeling that despite encouraging educators to be open and honest, educators never do that. Instead they could be covering up to hide their faults. Such a climate frustrates both principals and educators in attempts to improve continuously, since distrust and suspicions are features thereof.

Most principals (79.1%) and most educators (59.0%) agree that favouritism is discouraged and objective thinking is encouraged. This should create a positive climate for creativity and innovativeness in educators. It is interesting, however, to note that a sizeable educator population (39.6%) disagree with the statement. This response is worrisome, since favouritism is one of the most negative behaviours that breed distrust and encourage cliques in organisations. Clearly, attempts at innovativeness would be inhibited in such a climate.

Of the respondents, most principals (79.0%) and educators (62.2%) agree that every educator is seen as a person and not as the same as others in the team. This implies even-handedness in dealing with educators and does create an environment that is conducive to educators' putting their creativity into practice, since no untoward favouritism and criticism would be forthcoming from such a situation. A sizeable educator population (34.2%) disagree with this statement and this could exert a negative influence on

educators who want to venture out and exercise their individuality, while still being in a group.

- *Summation*

On the whole, a reasonable number of principals and educators agree that there is trust and openness at most schools.

In contrast, a sizeable number feels that this dimension is not realised at schools and this could have some bearing on the development of creativity and innovativeness in educators, as educators may be discouraged to venture.

5.2.3.4 *Idea time*

This dimension elicited information about the time teams take off to generate new ideas or consider the merits of existing ideas and opportunities. This is important for creativity and innovativeness in that it allows educators to explore and develop new ideas. Data in this regard is depicted in Table 5.14).

Table 5.14 Data on idea time

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
15. Educators are encouraged to come up with new ideas and are given enough time to try them out.	80	76.2	21	20.0	3.8	179	64.4	94	33.8	1.8
16. Developmental programmes are run on a regular base.	67	63.8	36	34.3	1.9	164	59.0	105	37.8	3.2
17. When decisions are taken, educators are allowed to elaborate on issues of concern.	99	89.5	09	8.6	1.9	211	75.9	60	21.6	2.5

The majority of principals (76.2%) and educators (64.3%) agree that educators are encouraged to come up with new ideas and are given enough time to try them out. This is a positive response and is good for schools that

endeavour to foster educators' creativity and innovativeness. This is especially because schools, and consequently educators, have to operate in a climate of guidelines, directives, time-frames and target dates where there would be no tolerance for time-off to experiment with ideas. This could perhaps be explained by the significant number of principals (20.0%) and educators (33.8%) who disagree with this statement.

Most principals (63.8%) and educators (59.0%) agree that developmental programmes are run on a regular basis. This is a significant response in that it says staff development is a regular feature at schools. This should allow for personal and professional growth of educators and thus should be commensurate with fostering creativity and innovativeness. However, just over a third of principals (34.3%) and educators (37.8%) disagree with this statement. This could be a genuine recognition that idea time is limited at schools and that developmental programmes undertaken at schools are not as productive as the schools' needs. This could also relate to the relevance of developmental programmes undertaken at schools, that is, these could be content-specific and not necessarily relating to educators' own development into creative and innovative personnel.

Most principals (89.5%) and educators (75.9%) agree that when decisions are to be taken, educators are allowed to elaborate on issues of concern. This is a definite positive response and bodes well in terms of fostering the creativity and innovativeness of educators. Only a fifth of educators (21.6%) disagree with this statement. While this is significant, the notion that school principals attempt to allow educators to express their concerns is adequately expressed by the educator responses that affirm this statement.

- *Summation*

On the whole it seems that idea time is given cognisance at most schools, which is important for creativity and innovativeness, as it allows educators to generate and explore new ideas. A significant number of principals and educators disagree with this. This could mean that poor planning is prevalent at some schools and this should be given attention, as it will have a bearing

on the development of the creativity and innovativeness of educators. Educators' performances can be affected due to the inability to explore issues.

5.2.3.5 *Idea support*

This dimension sought to find out whether educators are supported, motivated and assisted on issues they do not understand.

Table 5.15 Data on idea support in the school

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
18. Educators are trained, supported and motivated to be creative and innovative.	70	66.7	33	31.4	1.9	17	62.2	21	36.0	1.8
19. Educators are assisted on issues they do not understand.	94	89.5	09	8.6	1.9	205	73.7	70	25.2	1.1

From the data collected (Table 5.15), most principals (66.7%) and educators (62.2%) agree that educators are trained, supported and motivated to be creative and innovative. This implies that educators at schools get the necessary support and encouragement on issues they do not understand, as well as being creative and innovative. However, a third of the principals (31.4%) and over a third of the educators (36.0%) disagree with this statement. It can be that there is a realisation that the kind of support is not idea support as such, but general support in school matters.

Most principals (89.5%) and educators (73.7%) agree that educators are assisted on issues they do not understand. While a significant number of educators (25.2%) do not concur with this statement, the majority of responses by both principals and educators indicate a supportive school climate where educators are assisted. This is a positive sign for educators' creativity and innovativeness.

- *Summation*

On the whole, from the data collected it is evident that idea support is given attention at most schools, which is important for encouragement as well as for creativity and innovativeness. A significant number of principals and educators indicated that inadequate support is given and this could have a bearing on fostering creativity and innovativeness of educators. Educators can be demotivated to venture and take risks, which is a situation that could lead to low performance standards.

5.2.3.6 *Debate*

This dimension sought determine whether there was idea-tension at schools where encounters and disagreements between viewpoints, ideas and differing experiences and knowledge within teams are encouraged and debate is fostered.

Form the data collected (Table 5.16), most principals (78.1%) and educators (64.0%) agree that debate is used to generate creative innovative ideas and strategies. These responses indicate a positive climate for creativity and innovativeness at schools. However, 20% of the principals and 32.4% of the educators disagree. This could allude to the actual content and context of creativity and innovativeness at schools. The negative responses could be indicative of frustrations over issues on which debate is generated. The researcher has noted in her own experience that educators very often express frustration about deliberating on simplistic issues and the time-wastage resultant from that.

Of the respondents, most principals (80%) and educators (70.9%) agree that educators are allowed to debate on issues that need clarity until consensus is reached. This is a positive condition for the fostering of creativity and innovativeness at schools. It is noted, however, that other principals (18.1%) and educators (27.3%) disagree with this statement. These responses are indicative of the need to encourage and allow debate and the achievement of consensus on issues. It may also allude to the kinds of consensus-reaching

mechanisms employed at schools, which may really not be appreciated by these respondents.

Most principals (83.8%) and educators (71.6%) disagree that debate is discouraged and educators are stopped before they can express their views in full. This seems to affirm the responses to the statement above and is indicative of a creativity and innovativeness-encouraging school climate. However, almost the same percentage of educators (26.3%) opine that this is not the case, thus confirming the same negative response to the statement above. This is significant and alludes to the need for encouraging and allowing rigorous debate on issues, thus encouraging educators to exercise their creative and innovative abilities.

Table 5.16 Data on debate at the school

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
20. Debate is used to generate creative innovative ideas and strategies.	82	78.1	21	20.0	1.9	178	64.0	90	32.4	3.6
21. Educators are allowed to debate on issues that need clarity until consensus is reached.	84	80.0	19	18.1	1.9	197	70.9	76	27.3	1.8
22. Debate is discouraged and educators are stopped before they can express their view in full.	13	12.4	88	83.8	3.8	73	26.3	199	71.6	2.1
23. Educators' creative ideas are recognised, debated and tried out in practice.	80	76.2	23	21.9	1.9	174	62.6	95	34.2	3.2

The majority of principals (76.2%) and educators (62.6%) agree that educators' creative ideas are recognized, debated and tried in practice. This is an important aspect of encouraging and motivating educators to be creative and innovative. This finding implies that educators are given due recognition for their creative ideas and these are actually applied in practice. This seems

strangely inconsistent with the fact that the majority of educators (47.1%) and a sizeable number of principals (30.5%) have never received any merit awards (cf. table 5.10). This is perhaps reflected in the sizeable number of principals (21.9%) and educators (34.2%) who disagree with the statement.

- *Summation*

On the whole, the majority of principals and educators indicate that debate is a tool for idea generation which is important for creativity and innovativeness. A significant number of principals and educators disagrees with the statement, which implies that freedom of expression and assertiveness are not appreciated. This could have a negative impact on creativity and innovativeness as it discourages open discussion and rationalization.

5.2.3.7 *Risk-taking*

This dimension sought to find out if there is tolerance of uncertainty at schools, since, in a high risk-taking climate, decisions and actions are prompt and rapid, arising opportunities are taken and concrete experimentation is allowed, as against detailed investigation and analysis.

From the data collected (Table 5.17), most principals (89.5%) and educators (83.0%) agree that educators are encouraged to go out and look for information for empowerment. This is an encouraging sign and is indicative of a level of encouragement of creativity and innovativeness in educators. Schools can only benefit from this and educators can stretch their networking abilities.

Most principals (81.0%) and educators (70.9%) agree that educators are allowed to explore issues, come up with new ideas and put them into practice. This response is indicative of schools where principals allow and actually foster educators' innovativeness. It is, however, notable that almost a third of educators (27.0%) disagrees with this statement. These could be educators who feel their attempts at exploration, coming up with new ideas and implementing them are frustrated.

Most principals (87.6%) and educators (75.2%) agree that to curb the problem of a lack of resources educators are encouraged to utilize external resources to improve the situation. This indicates a positive climate at schools where creativity and innovativeness is encouraged and fostered by promoting collegiality and support.

Table 5.17 Data on risk-taking at schools

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
24. Educators are encouraged to go out and look for information for empowerment.	94	89.5	09	8.6	1.9	231	83.0	41	14.8	2.2
25. Educators are allowed to explore issues, come up with new ideas and put them into practice.	85	81.0	18	17.1	1.9	197	70.9	75	27.0	2.1
26. To curb the problem of a lack of resources educators are encouraged to utilise external resources to improve the situation.	92	87.6	13	12.4	00	209	75.2	57	20.5	4.3
27. Risk-taking and unpredictability are highly valued, even when things do not turn out according to plan.	62	59.0	42	40.0	1.0	141	50.7	120	43.2	6.1

More than half of the respondent principals (59.0) and just over half of the educators (50.7 %) agree that risk-taking and unpredictability are highly valued, even when things do not turn out according to plan. It is clear from the frequency counts for both principals and educators, that this aspect of risk-taking at schools is not really encouraged or occurring. It can be understood in the context of schools having to complete prescribed tasks and being expected to complete them in prescribed ways. In this case, principals take the responsibility when things do not turn out according to plan and educators

carry the blame for whatever goes wrong. This really does not allow and encourage innovativeness, since operations are undertaken apprehensively, with fear of failure.

- *Summation*

On the whole, it seems as if risk-taking is encouraged at most schools, which is important for the creativity and innovativeness of educators. In contrast, a significant number of principals and educators support risk-taking and unpredictability as highly valued even when things do not turn out according to plan, while others disagree with the statement. This implies that failure is seen as negligence and not as an initiative. This could have a negative impact on fostering creativity and innovativeness in educators, as educators can be demotivated and unwilling to venture out due to the threats and frustrating moments they might be confronted with.

5.2.3.8 *Conflict management*

This dimension sought to investigate how conflict is managed at schools and whether it is used positively as a way of encouraging and fostering creativity and innovativeness of educators. Various responses to this dimension can be gleaned from table 5.18.

From the data collected, most principals (81.0%) and educators 66.2%) agree that clashes in activity time are handled with caution and sensitivity. This indicates the sensitivity of school principals towards the destructive nature of conflict in educators' innovativeness. However, a significant number of educators (28.4%) disagrees. This is indicative of how much principals have to work towards accomplishing a status where educators appreciate their handling of conflict at schools, especially where innovativeness creates clashes in activity time, like prescribed work schedules.

Most principals (82.9%) and educators (62.2%) agree that emotional tension among staff members is handled with respect and honesty. While principals' responses are encouraging, a significant 33.8% of educators disagrees. This seems to concur with the numbers of educators who disagreed with the trust

and openness dimension (5.2.3.3). This can only point to the task which has to be done to help school principals develop in conflict management.

Table 5.18 Data on conflict management

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
28. Clashes in activity time are handled with caution and sensitivity.	85	81.0	20	19.0	00	184	66.2	79	28.4	5.4
29. Emotional tension among staff members is handled with respect and honesty.	87	82.9	18	17.1	00	173	62.2	94	33.8	4.0
30. If an educator questions managerial activity, he or she is not seen as a spoil sport, but as one who wants to understand.	81	77.1	24	22.9	00	169	61.8	97	34.9	4.3
31. Conflict is seen as an eye-opener and is handled timeously.	82	78.1	23	21.9	00	167	58.3	102	36.7	5.0

Of the respondents, most principals (77.1%) and educators (61.8%) agree that if an educator questions managerial activity, he/she is not seen as a spoil-sport, but as one who wants to understand. Respondents who disagree with the statement could be indicative of the irritability with which differing opinions and dissenting voices are perceived at schools. This could be true for both educators and principals. The other principals (22, 9%) and educators (34,9%) disagree with the statement. This could also be a result of the suppression of differing ideas and feelings of insecurity or an inferiority complex in terms of dealing with differing ideas and opinions.

Most principals (78.1%) and educators (58.3%) agree that conflict is seen as an eye-opener and is handled timeously. Other principals (21.9%) and educators (36.7%) disagree with the statement. Principals' responses indicate

that conflict is used as foundation for alleviating build-on for subsequent circumstances and conflict occurrences, while educators could be regarding conflict and how it is handled as a stumbling block. In essence, this could mean that conflict in not understood in the same manner by principals and educators.

- *Summation*

On the whole, it seems as if conflict management is handled with caution at most schools, which is important for creativity and innovativeness. A significant number of principals and educators maintain that conflict is seen as an eye-opener and is handled timeously, while other do not concur with the statement. This could mean that in some schools conflict management strategies are not conducive to the development of creativity, which entails the generation of ideas and innovativeness, which implies implementation of creative ideas. This could impact negatively on developmental aspects that could be overlooked due to subjective thinking and inconsistency.

5.2.3.9 *Humour and playfulness*

This dimension relates to the amount of spontaneity and levity displayed within teams at schools. This is a professional and yet relaxed atmosphere where good-natured jokes and laughter occur often and where team members have fun within the team at work.

From the responses (Table 5.19), most principals (83.8% and 71.4%) and educators (76.9% and 64.8% respectively) agree that educators at the school exhibit a sense of humour and that the school atmosphere is relaxed and easy-going. The response to this statement is indicative of a relaxed, yet professional school atmosphere, which can only be positive for educators' creativity and innovativeness. This also implies that there are minimal situations of tension and conflict, although the handling thereof is depicted otherwise by responses to the previous dimension.

Table 5.19 Data on humour and playfulness

Questions	Principals					Educators				
	Agree		Disagree		NR	Agree		Disagree		NR
	f	%	*f*	%	%	*f*	%	*f*	%	%
32. Educators at the school exhibit a sense of humour.	88	83.8	15	14.3	1.9	214	76.9	48	17.3	5.8
33. The school atmosphere is relaxed and easy-going.	75	71.4	26	24.8	3.8	180	64.8	86	30.9	4.3

- *Summation*

On the whole, at most schools humour and playfulness is a norm, which is important for fostering creativity and innovativeness in educators. A significant number of principals and educators support the notion that the school atmosphere is relaxed and easy-going, while others disagree with the statement. This implies that most educators do not enjoy the type of work they do, due to the school climate which is not conducive to the teaching experience. This could have a negative impact on creativity and innovativeness, as educators will not be free to venture and initiate issues because as the environment is not supportive.

5.2.4 Synopsis of creativity and innovativeness dimensions

The analysis of responses to questions on the nine dimensions of innovativeness depicts a picture of school environments that foster educators' creativity and innovativeness. Educators seem to be afforded opportunities for challenge and involvement at most schools. There seem to be school climates that allow for truth and openness, freedom, idea time and support, debate, risk-taking, minimal interpersonal conflicts and humour and playfulness. These conditions should be contributing largely to educator morale, motivation and good performance.

This is surprising in view of the general frustrations experienced by educators at schools, especially in light of new policy and legislative changes and

initiatives in education (cf. 1.1). A number of reasons could be attributed to these responses. Firstly, the disadvantages of questionnaires could be a factor, especially if respondents feel they have to provide acceptable responses and if they simply complete questionnaires to please the researcher, without really paying attention to the questions.

Secondly, the language of the dimensions for innovativeness could possibly have been "new" to respondents and as such, different meanings could have been attached to the terminology used. In essence, both creativity and innovativeness could be better understood in business settings and not so easy to apply in school settings, where respondents do not have the benefit of an extensive literature review on these concepts or the advantage of tangible goods production that could be indicators of creativity and innovativeness.

Thirdly, it could be that schools are indeed portraying school environments that are relatively conducive to educator creativity and innovativeness. Respondents could, as a result, have viewed their school climates in a positive manner, especially since both principals and educators seem to agree on most questions.

Finally, a few discrepant responses are noted. For instance, the fact that educators are not involved in the review of the school vision as a standard or pace-setter for performance and the fact that educators have to seek permission before implementing decisions for which they have the freedom to make, are cases to note. These responses are inconsistent with climate a where educators are involved and challenged, as well as where risk-taking is allowed.

Therefore, a consideration of the nine dimensions for creativity and innovativeness in this research indicates quite positively that principals do endow schools with efforts in creating school climates that foster creativity and innovativeness. It will be interesting to note which dimensions are rated highest by both principals and educators.

The next section looks at the ranking of the dimensions for creativity and innovativeness.

5.2.5 A rank order of dimensions of creativity and innovativeness

The mean scores of principal's perceptions on the dimensions for creativity and innovativeness of educators in schools are ranked in Table 5.20. The mean scores were worked according to the number of questions in each dimension. The mean scores for principals range from 2.41 for the most applicable dimension at schools, to 2.07 for the least applicable dimension, while mean scores for educators range from 2.46 for the most applicable dimension 2.24 for the least applicable. It is notable that the range is not too large from the highest to the lowest dimension, which supports afore-discussed responses to the dimensions for creativity and innovativeness. This supports the major finding that school principals make attempts at fostering the creativity and innovativeness of educators by creating conducive climates, as is attested to by the small differences between the mean scores in the rank order.

Table 5.20 A rank order of responses regarding dimensions for creativity and innovativeness

Dimension	Principals		Educators	
	Rank order	Mean	Mean	Rank order
Debate	**1**	2.41	2.46	**1**
Challenge and involvement	**2**	2.13	2.28	**7**
Freedom	**3**	2.10	2.32	**4**
Idea time	**4**	2.09	2.29	**6**
Humour and playfulness	**5**	2.09	2.24	**9**
Conflict management	**6**	2.08	2.36	**3**
Trust and openness	**7**	2.07	2.42	**2**
Idea support	**8**	2.07	2.30	**5**
Risk taking	**9**	2.07	2.26	**8**

From the table it can be seen that both principals and educators regard the dimension relating to debate (2.41 & 2.46 respectively) at the school as being the most applicable. This is indicative of a climate allowing for creativity and innovativeness, especially for the implementation stage of creative ideas.

However, the rank order indicates different rankings regarding all the other dimensions. For instance, the ranking for principals indicates challenge and involvement as the second most applicable at schools, while the ranking for educators indicates it as the 7th most applicable. It is also interesting to note that dimensions ranking highest for the principals, rank lowest for the educators. For instance, challenge and involvement, freedom, idea time and humour and playfulness rank 2nd to 5th for the principals, while the same dimensions rank 7th, 4th, 6th and 9th for educators. It is also striking that trust and openness, while ranking 2nd for educators, ranks 7th for principals. Conflict management for principals ranks 6th and ranks 3rd for educators. Both rank orders for principals and educators put risk-taking lowest at 9th and 8th respectively.

It is not easy to ascribe meaning or interpretation to the rank order of these dimensions. The differences in ranking could be purely a statistical coincidence, could be a result of the clustering of questions per dimension or could be an indication of uncertainty in respondents regarding the true meaning of these dimensions, as they apply to a climate that fosters creativity and innovativeness. This could be one of the limitations of this study, i.e. different meanings assigned to creativity and innovativeness.

Despite this apparent limitation, the frequency and percentage values of the responses per dimension and the small difference between the highest mean score and the lowest seem to suggest that generally, conditions for creativity and innovativeness at schools are being promoted.

There were differences in responses between principals and educators. The next section explores these differences in terms of whether they are statistically significant or not. This is necessary in order to determine if these are chance differences or if they are significant due to certain probability.

5.2.6 Analysis of differences in responses between principals and educators about creativity and innovativeness dimensions

A t-test was conducted to determine whether the differences in responses were statistically significant and, subsequently, the effect size (Cohen's d-value) was computed to determine whether the significant differences were of any practical value.

5.2.6.1 *The t-test*

A t-test is used to determine whether the means of two groups are statistically different from each other at a selected probability level (Vockel & Asher, 1995:321; Haneline, http://www.chiro.org/LINKS/ABSTRACTS/Common_Statistical_Tests.doc). The t-test yields a probability value (p-value) which indicates whether there are statistically significant differences between two means of a sample (Gall, Borg & Gall, 1996:183; Vockel & Asher, 1995:319). This means that the difference between the means of a sample is not due to chance or coincidence, but points to a real difference between the means.

In this study (Gall *et al.*, 1996:184),

- the 0.05 (5%) level was selected to determine if there were any significant differences in responses between principals and educators;
- p-values greater that 0.05 indicate no significant differences in responses; and
- p-values less that 0.05 indicate significant differences in responses.

5.2.6.2 *The effect size (Cohen's d-value)*

The effect size assesses the magnitude of a difference between two means, i.e. it takes into account the size of the difference between means, regardless of whether it is statistically significant. In this regard, Vockel and Asher (1995:357) state that the effect size determines whether the difference is enough to recommend changes in the educational practice. However, Gall *et al.* (1996:196) warn that, though the effect size helps in judging the practical

significance of a research study, it is not an absolute index of practical significance. It is therefore an aid to interpretation.

In this study, the effect size is computed to determine whether the difference derived from the t-test can be interpreted as being of practical significance or use. The effect size was obtained using the following formula (Xaba, 1999:239; Vockel & Asher, 1995:357):

$$d = \frac{X_1 - X_2}{SD_{max}}$$

where

X_1 = the mean of principals' responses

X_2 = the mean of educators' responses

SD_{max} = the maximum standard deviation (of either of the groups of respondents)

The interpretation of the effect size was done on the basis of the guidelines offered by Cohen (in Xaba, 1999:239) and Vockel and Asher (1995:357) that:

d = 0.2 (small effect)

d = 0.5 (medium effect)

d = 0.8 (large effect)

Fraenkel and Wallen (1990:197) postulate that effect sizes of 0.5 or more should be treated as important. Cohen, as cited by Xaba (1999:239), cautions, however, that such effect sizes could depend on the reader's frame of reference, i.e. they may be considered either too small or too large, which projects the arbitrariness of quantitative operational definitions.

In this study it was decided, therefore, to consider only those effect sizes that were above 0.8 for interpretation. This was because it was noted that the population was fairly homogeneous and that, the ranking of dimensions indicated a possibility of different meanings attributed to the notions of creativity and innovativeness. Since the effect size indicates the practical

significance of findings displaying significant statistical differences, only those findings displaying p-values less than 0.05 were considered. Therefore d-values indicated are those of responses where $p < 0.05$.

Table 5.21 illustrates statistical differences in responses between principals and educators regarding challenge and commitment. There were significant differences in responses relating to the involvement of educators in decision-making on new innovations to be implemented at the school ($p = 0.003 < 0.05$) and educators being continuously updated on issues which affect their lives ($p = 0.008 < 0.05$). However, the effect sizes for both responses (0.312 and 0.290 respectively) are less than 0.8 and are thus of small effect and of no practical significance. This implies that both principals and educators see challenge and involvement as a feature of their school climates. It could be that they relate this to involvement in doing tasks in general and challenge could be related to challenges offered by the new curriculum at schools, as well as challenges brought about by numerous changes introduced generally in education.

Table 5.21 Differences between principals and educators on challenge and involvement

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
1	1.97	0.57	2.03	0.67	0.73	0.460	-
2	1.98	0.50	2.21	0.73	2.93	0.003*	0.312#
3	1.91	0.56	2.11	0.66	2.63	0.008*	0.290#
4	2.65	0.66	2.75	0.73	1.19	0.232	-

*Significant difference #No practical significance d = 0.2 (small effect) d = 0.5 (medium effect) d = 0.8 (large effect)

Responses to the freedom dimension, as illustrated in Table 5.22, indicate significant statistical differences relating to questions on teams at school being free to make their own choices on handling creative ideas and bringing about innovative changes ($p = 0.000$), educators being allowed to initiate and try out their daily activities for the advancement of the school ($p = 0.028$), on educators being free to call for ideas and help from other departments ($p =$

0.000) and on teams carrying out their tasks without being threatened by circumstances at the entire school (p = 0.043). The effect sizes for these responses are, however, all less than 0.8 and are thus of no practical significance. These responses indicate that both principals and educators see opportunities for autonomy being provided to educators. It must be noted, however, that whether this translates to innovativeness cannot be determined in this research. However, it is a good sign for schools.

Table 5.22 Differences between principals and educators on freedom

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
5	1.97	0.53	2.32	0.76	4.27	0.000*	0.458#
6	1.95	0.49	2.11	0.67	2.21	0.028*	-
7	1.88	0.50	2.16	0.67	3.87	0.000*	0.419#
8	1.90	0.49	2.05	0.73	2.10	0.360	-
9	2.18	0.72	2.35	0.65	2.03	0.043*	-
10	2.77	0.6	2.93	0.72	2.11	0.036*	-

*Significant difference #No practical significance d = 0.2 (small effect)
d = 0.5 (medium effect)
d = 0.8 (large effect)

Responses to the trust and openness dimension, as illustrated in Table 5.23, indicate significant statistical differences relating to questions on educators' honest and original mistakes being recognized as an indication of initiative and courage (p = 0.004), on educators being encouraged to be open and honest even if it is painful (p = 0.000), favouritism being discouraged and objective thinking encouraged (p = 0.000), and on every educator being seen as a person and not as the same as others in the team (p = 0.000). The effect sizes for these responses are however less than 0.8 and are thus of no practical significance. The agreement of principals and educators on this dimension implies that there is generally trust and openness at schools. This confirms frequency counts on questions on this dimension (cf. Table 5.14).

Table 5.23 Differences between principals and educators on trust and openness

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
11	2.24	0.62	2.47	0.72	2.85	0.004*	0.318
12	2.09	0.71	2.09	0.79	3.56	0.000*	0.400
13	1.98	0.68	2.42	0.82	4.87	0.000*	0.543
14	1.98	0.66	2.37	0.73	4.78	0.000*	0.542

*Significant difference #No practical significance d = 0.2 (small effect)
d = 0.5 (medium effect)
d = 0.8 (large effect)

Responses to the idea time dimension, as illustrated in Table 5.24, indicate significant statistical differences on educators being encouraged to come up with new ideas and being given enough time to try them out (0.002), on developmental programmes being run on a regular basis (0.403) and on educators being allowed to elaborate on issues of concern when decisions are taken (p = 0.000). The effect sizes for these responses are, however, less than 0.8 and are thus of no practical significance. It seems there is agreement regarding this dimension between principals and educators, although statistical differences are noted. This also confirms earlier findings regarding this dimension (cf. Table 5.14). This is encouraging for schools and can only point to an environment conducive to fostering creativity and innovativeness.

Table 5.24 Differences between principals and educators on idea time

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
15	2.06	0.63	2.31	0.73	3.08	0.002*	0.347
16	2.28	0.65	2.35	0.74	0.84	0.403	-
17	1.95	0.53	2.20	0.65	3.72	0.000*	0.409

*Significant difference #No practical significance d = 0.2 (small effect)
d = 0.5 (medium effect)
d = 0.8 (large effect)

Responses to the idea support dimension, as illustrated in Table 5.25, indicate a significant statistical difference on educators being trained, supported and motivated to be creative and innovative (0.131) and educators being assisted on issues they do not understand (p = 0.000). The effect size

for this response is, however, less than 0.8 and is therefore of no practical significance. There seems to be agreement between principals and educators regarding this dimension (cf. Table 5.15). This implies that educators get idea support from their principals.

Table 5.25 Differences between principals and educators on idea support

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
18	2.21	0.74	2.34	0.76	1.51	0.131	-
19	1.93	0.52	2.24	0.65	4.26	0.000*	0.469

*Significant difference #No practical significance d = 0.2 (small effect) d = 0.5 (medium effect) d = 0.8 (large effect)

Responses to the debate dimension, as illustrated in Table 5.26, indicate significant statistical differences relating to questions on debate being used to generate creative and innovative ideas and strategies (0.131), on whether educators are allowed to debate on issues that need clarity until consensus is reached (p = 0.000), on debate being discouraged and educators being stopped before they can express their views in full (p = 0.000) and on whether educators' creative ideas are recognized , debated and tried out in practice (p = 0.001). The effect sizes for these responses are, however, less than 0.8 and are thus of no practical significance. Both principals and educators seem to agree on this dimension, thus confirming findings based on frequency counts (cf. Table 5.16). It is noteworthy that debate is not discouraged or stifled at schools. This should provide educators with ample opportunities to test their ideas, get support for them and implement them.

Table 5.26 Differences between principals and educators on debate

Question	Principals		Educators		t	P	d
	Mean	SD	Mean	SD			
20	2.14	0.74	2.33	0.76	1.51	0.131	-
21	2.08	0.52	2.24	0.65	4.26	0.000*	0.469
22	3.24	0.69	2.93	0.81	3.38	0.000*	0.379

23	2.16	0.62	2.35	0.65	2.67	0.007*	0.306

*Significant difference #No practical significance d = 0.2 (small effect)
d = 0.5 (medium effect)
d = 0.8 (large effect)

Responses on the risk-taking dimension, as illustrated in Table 5.27, indicate the significant statistical difference relating to questions on educators being encouraged to go out and look for information for empowerment (p = 0.029), educators being allowed to explore issues, come up with new ideas and put them into practice (p = 0.003), on curbinmg the problem of lack of resources, on educators being encouraged to utilise external resources to improve their situation (p = 0.000) and on whether risk-taking and unpredictability are highly valued, even when things don't turn out according to plan (p = 0.057). The effect sizes for these responses are, however, less than 0.8 and are thus of no practical significance.

The fact that statistical differences in this dimension are of no practical significance confirms earlier findings in this dimension (cf. Table 5.17), that both principals and educators agree on allowing risk-taking at schools. This supports the notion that debate is allowed, that there is idea time and support, and challenge and involvement. Without these dimensions, it would be unlikely that risk-taking could be allowed. It would, however, be interesting to find out what kind of risk-taking is allowed and for what. This is, however, outside the scope of this research.

Table 5.27 Differences between principals and educators on risk-taking

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
24	1.92	0.57	2.08	0.63	2.17	0.029*	0.246
25	2.00	0.62	2.23	0.70	2.95	0.003*	0.332
26	1.98	0.52	2.21	0.62	3.36	0.000*	0.370
27	2.37	0.65	2.51	0.66	1.91	0.057	0.221

*Significant difference #No practical significance d = 0.2 (small effect)
d = 0.5 (medium effect)
d = 0.8 (large effect)

Responses on the conflict management dimension, as illustrated in Table 5.28, indicate significant statistical differences relating to questions on clashes in activity time being handled with caution and sensitivity (p = 0.066), on emotional tension among staff members being handled with respect and honesty (p = 0.000), on an educator who questions managerial activity not being seen as a spoil-sport but as someone who wants to understand (p = 0.000) and on whether conflict is seen as in eye-opener and is being handled timeously (p = 0.000). The effect sizes for these responses are, however, less than 0.8 and are thus of no practical significance. This is an important dimension in fostering a climate of creativity and innovativeness at schools. This implies that efforts are expended in trying to ensure minimal conflict and alludes, to fairly harmonious relationships at schools. This is confirmed by frequency counts presented earlier (Table 5.18).

Table 5.28 Differences between principals and educators on conflict management

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
28	2.09	0.61	2.30	0.64	1.91	0.066	0.22
29	2.03	0.63	2.33	0.74	3.80	0.000*	0.421
30	2.10	0.68	2.40	0.72	3.67	0.000*	0.417
31	2.10	0.63	2.40	0.76	3.88	0.000*	0.429

*Significant difference #No practical significance
d = 0.2 (small effect)
d = 0.5 (medium effect)
d = 0.8 (large effect)

Responses to humour and playfulness, as illustrated in Table 5.29, indicate significant statistical differences on the question of educators at school exhibiting a sense of humour (0.12) and the school atmosphere being relaxed and easy-going (p = 0.03). The effect size for this response is however less than 0.8 and is thus of no practical significance. This finding confirms earlier frequency counts findings (Table 5.19) and implies that there is collegiality in schools and that the climates are fairly relaxed and easy-going. This is supported by the finding on conflict management, i.e. conflicts are resolved timeously, which is a factor in promoting a climate of humour and playfulness.

Table 5.29 Differences between principals and educators on humour and playfulness

Question	Principals		Educators		t	p	d
	Mean	SD	Mean	SD			
32	2.04	0.58	2.15	0.59	1.55	0.12	-
33	2.13	0.70	2.32	0.78	2.12	0.03*	0.241

*Significant difference #No practical significance d = 0.2 (small effect)
d = 0.5 (medium effect)
d = 0.8 (large effect)

5.2.7 Synopsis

The afore-mentioned exposition illustrates significant statistical differences in responses between principals and educators regarding creativity and innovativeness dimensions. While significant statistically, it is also clear that these differences are of no practical significance in terms of the effect size. Therefore no interpretation can be ascribed to account for these differences in practice.

It must be noted, however, that these findings do not really indicate whether, as a result thereof, educators are creative and innovative. They only point to school environments that are conducive to educator creativity and innovativeness. The outcomes of these environments and how educators react to them in terms of creativity and innovativeness can be a subject of another study.

5.3 SUMMARY

This chapter presented the data analysis and interpretation. It seems as if school environments are conducive to the fostering of creativity and innovativeness in educators. It was also found that the responses of principals and educators, though differing statistically, were not of practical significance and do not necessitate any change in educational practice.

The next chapter presents the summary, findings and recommendations of this study.

CHAPTER 6

SUMMARY, FINDINGS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter presents a summary of the study. The focus will be on important aspects highlighted in the study, as well as on important aspects of the research findings. The focus will be on findings regarding research aims listed in chapter 1. Finally recommendations are outlined.

6.2 SUMMARY AND CONCLUSIONS

The intention of the study is outlined in chapter 1. The thrust of the study relates to the nature of creativity and innovativeness of educators at schools. This was informed by the numerous changes introduced in education and the associated feelings of being stifled by educators so that they do not venture out to be creative in their work, which has invariably led to feelings of uncertainly, attempts at resistance to change leading to frustrations, boredom and resignations. This study argues that principals who foster educators' creativity and innovativeness will reduce the levels of unfavourable feelings among educators.

6.2.1 Findings on research aim 1: The nature of creativity and innovativeness

The literature survey on the nature of creativity and innovativeness revealed that:

- creativity precedes innovativeness in that creativity is the generation of novel and useful ideas and the ability to combine them in a unique way, while innovativeness is the ability to be innovative, i.e. to implement creative outcomes to benefit an organisation or the practical application of ideas towards the organisation's objectives (cf. 2.2.1 & 2.2.3);

- creativity is a function of a person's expertise, creative thinking skills and intrinsic task motivation (2.2.1);
- people's creativity can be promoted by creating a stimulating work environment that advocates enriched jobs and supporting management practices, an organisational culture that supports innovativeness and an environment that provides adequate resources (cf. 2.2.1.3);
- innovativeness in organisations is phased over three stages – idea generation, application and transfer beyond the organisation (cf. 2.2.3); and
- creativity and innovativeness are a function of an organisational climate that promotes nine dimensions, namely (2.3.1):
  - challenge and involvement
  - freedom
  - trust and openness
  - idea time
  - idea support
  - debate
  - risk-taking
  - conflict management and
  - humour and playfulness.

6.2.2 Findings on research aim 2: The role of the principal in fostering creativity and innovativeness of educators

In chapter 3, the role of the school principal in fostering creativity and innovativeness was explored and the following findings were made:

- The role of the principal in fostering the creativity and innovativeness of educators can best be understood on the basis of the school as an educational organisation (3.2).
- Innovativeness at schools is dependent on the school's organisational or institutional context, the collaboration context and the public policy context (3.3).
- The school's innovative capacity is shaped by four basic elements, namely:

- Staff members – educators who have diverse and complimentary competencies, share common traits, are dedicated and passionate about what they do and can be creative and innovative as a result of school leadership (3.3.1).
- Leadership that has a clear vision and is passionate about the school and its future and acts in ways that motivate others to do the same by setting the direction, communicating priorities on innovativeness and exerting influence to demonstrate their commitment to innovativeness within the school organisation. This is leadership that develops good working relationships, allow staff opportunities to debate issues, work with all stakeholders, is open and supportive, recognises and rewards achievement and is creative with resources, staffing and professional development (3.3.2).
- Cultures and climates which encourage collaborative approaches and provide the necessary resources for creativity and innovativeness, allow freedom for the creation and sustenance of innovative endeavours. These are cultures and climates that have simple and focused mission statements, stimulate enthusiasm and commitment, articulate values that convey innovative change and have recognition systems that support and reinforce the school's priorities (3.3.3).
- Structures and processes that enable and encourage innovative thinking among staff members, allow and encourage knowledge sharing, teamwork and collaboration across various departments. These aspects will be evident in the curriculum, timetabling and scheduling and standardised testing (3.3.4).

- Innovative schools are characterised by their focus on learners and their learning, recognising people and their accomplishments and being committed to professional development (3.4).
- The role of the principal in fostering innovativeness of educators is mainly that of creating school environmental conditions that provide educators with:

- resources in terms of providing them with challenge and involvement, idea time and idea support (3.5.1).
- personal motivation in terms of trust and openness at the school, humour and playfulness and an absence of interpersonal conflicts (3.5.2).
- opportunities for exploration, which involve risk-taking, debates and freedom (3.5.3).

6.2.3 Findings on research aim 3: How creativity and innovativeness is currently fostered at schools

The empirical study sought to investigate how creativity and innovativeness is currently fostered at schools. This was done in terms of the dimensions for creativity and innovativeness and the following were found:

- ***Challenge and involvement***

Staff at schools largely experience a great deal of challenge and involvement in daily school operations. This ranges from involvement in the drawing up of the school's vision and mission statements, involvement in decision-making on innovations for the school, and being continually updated on issues that affect their daily work lives (cf. 5.2.3.1).

It was, however, also found that the review and discussion of the schools' vision statements as a standard or pace-setter was mostly not done (cf. Table 5.11). The responses in this regard did not yield differences of any practical significance either. This is a disconcerting factor in terms of monitoring and the evaluation of school operations and is definitely a limitation with regard to giving educators feedback and recognition of their performance.

- ***Freedom***

It seems as if educators experience some measure of freedom at schools. This includes being free to make own choices on handling creative ideas and innovative changes, being allowed to initiate and try out daily activities for school advancement, being free to call for ideas and help from other departments, being free to select teams and projects on which to serve and

being free to carry out tasks without being threatened by circumstances in the school (cf. 5.2.3.2).

However, it was found that educators do not enjoy freedom to make decisions and implement them without having to ask for permission (cf. 5.2.3.2 & Table 5.13). This was agreed on by the majority of both principals and educators. Even though there were statistical differences in responses regarding this question, these were of small or no practical significance.

This finding presents a contradiction with the other questions in this dimension. This implies that while educators and teams at schools are allowed autonomy to engage in different activities, they are expected not to take risks and implement them without asking for permission. It could be because schools are expected to act according to laid-down rules and directives, and as such, principals act as gate-keepers to comply with these directives. It could also imply lack of trust and confidence in educators' competencies to take correct actions, which in itself, is an inhibitor to creativity and, especially to innovativeness.

- ***Trust and openness***

On the whole, it seems that there is a great deal of trust and openness at schools. This involves educators' honest and original mistakes being recognised as an indication of courage and initiative, educators being encouraged to be open and honest even if it is painful, favouritism being discouraged, objective thinking being encouraged and every educator being seen as a person and not as the same as others in the team (cf. 5.2.3.3). This is seen as a positive aspect of school environments in terms of fostering educator innovativeness.

- ***Idea time***

Idea time does seem to enjoy cognisance at schools. This is in terms of educators being encouraged to come up with ideas and being given time to try them out, developmental programmes being run on a regular basis and educators being allowed to elaborate on issues of concern when decisions are made, (cf. 5.2.3.4).

- ***Idea support***

Idea support appears to get attention at schools. This is in terms of educators being trained, supported and motivated to be creative and innovative and being assisted on issues they do not understand (cf. 5.2.3.5). This dimension finds agreement with the notion that idea time is allowed at schools.

- ***Debate***

It seems that debate is allowed and actually encouraged at schools. This is with regard to debate being used to generate ideas and strategies, educators being allowed to debate issues that need clarity and consensus, debate being encouraged, educators being allowed to express their views in full and educators' creative ideas being recognised, debated and tried out in practice (5.2.3.6). This is an important and positive situation regarding creativity and innovativeness.

- ***Risk-taking***

Risk-taking seems to be allowed at schools, in terms of educators being encouraged to go out and look for information for empowerment, being allowed to explore issues, come up with new ideas and practice them, and being encouraged to utilise external resources to improve the situation when there is a problem of resources (5.2.3.7). However, it seems that risk-taking and unpredictability being highly valued even when things do not turn out according to plan, do not occur much in practice (Table 5.17). This confirms the notion that educators cannot implement their creative ideas without seeking permission to do so as found earlier. This could have a dampening effect on those educators who would like to try out new things and approaches, without being burdened with seeking permission to do so.

- ***Conflict management***

Conflict seems to be well managed at schools. This dimension examined whether clashes in activity time are handled with caution and sensitivity, emotional tensions among staff members are handled with respect and honesty, questioning managerial activity by educators is not seen as a spoil sports, but as an attempt to want to understand, and conflict is seen as an

eye-opener and is handled timeously (5.2.3.8). This is an important dimension for educator innovativeness since it also dictates the level of educator autonomy to be innovative. Findings in this regard reflect a positive climate in school innovativeness endeavours.

- ***Humour and playfulness***

It appears that schools display humour and playfulness as a norm, which is important for the creativity and innovativeness of educators, since it says they are operating in relaxed school atmospheres where there is little tension and a great deal of humour (5.2.3.9). This should make it easy for educators to take risks, for conflict to be managed and for debate to take place without educators feeling a sense of personal attack.

A rank order of the nine dimensions for creativity and innovativeness indicated differing levels at which these dimensions are fostered at schools. The following were found (5.2.5):

- Debate ranked highest for both principals and educators.
- Challenge and involvement ranked second for principals and seventh for educators.
- Freedom ranked third and fourth respectively for principals and educators.
- Idea time ranked forth and sixth for principals and educators respectively.
- Humour and playfulness ranked fifth and ninth for principals and educators respectively.
- Conflict management ranked sixth and third respectively for principals and educators.
- Trust and openness ranked seventh and second respectively for principals and educators.
- Idea support ranked eight and fifth for principals and educators.
- Risk-taking ranked ninth and eight for principals and educators respectively.

The rank order in this research does not relate to the importance with which respondents viewed these dimensions. It relates more to the level of implementation of these dimensions at schools as an indication of how creativity and innovativeness is fostered. In this respect, it seems as if some dimensions enjoy more promotion than others at schools.

Findings with regard to the computation of differences in responses between principals and educators yielded significant statistical differences in almost all dimensions (5.2.6.2). However, these differences were of minimal or no practical significance (Table 5.22 – Table 5.29). This largely implies that both respondent categories did not differ in their perceptions of how creativity and innovativeness is currently fostered in schools.

6.3 RECOMMENDATIONS

6.3.1 Recommendations with reference to how the principal can foster educators' creativity and innovativeness

Recommendation 1

School principals should adopt a holistic approach to school organisational creativity and innovativeness.

Motivation

Some dimensions of creativity and innovativeness at schools seem to receive more attention than others. A holistic approach will ensure that school cultures and climates allow all dimensions to be fostered and thus create conditions that would be conducive to educators being creative and innovative.

Recommendation 2

School principals themselves should promote their own creativity and innovativeness, so as to be able to create conditions thereof. This should involve capacity building exercises, initiated both at school and at departmental levels.

Motivation

Some responses from both principals and educators indicate that there are areas for development, like the review of the school vision as a standard or pace-setter for performance and allowing educators autonomy to make decisions and implement them without first having to seek permission. This indicates lack of or poor skills in terms of these aspects and is indicative of the need for capacity building of principals in, *inter alia*, strategic planning and management, delegation, utilising and assisting subordinates to achieve their objectives. Creative and innovative principals will also understand important conditions for engendering the creativity and innovativeness of others.

Recommendation 3

Principals should gain an understanding of organisational creativity and innovativeness, while promoting individual creativity and innovativeness.

Motivation

Organisational creativity and innovativeness is a function of teams and teamwork. An understanding of organisational creativity and innovativeness will facilitate the creation of a climate that promotes all the dimensions involved in creativity and innovativeness.

Recommendation 4

A research instrument other than the questionnaire could be used in investigating the fostering of the creativity and innovativeness of educators. A combination of questionnaires and interviews could be used.

Motivation

The fact that most responses were similar highlights the numerous disadvantages of questionnaires in research. Most principals and educators do not feel free in the completion of questionnaires. Educators were not free to reveal their conditions, perhaps due to fear of victimisation from the school management team. Some educators indicated that, even

though anonymity is guaranteed, the questionnaires usually go via the principals (sometimes they distribute and collect them themselves) and it is therefore easy for them to check individual comments and use them negatively to punish educators. Due to this, their responses may have been the "correct" or expected answers.

Secondly, respondents seemed impatient and unwilling to complete the questionnaire. This may be because the timing of the questionnaire administration coincided with the IQMS process at schools. It could also be that educators were overwhelmed by the number of questionnaires they had to complete from various people and institutions.

6.3.2 Recommendations with reference to further research

Recommendation 1

Research could be conducted to investigate how the school principal can foster the creativity and innovativeness of educators by focusing on single dimensions.

This research investigated the principal's role in fostering educators' creativity and innovativeness from a school organisational framework. As a result, the study looked at the creation of a school organisational climate. It could be even more beneficial to look at how single dimensions are attended to, e.g. conflict management, risk-taking and allowance, debate and idea support.

Recommendation 2

Research can also be done on the role of the SMT in formulating and implementing a management strategy for creativity and innovativeness at schools.

Motivation

A holistic approach to fostering creativity and innovativeness requires a well-planned and thought-out strategy, which will be integral to the school

development plan. In this way, this strategy would receive the necessary attention, including budgetary implications.

6.3.3 Limitations of the study

The study was limited by the following factors:

- There were few sources of a South African nature that actually deal with the study variables in school context. As a result, the study relied heavily on sources with a business and corporate inclination.
- The questionnaire as a research instrument was limited by disadvantages generally attributed to questionnaires as research instruments. Respondents gave the impression that they had to complete numerous questionnaires and were thus overwhelmed. In some instances they had to be literally "begged" to assist with the questionnaire completion.

6.4 SUMMARY

This research set out to highlight the role of the school principal in fostering the creativity and innovativeness of educators at schools. This was done by exploring the concepts creativity and innovativeness and the fostering thereof at schools as organisations. It is clear that fostering the creativity and innovativeness of educators implies creating school organisational conditions that promote the dimensions of creativity and innovativeness.

It is also clear that, while schools seemingly project environments that are conducive to the creativity and innovativeness of educators, some dimensions are more prevalent at schools that others. It makes sense, therefore, for the school principal to approach creativity and innovativeness at the school holistically, thus focusing mainly on school organisational innovativeness. This research therefore brings to the fore the concepts of creativity and innovativeness and sets the tone for further research in this regard.

BIBLIOGRAPHY

Amabile, T.M. 1997. Motivation creation in organizations: on doing what you love and loving what you do. *California Management Review*. 40:39-59.

Amos, I.C. & Ristow, A. 1999. Human resources management. Cape Town: Small Business Management Service.

Anderson, D.R. 2002. Creative teachers, risk, responsibility and love. *Journal of Education*. 183(1):33-48.

Anon. 2000. An initial exploration of the literature on innovation. [Web:] http://www.myschool-momecule.ge-ca/research/publications/pdfs/LO_ Literature-REV-PDE. [Date of access: 20/12/2004].

Antonites, A.J. 2003. The concepts: creativity, innovation and opportunity funding. Pretoria: UP. (Thesis: Ph.D.) [Web:] http:www///uPetd.up .ac.za/thesis/available/etd-06282004-124700/unrestricted/03.chapter3. pdf. [Date of access: 28/06/2004]. [Date of access: 07/06/2004].

Barker, K.A. 2002. Innovation in workforce management: the electronic learning record, prior learning, assessment and human capital accounting. [Web:] http://www.innovation.acc/volume-issues/barker-workforce-mgmt.pdf. [Date of access: 16/07/2004].

Creative Advantage. What are innovation styles? [Web:] http://www.creativeadvantage. com/visioning.htm] [Date of access: 07/06/2004].

Delport, C.S.L. 2002. Quantitative and data collection methods (*in* De Vos, A.S. (ed.). Research at grass roots for the social sciences and human service professions. Pretoria: Van Schaik. p 167-196).

Destination Innovation. Innovation culture questionnaire. [Web:] http://www.destination innovation.com/test_yourself.cfm. [Date of access: 13/03/2005].

Diem, K.G. 2002. Maximizing Response Rate and Controlling Non-response Error in Survey Research. [Web:] http://www.rce.rutgers.edu/pubs/pdfs/fs997.pdf.25/04/2005. [Date of access: 25/04/2005].

Diem, K.G. 2002. Maximizing Response Rate and Controlling Non-response Error in Survey Research. http://www.rce.rutgers.edu/pubs/pdfs/fs997.pdf.25/04/2005. [Date of access: 25/04/2005].

Education Queensland. 2000. Young people, schools and innovation towards an action plan for the sector; Review of Teaching and Teacher Education. Discussion Paper: Queenstown Innovation Council 09 May.

Edwards, C. & Walton, G. 2000. Change and conflict in the academic library. *Library Management*. 21(1):35-41.

Ekval, I.G. 1996. Organizational climate for creativity and innovation. *European Journal of Work and Organizational Psychology*. 5(1):105-123.

Flynn, M., O'Sullivan, L, Dooley, D. & Cormican, K. 2003. Idea Management for Organizational Innovation. 7(4):417-442.

Fraenkel, J.R. & Wallen, N.E. 1990. How to design and evaluate research in education. New York: McGraw-Hill.

Gall, M.D., Borg, W.R. & Gall, J.P. 1996. Educational research: an introduction. New York: McGraw-Hill.

Garland, R. 1998. The mid-point on a rating scale: Is it desirable. [Web:] http://www.marketing-bulletin.massey.ac.nz/article2/research3b.asp. [Date of access: 05/05/2005].

Garson, P. 2002. An IDASA summit tries to find practical solutions to problems in schools. [Web:] http://www.teacher.co.za/9810/idasa.htm. [Date of access: 05/06/2004].

Gilmartin, M. J. 1999. "The nursing organization and the transformation of health care delivery for the 21st century," *Nursing Administration Quarterly*. 22(5).

Glor, E. 2001. Strategies for Creating an Innovative Public Sector. *The Innovation Journal.* Aug.

GoInnovate. 2002. A system for swift and continuous innovations. [Web:] http://www.goinnovate.com.services/ezine/gi/hjan_2045.html. [Date of access: 24/05/2004].

Haneline, M.T. Common statistical tests encountered in chiropractic research. [Web:] http://www.chiro.org/LINKS/ABSTRACTS/Common_Statistical_Tests.doc. [Date of access: 2005/04/26].

Hargreaves, D.H. 2000. How innovation networks make education epidemic, teachers transforming teaching. [Web:] http//:www.harrowtc.org.uk /dt/resources/pedagogy/.pdf. [Date of access: 2004/05/20].

Heerwagen. J.H. 2002. Creativity. [Web:] http://www.science.doe.gov/scs/ benchmark/ch%2015%Creativity%2006_10.02.dft. [Date of access: 13/07/2004].

Hitchkock, A. & Porter, K. 2002. The Likert Scale. [Web:] http://www.arches.uga. edu/~porterk/ likertscale.html. [Date of access: 2004/05/15].

Isaksen, S.G. & Lauer, K.J. 2002. The climate for creativity and change in teams. *Creativity and Innovation Management.* 11(1):1-14. March.

Jordaan, W. & Jordaan, J. 1998. People in context. Sandton: Heinemann Higher & Further Education.

Klemm, W.R. Leadership, creativity and innovation. Article prepared for AU-24; Concepts of Air Force Leadership. [Web] http://www.au.af. mil/au/awc/awcgate/ au24-401.htm. [Date of access: 2004/05/15].

Kokot, 1992. Understanding giftedness. Durban: Butterworths.

Kotelnikov, V. 2004. radical innovation versus incremental innovation. [Web:] http://www.google.co.za.search?Q=cache:TLG74312DLQJ.www.1000ventures.com/bus. [Date of access: 25/01/2005].

Kroon, J. 1996. General management. Pretoria: Kagiso.

Laurel Associates Ltd. 2003. Stages in the creative process. [Web:] http://www.laurelandassociates.com/art_creativity2.htm. [Date of access: 31/07/2004].

Leedy, P.D. & Omroyd, J.E. 2005. Practical research. Planning and design. NJ.: Upper Saddle River: Pearson Merril Prentice Hall.

MacMillan, J.H. & Schumacher, S. 2001. Research in education. A conceptual introduction. New York: Longman.

Mangena, M. 2001. Opening address by the Deputy Minister of Education at the SADTU National Education Conference: Parktonian Hotel. 17 April 2001. [Web:] http://www.sadtu. org.za/press/speeches/2001/17-4-2001.2.htm. [Date of access: 2004/06/13].

Motseke, M. 2002. OBE needs teachers not politicians. The Teacher/M&G Media. Feb. [Web:]: http://www.teacher.co.za/200202/letters.htm. [Date of access: 2004/06/09].

Nemeth, C.J. 1997. Managing Innovation: when less is more. *Management Review*. 40(1).

Ormrod, E.J. 1995. Educational psychology principles and application. Enlgewood Cliffs, N.J.: Merril.

Hawkins, J.M.., Delahunty, A. & M^{c}Donald, F. 1998. Oxford Mini School Dictionary. Oxford: Clarendon Press.

Palombo, W.R. 2001. How to Foster Creativity at Work. *Training & Development*. 55(2):61-65 Feb.

Parker, S.K. Designing a Proactive and Creative Workforce for the Innovation Era. [Web:] http://www.ccc.agsm.edu.au/papers/researchBriefings/A09_Paper_SParker_MaxInnov.pdf. [Date of access: 2004/05/20].

Pienaar, H. Creativity and innovation in the management of information service organizations. [Web:] http://hagar.up.ac.za/catts/learner/heilap/createlesing/index. htm. [Date of access: 10/05/2004].

Prather, C.W. 1996 How's Your Climate for Innovation? *R&D Innovator* 5(5). May. [Web:] http://www.winstonbrill.com/bril001/html/article_index/articles1_50.html. [Date of access: 2005/04/28].

Principia. Establishing an innovation culture ptII [Web:] http://www.nccmembership.co.uk/pooled/articles/BF_WEBART/view.asp?Q=BF_WEBART_113281. [Date of access: 02/05/2005].

Rickards, T. 1996. The management of innovation: Recasting the role of creativity. *European Journal of Work and Organizational Psychology*. 5(1):1-15.

Politis, J.D. 2004. Transformational and transactional leadership predictors of the 'stimulant' determinants to creativity in organisational work environments. *Electronic Journal of Knowledge Management* 2(2):23-34. [Web:] http://www.ejkm.com /volume-2/v2i2/v2-i2-art3-politis.pdf. [Date of access: 25/05/2005].

SADTU. Seven threats facing teachers and teachers. [Web:] http://www.sadtu.org.za /ev/Jan2001/seven.htm. [Date of access: 07/06/2004).

Saskatchewan Resource for the Principalship. Creating a Supportive School Climate A Significant Journey. [Web:] http://www.sasked.gov.sk.ca/branches/leg_school_admin/pdf/create.pdf. [Date accessed: 27/11/2004].

Schuler, A.J. 2002. Business creativity and innovation. [Web:] http://www.schulersolutions .com/b. [Date of access: 28/09/2004].

Selman, J. Leadership and innovation: Relating to circumstances and change. [Web:] http:// www.innovation.cc/discussion-papers/selman.pdf. [Date of access: 13/06/2004].

Sexton, G. & McDermott, B. 2000. Creating perpetually innovative, people-driven organizations. A White Paper. Minneapolis: Growth Works Incorporated.

Smith, J. 1999. Some Thoughts on Definitions of Innovation. *The Innovation Journal.* 20(4):3. Nov.

Stenmark, D. 2003. Knowledge creation and the web: factors indicating why some intranets succeed where others fail. *Knowledge and Process Management*. 10(3):207-216. [Web:] http://w3.informatik.gu.se/~dixi/publ/kpm.pdf [Date of access: 15/08/2004].

Steyn, G M. 2000. A theoretical analysis of educator motivation and morale. *Educare* 31(1): 82-101.

Strydom, H. & Venter, L. 2002. Sampling and sampling methods (*in* De Vos, A.S. (ed.) 2002. Research at grass roots for the social sciences and human service professions. Pretoria: Van Schaik. p 197-221).

Surry, D.W. Porter B.E. Jackson K. Hall D. Conditions for Creating an Innovation Friendly Environment in K-12 Schools. [Web:] http://iphase.org/papers/site2004.pdf. [Date of access: 15/08/2004].

Theron, A.M.C. 2002. General characteristics of the school as an organisation (*in* Van der Westhuizen, P.C. ed. Schools as organisations. Pretoria: Van Schaik. p. 78-115).

Thomson Course Technology. 2003. Creativity and innovation. Instructor's Edition. Boston, Mass.: Thomson Learning. [Web:] http://www.courseilt.com/preview/PV-CI.pdf. [Date of access: 25/05/2005].

Vockel, E.L. & Asher, J.W. 1995. Educational research. Englewood Cliffs, N.J.:Prentice-Hall.

Warner, J. 2004. Creativity and innovation effectiveness profile. [Web:] http://www.hrdpress.com/files/product_pdfs/Competency_Profiles/ciep.pdf. [Date of access: 13/05/2004].

Watt, D. 2002. How innovation occurs in high schools within the network of innovation schools: The four pillars of innovation research project. [Web:] http://www.schoolnet.ca/msrei/research/pillars/index/asp. [Date of access: 25/01/2005].

West, M.A. & Altink, W.M.M. 1996. Innovation at work: individual, group, organizational and social historical perspectives. European Journal of Work and Organizational Psychology. 5(1):3-11.

Xaba, M.I. 1999. Management development as a task of school managers at institutional level. Vanderbijlpark: PU for CHE. (Thesis-Ph.D.).

Xaba, M.I. 2003. Managing teacher turnover. *South African Journal of Education*. 23:287-292.

Zimmerer & Scarborough, 1999. Essentials of entrepreneurship and Small Business management. USA: Prentice-Hall.

APPENDIX 1

Questionnaire

QUESTIONNAIRE ON FOSTERING THE CREATIVITY AND INNOVATIVENESS OF EDUCATORS

SECTION A

DEMOGRAPHIC DATA

Please put a cross (X) in the box the best describes you in your current school situation.

Your gender

Male	Female

Your age

20-30	30-39	40-49	50+

Years in position in teaching

1-5	6-10	10-15	15-20	20+

Your highest academic qualification

Matric	Degree	2nd Degree	3rd Degree

Your professional qualification

Certificate	Diploma	Degree (e.g. B.Ed)

Any other qualification (specify) .....

Your school type

Primary	Secondary	Combined	Other

Number of educators in the school

Less than 10	10-20	21-40	40^{+}

Location of your school

Township	Town	Farm/Rural

Number of learners in your school

0 – 500	0 – 800	0 -1000	$^{+}$1000

Merit awards received

1	2	3	4+

SECTION B: CREATIVITY AND INNOVATIVENESS DIMENSIONS

For each of the following statements please put a cross (X) in the box that best describes the situation in your school. There is no right of wrong answer, only honest ones.

Questions	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Staff is always involved in drawing the vision and mission statements of the school	Strongly Agree	Agree	Disagree	Strongly Disagree
2. Educators are often involved in decision making on new innovations to be implemented at the school	Strongly Agree	Agree	Disagree	Strongly Disagree
3. Educators are continuously updated on issues which affect their lives	Strongly Agree	Agree	Disagree	Strongly Disagree
4. The vision is reviewed and discussed with educators every term as a standard/pace setter for the term	Strongly Agree	Agree	Disagree	Strongly Disagree
5. Teams in the school are free to make their own choices on handling creative ideas and bringing about innovative changes	Strongly Agree	Agree	Disagree	Strongly Disagree
6. Educators are allowed to initiate and try their daily activities for advancement of the school	Strongly Agree	Agree	Disagree	Strongly Disagree
7. Educators are free to call for ideas and help from other departments	Strongly Agree	Agree	Disagree	Strongly Disagree
8. Educators are allowed to select teams and projects on which they want to serve	Strongly Agree	Agree	Disagree	Strongly Disagree
9. Teams carry out their tasks without being threatened by circumstances in the entire schools	Strongly Agree	Agree	Disagree	Strongly Disagree
10. Teams have freedom to make decisions and implement them without having to ask for permission	Strongly Agree	Agree	Disagree	Strongly Disagree
11. Educators' honest and original mistakes are recognised as an indication of initiative and courage	Strongly Agree	Agree	Disagree	Strongly Disagree

12. Educators are encouraged to be open and honest even if it is painful	Strongly Agree	Agree	Disagree	Strongly Disagree
13. Favouritism is discouraged and objective thinking is encouraged	Strongly Agree	Agree	Disagree	Strongly Disagree
14. Every educators is seen as a person and not as the same as others in the team	Strongly Agree	Agree	Disagree	Strongly Disagree
15. Educators are encouraged to come up with new ideas and are given enough time to try them out	Strongly Agree	Agree	Disagree	Strongly Disagree
16. Development programmes are held on a regular basis	Strongly Agree	Agree	Disagree	Strongly Disagree
17. When decisions are to be taken, educators are allowed to elaborate on issues of concern	Strongly Agree	Agree	Disagree	Strongly Disagree
18. Educators are trained, supported and motivated to be creative and innovative	Strongly Agree	Agree	Disagree	Strongly Disagree
19. Educators are assisted on issues they do not understand	Strongly Agree	Agree	Disagree	Strongly Disagree
20. Debate is used to generate creative innovative ideas and strategies	Strongly Agree	Agree	Disagree	Strongly Disagree
21. Educators are allowed to debate on issues that need clarity until consensus is reached	Strongly Agree	Agree	Disagree	Strongly Disagree
22. Debate is discouraged and educators are stopped before they can express their views in full	Strongly Agree	Agree	Disagree	Strongly Disagree
23 Educators' creative ideas are recognized, debated and tried in practice	Strongly Agree	Agree	Disagree	Strongly Disagree
24. Educators are encouraged to go out and look for information for empowerment	Strongly Agree	Agree	Disagree	Strongly Disagree
25. Educators are allowed to explore issues, come up with new ideas and put them into practice	Strongly Agree	Agree	Disagree	Strongly Disagree

26. Educators are encouraged to go out and look for information for empowerment	Strongly Agree	Agree	Disagree	Strongly Disagree
27. To curb the problem of lack of resources educators are encouraged to utilize external resources to improve the situation	Strongly Agree	Agree	Disagree	Strongly Disagree
27. Risk-taking and unpredictability are highly valued, even when things don't turn out according to plan	Strongly Agree	Agree	Disagree	Strongly Disagree
28. Clashes in activity time are handled with caution and sensitivity	Strongly Agree	Agree	Disagree	Strongly Disagree
29. Emotional tensions among staff members are handled with respect and honesty	Strongly Agree	Agree	Disagree	Strongly Disagree
30. .If an educator questions managerial activity he or she is not seen as a spoil-sport but as one who wants to understand	Strongly Agree	Agree	Disagree	Strongly Disagree
31. Conflict is seen as an eye opener and is handled timeously	Strongly Agree	Agree	Disagree	Strongly Disagree
32. Educators in the school exhibit a sense of humour	Strongly Agree	Agree	Disagree	Strongly Disagree
33. The school atmosphere is relaxed and easy-going	Strongly Agree	Agree	Disagree	Strongly Disagree

APPENDIX 2

Covering letter to respondents

Dear educator

Schools and educators are currently faced with enormous challenges in their work of teaching children. The numerous changes and initiatives introduced in educators require that they be creative and innovative in their approach. Sadly, many educators find that they cannot utilize their creativity and often find themselves bored with repetitious teaching routines. Many express a frustration in not being able to use their creative talents due to, among other, lack of resources and curricula expectations that tend to streamline teaching work to expected targets.

This research explores the extent to which school environments foster educators' creativity and innovativeness. It is hoped that findings in this regard will offer new insights for schools to encourage and promote educators' creativity and innovativeness.

Please assist me in conducting this research by completing the accompanying questionnaire. Your genuine and honest responses will be highly appreciated. **Please note that your anonymity is guaranteed and you are not required to write your name or name of school anywhere on the questionnaire**. You are further assured that this questionnaire and the information you will provide will be used only for research purposes – no part of this questionnaire will be used by anyone.

Thank you in anticipation for your co-operation

MJ Khumalo (Ms)