

Exploring Grade Repetition in South African Schools and its Relation to Learning and Cognition

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Cognitive psychology is a science that is interested in the functioning of the brain during the learning process and refers to cognition. Cognition, amongst other learning traits, is a prerequisite for enhancing the learning ability of learners towards academic success. This paper pursues the cognitive challenges prevalent during the learning process in identifying the cognitive gap as evident from extreme levels of grade repetition amongst learners. The study followed a quantitative design where a multi-stage cluster sampling procedure was conducted. The sample consisted of 650 Grade 11 learners, representing 20 schools in the Fezile Dabi Education District, Free State province, South Africa. Major findings of the study, analysed through Hierarchical Linear Modeling (HLM), reveal that learners' conscious awareness, cognitive and metacognitive engagement, and information-processing ability in the classroom, are greatly affected in learners that repeated grades in the past. This study argues for a deliberate effort from teachers to regard the extreme levels of grade repetition and its relation to learning and cognition in South African schools. The authors sought to provide evidence-based practices as analysed through the theoretical lens of cognitive and positive psychology and made recommendations towards implications for education.

Key words: *Cognitive gap, Cognitive psychology, Cognition, Grade repetition, Hierarchical Linear Modelling (HLM), Learning, Positive psychology.*

INTRODUCTION, BACKGROUND, AND PROBLEM STATEMENT

Since South Africa has been characterized by social injustices and went through major social change during the past two decades, deliberate demands were placed on teaching and learning. The South African education system is by and large characterised by overcrowded classrooms

and failure towards achieving educational outcomes, resulting in inequalities evident in classrooms, failing too many of its learners. Inclusivity has been on the agenda of many researchers, but a lack of empirical data reflecting upon the alarming levels of grade repetitions in this inclusive environment, raises huge concerns for our educational system in South Africa. In problematising grade repetitions, questions must be raised regarding the long-term consequences of such ignorance if this phenomenon is not continuously debated.

The aim of this paper is to initiate this discussion in ascertaining whether there is any relation between grades repeated in the past, learning and the cognitive ability of learners in South African schools. If evident, the credence to include aspects of cognitive and positive psychology in attempt to alleviate the inability of learners to successfully pass their grades, cannot be overstated. As Tandon and Singh (2015) indicate, teachers need to adjust their teaching knowledge by incorporating cognitive and positive psychology as part of their daily classroom practices to attend to the educational needs of the diverse groups of learners in the modern society, and especially in South African classrooms.

The dynamics of learning studied and explained in this paper, align with the authors' unequivocal beliefs regarding teaching practices in "How best to teach learners, so that they can learn best." Thus, the paper appeals to teachers to be cognisant of the extreme levels of grades repeated and to consider effective teaching and learning towards the enhancement of learners' information processing abilities, i.e., learning. These considerations are encapsulated in the fields of cognitive and positive psychology, and the qualitative behaviours of learner's conscious awareness, cognitive engagement, metacognitive engagement, and information-processing ability as dependent variables.

THEORETICAL FRAMEWORK

A theoretical framework provides scientific justification for a study and is both grounded in and based on scientific theory (Vinz, 2019). The theoretical framework of this study encapsulates the emerging field of cognitive psychology and Seligman's theory on positive psychology. This theoretical framework provides the foundation in which learning and learning behaviours are subsequently explained and described, and from where learner performance variables culminate the enhancement of learner information-processing ability, i.e., learning in the classroom.

Cognitive Psychology

Cognitive psychology is a branch of psychology that focuses on the way humans process information, and study how people acquire and apply knowledge or information. The study is based on two assumptions: firstly, cognitive psychology postulates that human cognition can be revealed by the scientific method fully, that is, the individual components of mental



processes can be identified and understood. Secondly, that internal mental processes can be described in terms of rules or algorithms in information (Lu & Doshier, 2007).

Anderson (2015) explains that cognitive psychology is the science of how the mind is apprehended in the brain and organised to produce intelligent thought and refers to a dynamic science producing many interesting discoveries. Determining the properties and mechanisms of the mind is what cognitive psychology is about (Goldstein, 2011). O'Donnell et al (2009) add that teachers need to be sensitive to learners' individual differences, motivate learners by stimulating their curiosity, and promote discovery-based learning in the classroom. There are varieties of perspectives in cognitive psychology that are currently impacting educators' thinking about how to improve the teaching/learning process. Eggen and Kauchak (2014) highlighted the importance of the teacher's role in promoting learners' cognitive active roles in the classroom.

The authors posit that if teachers are consciously aware of the contribution of the information processing knowledge base to learning, and the relevance of the educational implication of cognitive psychology, it could have the requisite efficacy to improve learner performance. In addition, Upadhyay and Arya (2015) claim that positive psychology intervention activities are specific, evidence based and intentional and aim to foster positive cognitions and behaviours towards the improvement of the well-being of an individual, which is ultimately linked to cognitive psychology within the field of educational psychology.

Positive Psychology

Positive psychology has proliferated since its formal inception during Dr Martin E.P. Seligman's 1998 American Psychological Association presidential address. The research and practice of positive psychology has grown substantially over the past decade, which is partly due to the emphasis on a positivistic scientific approach. Seligman's theory on positive psychology holds great promise for positively influencing learner performance in the classroom. Positive education is a relative novel term that refers to the natural coupling of positive psychology and education (Selva, 2018). From this perspective, Shankland and Rosset (2017) explain, "Teachers and researchers in positive psychology are natural allies, and at its core, education is about nurturing strengths, about growth and learning, where psychological well-being is a key concern for teachers." Rusk and Waters (2013) suggest that positive psychology has led to significant growth in education and other fields.

Positive psychology interventions are applied by teachers in classrooms all over the world (Ciarrochi et al, 2016). Essentially, using a positive psychological approach in education foster a sense of competence, confidence, and optimism, all of which are aimed at improved learner performance by generating a sense of agency for learners (Taylor, et al, 2000). In turn, these create a sense of well-being and general happiness in learners, contributing towards their learning (Seligman, 2007). It is against this backdrop that the authors attempted to study the

implications of positive psychology for classroom practices. Positive psychology also benefits teachers personally, empowering them to engage learners in mastering academic material. Unlike traditional teaching approaches, the cognitive and positive approach to teaching utilises techniques that focus on the well-being of learners and learning is viewed as a cognitive approach to enriching the learner's educational experience. In addition, the application of positive psychology in the classroom serve great educational purpose as research indicates that learner well-being enhances academic outcomes (Selva, 2018).

LITERATURE REVIEW

Learning and cognition

Laxman and Chin (2010) state that the brain is an organ of learning, designed to gather and store an infinite amount of information, and then put it to use. Krause, et al (2009) refer to the process by which the brain acquires and use knowledge as cognition. Woolfolk (2007) concurs and further explains that cognition is those intellectual or perceptual processes occurring within us that the typical individual would describe as thinking, rational processing, or the mind. Eggen and Kauchak (2014) assert that through learning, an individual's cognition develops long-term changes in mental representations or associations because of environmental learning and experiences. The developmental changes that occur include the construction of thought processes (i.e., thinking, rational processing, or the mind) such as the mental processes of perception, memory, judgment, and reasoning, as contrasted with emotional and volitional processes from childhood through adolescence to adulthood. Ormrod (2008) clarifies that learning, including classroom learning, is largely a mental phenomenon that has its basis in the brain. Through cognitive (mental) development, long-term change in mental representations or associations because of continuous construction of thought processes, results in learners becoming more capable and sophisticated in their thinking.

Learners come to class, bringing with them previously learned information and experiences. The efficiency and effectiveness of the teacher's conscious utilisation of attention seeking strategies to get the attention of the learners, evoke the learners' awareness of learning, and stimulates absorption in the task, to lay the basis for the brain to process information deeply. The authors further contend that teachers grounded on the knowledge-based research of the implications of cognitive psychology have the requisite efficacy to build the brain potential of learners regardless of their past knowledge acquisition and performance. Such teachers would become a conduit to bridge the achievement gap of learners because of their efficacious motivation and the resultant optimism to build the brain potential of learners to higher levels of complex and sophisticated minds. Learner performance refers to behaviours' learners display that elucidates learning behaviour in the classroom (Van der Merwe, 2013). For the purposes of this study, learner performances refer to conscious awareness, information processing ability, cognitive engagement, and metacognitive engagement.

Conscious awareness

Ramachandran (2011) explains conscious awareness as a process by which an individual gains knowledge or becomes aware of events or objects in the environment, such as in the classroom. Madrid (2000) avers that in cognitive theory, the learner should initially be consciously aware of the learning process by paying attention until the learner has reached the stage where the skill has been acquired, i.e., the skills to understand facts, relate events, undertake tasks, and display skills. The stimulated awareness subsequently encourages the learner to use the acquired knowledge for comprehension and problem solving. In cognition, cognitive functions are those mental processes that lead to the acquisition of knowledge through the information-processing model. Jefferson (2018) explains that in cognitive functions, cognitive control is a construct from contemporary cognitive neuroscience that refers to processes that allow information processing and behaviour to vary adaptively from moment to moment, depending on current goals, rather than remaining rigid and inflexible. Cognitive control processes include a broad class of mental operations including goal or context representation and maintenance, and strategic processes such as attention allocation and stimulus-response mapping.

Cognitive control is closely linked to consciousness (Kunde, et al, 2012). Consciousness usually requires some form of selective attention and a short-term storage of information. Kuldass et al (2013) state a conscious learning process starts by deliberately paying attention to instructional materials, noticing similarities and differences between words and their particular meanings with the help of relevant prior experience, thereby mentally building coherent connections between them and organising them into new knowledge structures. Thus, either conscious or subconscious, learning is primarily a combination of mental processes, referred to as a knowledge acquisition process, bringing memories into the mind, forming associations, retaining, and using them (Mayer & Moreno, 2003).

Cognitive engagement

Van Amburgh et al (2007) postulate that the concept of learner engagement and active learning is becoming more than just educational rhetoric. Active learning techniques have emerged as strategies for teachers to promote engagement with both discipline material and learning. Solis (2008) agrees that teachers need to teach for engagement, and evident from education literature, it becomes apparent that learner engagement is a prerequisite of learning. For learning to be truly meaningful, learners must be cognitively engaged. Effective teaching strategies must consider learners' stages of cognitive development, the status of their consciousness in learning, and their metacognitive ability awareness. Metacognitive knowledge develops with age, experience, and instruction and has a profound influence on classroom practices (Schneider, 2008).

Metacognitive engagement

Human learning is ultimately made possible through the information processing theory. Because of the information processed, higher order thinking occurs which involves metacognition. Metacognition is a strategy that refers to our knowledge about attention, recognition, encoding, storage and retrieval, and how these operations might be used to achieve a learning goal. Metacognitive knowledge develops with age, experience, and instruction, and has a profound influence on classroom practices (Schneider, 2008). Research suggests that teachers have a significant role to play in raising learners' metacognitive awareness (Price-Mitchell, 2015). According to Cubukcu (2009), researchers claim that the capacity to self-regulate is central to our assumptions about learning, decision-making, problem solving, and resource management in education, and that they are researching assessment instruments and intervention programmes to promote self-regulation and make learners use their metacognitive strategies.

Information processing ability

The information processing theory describes how information is perceived from the environment and processed accordingly. Kandarakis and Poulos (2008) postulate that learning is defined as the process of acquiring new information, while memory is defined as the persistence of learning that can be accessed later. The structure of human memory was initially proposed by Atkinson and Shiffrin (1968) and is often described in the framework of information processing theory (Eggen & Kauchak, 2014). Woolfolk (2007) elaborates on this by asserting that processing involves gathering information and organising it in relation to what is already known (or encoding), holding information (or storage) and getting at the information when needed (or retrieval). Kim and Lee (2014) espouse the idea that it is more useful for learners to select knowledge and information by thought than to simply memorise what is provided to them. Learners should possess more than simply a quantity of knowledge (i.e. how much they know) but instead, possess information-processing abilities (i.e. new knowledge can be constructed using existing information – this is ultimately what teachers should be developing in interactive teaching and learning environments).

According to Beitzel (2012), principles of effective learning, i.e., improving information-processing ability of learners include the activation of prior knowledge (a constructivist approach to learning), organising of the learning content (behaviourist approach to learning), deep processing of information (metacognitive strategy) and distributed practice in terms of learning (no cramming of information).

METHODOLOGY

The study resided within the post-positivist research paradigm and followed a non-experimental quantitative survey design. First, by conducting descriptive statistics to gain an understanding of the levels of grade repetitions. Frequency tables and graphs were drawn with SPSS Statistics software to project the pictorial version of the data to obtain measures of central tendencies such as frequency distributions and percentages. Secondly, inferential statistics were employed to test the hypothesis. The purpose of using a quantitative design in this study is mainly to gain an understanding of the underlying perceptions of learners, gaining insights into grades repeated in the past and the relation to learning behaviours. The study therefore tested statistical relationships between dependent and independent variables through the application of inferential statistics, with specific reference to HLM analysis done in the SPSS Statistics package. The dependent variables were measured, typically on a Likert-type scale instrument, so that the empirical data could be analysed using statistical procedures.

Issues pertaining to the validity and reliability of the questionnaire were addressed during the research. The face and content validity of the questions were tested by subjecting the questionnaire items to a panel of three judges to verify the validity. Factor analysis was computed to obtain evidence of construct validity. Exploratory factor analysis (EFA) took a broad look at test data to determine how many underlying components were possible, and four distinct factors loaded above an Eigen value of 1 and was retained as part of the analysis and hypotheses testing. This implies that the four factors extracted by employing the Principal Component and the Direct Oblimin rotation method, explained a total variance of 45.5% in the constructs or dependent variables. The pattern matrix indicated the regression weight loading for each question (75 questions in total). The questions that loaded above a regression weight of 0.3 were retained. Out of the total of 75 questions, 9 questions loaded below 0.3 and were discarded. The EFA indicated that 12 questions loaded significantly for the dependent variable CE, 14 questions in total loaded significantly on CA, 25 questions loaded significantly on ME, and 15 questions loaded significantly on IPA. These results were also confirmed by the CFA analysis. The Kaiser-Meier-Olkin (KMO) measure of sampling adequacy of 0.966 is indicative of a sufficient sample size (KMI >0.9 → superb). The correlation between variables is considered significant at $p < 0.05$ (0.001).

The Cronbach's alpha test which measures the internal consistency reliability of the research instrument for this study, was used as the reliability coefficient for the Likert-type scale in section B of the questionnaire. A Cronbach Alpha on each of the four dependent variables/constructs was calculated at >0.8. The coefficient confirmed reliability in the local context. Reliability is a characteristic of the test itself, and validity depends on the inferences made from the test scores. Garson (2012) asserts that all statistical procedures have underlying assumptions. An expected component of quantitative studies is to establish that the data of the study meet these assumptions of the procedure. Parametric tests are significant tests which

assume: (1) a certain distribution of the data (usually a normal distribution), (2) the interval level of measurement, and (3) the homogeneity of variances when two or more samples are compared. In this study, the said tests were all conducted before analysing the data to ensure that these conditions were met.

The target population was Grade 11 learners in the Fezile Dabi Education District, Free State province in South Africa. A probability, multi-stage cluster sampling procedure was conducted to select a sample for the study. The sample consisted of 650 Grade 11 learners that represented 20 of the 65 schools in the district. A questionnaire was employed for data collection. The questionnaire consisted of two sections. Section A contained the demographic variables of the sample (consisting of 20 questions) and section B comprised 80 questions ranging on a four-point Likert-type scale from ‘strongly disagree’ to ‘strongly agree’.

RESULTS

The study attempted to establish the levels of grade repetition, as well as how the information-processing ability of learners, with reference to those who repeated grades, is influenced by their conscious awareness, cognitive engagement, and metacognitive engagement, and how this ultimately influence their performance in the classroom. It is anticipated by the authors that, employing these tactics, will render valid results that are consistent with the need to enhance learners’ depth and breadth of processing information, and thereby become sophisticated and complex producers of knowledge. The descriptive statistics explain the learner sample in terms of the grades they repeated, whereas hypothesis testing was done to measure whether any statistical relationships exist between information-processing ability, conscious awareness, cognitive engagement, and metacognitive engagement in the classroom as dependent variables, and the independent variable grades repeated.

The Hierarchical Linear Modelling null hypothesis formulated for the study include:

1. There is no statistically significant relationship between the *performance of learners* and *grades repeated*.

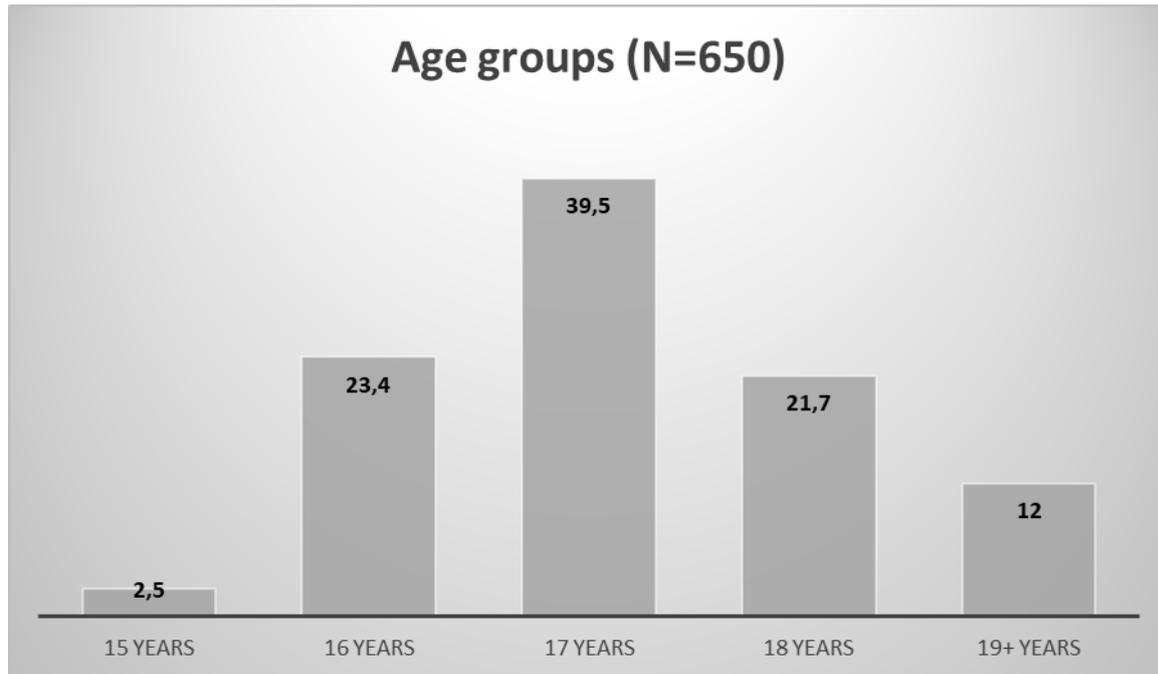
The results of the independent variable grades repeated are explained through descriptive statistics, with reference to the age of learners, followed by inferential statistics towards hypothesis testing.

Age Group

According to the policy on admission of learners to public schools in South Africa (DBE, 1998), a learner will start attending Grade 1 in the year they turn 7 – resulting in them being approximately 17 years of age by Grade 11. From Figure 1, it is apparent that 219 learners (34%) are older than 17, which implies that these learners may have repeated a grade during

their schooling years or experienced a delayed progression from one grade to the next because of unforeseen circumstances or had enrolled at a later age for schooling. This descriptive statistic is further explained in the next section, is Grades Repeated in the past. It was established that only 65.4% (n = 425) of learners are not older than 17 years. The frequency percentages are displayed in Figure 1.

Figure 1: Age group composition of learners (N=650)



Grades Repeated in the Past

This section elaborates on the previous section which indicated the average age of the Grade 11 learner in the sample. Table 1 highlights that some learners repeated Grade 9 (n=79; 12.5%), but mostly Grade 10 (n=104; 16.5%). The table further indicates that only 368 learners (58.4%) never repeated a previous grade.

Table 1: Frequency analysis of learners who have repeated grades in the past (N=650)

Independent variable GRADES	f	%
REPEATED IN THE PAST		
Grade 8	20	3.1
Grade 9	79	12.2
Grade 10	104	16.0
Other	59	9.1
Never repeated	368	56.5
Missing values	20	3.1
Total	650	100

This descriptive statistic implies that over 40% of the learners in the sample had repeated a grade at some stage in their high school career; barring failure in Grade 12. The policy document (DBE, 2012) states that, for a Grade 10 learner to be promoted to Grade 11, the learner must pass the seven subjects in the curriculum for Grade 10. The minimum pass percentage of the seven subjects is stipulated as follows: the learner is expected to obtain a minimum of 40% in three subjects, with one of the three subjects being an official language at Home Language level, and 30% in three subjects. No percentage pass mark is specified for the seventh subject of the Grade 10 curriculum. A learner is therefore permitted to fail one subject, and still be promoted to Grade 11. A mark below 30% results in failure of that subject.

Table 2 outlines the Grades Repeated for different learners' age groups. It is evident that the percentage of learners in the age groups 18 (71%) and 19+ (84%) have repeated Grade 9 and Grade 10 significantly more times than learners in the age groups 15 (6%), 16 (5%) and 17 (34%). The descriptive statistics also imply that learners in the age groups 18 and 19+ could have repeated more than one grade in the past.

Table 2: Cross tabulation of age and grades repeated in the past for learner data (N=650)

Independent variable GRADES REPEATED IN THE PAST	Learners' Age Group					
	15	16	17	18	19+	Total
Grade 8	1	1	11	7	0	20
Grade 9	0	0	20	33	26	79
Grade 10	0	2	37	40	25	104
Other	0	4	19	20	16	59
Never repeated	15	147	169	34	3	368
Missing values	4	4	4	4	4	20
Total	20	158	260	138	74	650

The next section discusses the hypotheses testing with the use of inferential statistics.

Hypothesis 1

There is no statistically significant relationship between *age* and information processing ability. Age was a significant predictor of information processing ability as obvious from $F(635) = 2.681, p < 0.05 (0.031), d = 0.378$. Therefore, the null hypothesis can be rejected. As identified during the *post hoc* test and testing the Effect Size (ES), the relationship is evident between ages 17 and 19, with a small to medium ES (*d*) of 0.378. The highest level of agreement was reported for the age group 15 ($M=3.454, SD=0.196$), followed by the 19+ age group ($M=3.419, SD=0.105$); and the lowest level agreement was reported for the age group 16 ($M=3.127, SD=0.082$).

Hypothesis 2

There is no statistically significant relationship between *grades repeated* and *conscious awareness*.

Grades repeated was a significant predictor of conscious awareness as obvious from $F(606) = 2.401, p < 0.05 (0.049), d = 0.676$. Therefore, the null hypothesis can be rejected. As identified during the *post hoc* test and testing, the Effect Size (ES), the relationship is evident between Grade 8 and Grade 10, with a medium to large ES (d) of 0.676. The highest level of agreement was reported for the Grade 10 group ($M=2.712, SD=0.092$), followed by the other grades group ($M=2.551, SD=0.109$); and the lowest level of agreement was reported for the Grade 8 group ($M=2.199, SD=0.177$).

Hypothesis 3

There is no statistically significant relationship between *grades repeated* and *cognitive engagement*.

Grades repeated was a significant predictor of cognitive engagement as obvious from $F(617) = 4.419, p < 0.05 (0.002), d = 0.726; 0.426; 0.413$. Therefore, the null hypothesis can be rejected. As identified during the *post hoc* test and testing the Effect Size (ES), the relationship is evident between the learners who repeated Grade 8 and the learners who repeated Grade 10 ($d = 0.726$), between Grade 9 and Grade 10 ($d = 0.426$), and between Grade 10 and never repeated a grade ($d = 0.413$). This implies that learners who repeated Grade 8 and learners who repeated Grade 10 differ significantly whereas the effect/strength of the relationship reported 0.726 (large effect). The respective effect/strengths of the relationship between learners that repeated Grade 9 and learners who repeated Grade 10 is 0.426 (medium effect), and between learners who repeated Grade 10 and learners who never repeated a grade is 0.413 (medium effect). The highest level of agreement was reported for the Grade 10 group ($M=3.202, SD=0.068$), followed by the other grades group ($M=3.084, SD=0.078$); and the lowest level of agreement was reported for the Grade 9 group ($M=2.976, SD=0.073$).

Hypothesis 4

There is no statistically significant relationship between *grades repeated* and *metacognitive engagement*.

Grades repeated was a significant predictor of metacognitive engagement as obvious from $F(619) = 3.299, p < 0.05 (0.011), d = 0.357$. Therefore, the null hypothesis can be rejected. As identified during the *post hoc* test and testing the Effect Size (ES), the relationship is evident between the learners that repeated grade 10 and the learners that never repeated a grade ($d =$

0.357) with a small to medium ES of 0.357. The highest level of agreement was reported for the Grade 10 group (M=3.308, SD=0.076), followed by the other group (M=3.167, SD=0.087); and the lowest level of agreement was reported for the Grade 8 group (M=2.944, SD=0.136).

DISCUSSION

This section encapsulates the impactful capability of teachers to maximize learning and decrease the cognitive gap, assisting learners not to fail their grades. In a classroom, an effective and knowledgeable teacher is an important school-related factor that facilitates and are responsible for the learning process (Schacter & Thum, 2004). The authors opine that teacher capacity to apply such a consolidated knowledge-based perspective simultaneously when teaching, would facilitate for the equality and ease of information processing by learners. Too often, the ineffectiveness of the instructions provided by the teacher is not regarded as influential in ineffective learning (Nuthall, 2004). Within the professional culture of teaching and learning, it is generally believed that if material is taught, it is automatically learned by the learners. If the material is not learned, then the problem is presumed to lie with the inadequacy of the learner's ability, motivation, or persistence. Grösser (2007) is of the opinion that effective teachers regard how learners learn and subsequently carefully plan instruction towards creating a successful learning environment. Teachers should not merely teach learners content, but also the strategies required for learner engagement with the content to realise an interactive learning process.

The section explains the four DVs of the study which include information processing ability (IPA), conscious awareness (CA), cognitive engagement (CE) and metacognitive engagement (ME) concluded by the educational implications of these to classroom teaching and learning regarded as essential elements in closing the cognitive gap as proved evident in this study. The Hierarchical Linear Modelling hypotheses testing further illustrated and explained the different influences the independent variable exerted on the dependent variables, and the statistical significance of these relationships. *Post hoc* tests were conducted to determine between which of the independent variables, the statistically significant relationship is evident. For educational and practical purposes, the magnitude of the Effect Size on these statistical relationships was also explained. The next section explains the findings for each dependent variable.

Conscious Awareness

Conscious awareness as a dependent variable was significantly influenced by the independent variable: Grades Repeated in the past.

The hypothesis testing indicated that Grades Repeated in the past, as an independent variable, had a significant influence on the learners' ability to be consciously aware in the class, which implies that learners feel that their conscious awareness in the classroom is greatly affected by

the fact that they had repeated grades in the past. The *post hoc* test revealed that a significant relationship was evident between learners who had repeated Grade 8 and Grade 10.

In the process of teaching, it is therefore imperative for teachers to encourage learners to ask questions, to analyse, to criticise, to compare, to wonder, and to become aware of alternatives. Certainly, learners' perceptions about themselves, their attitude towards academic work and their level of motivation influence their academic performance. Teachers should therefore help learners to analyse their behaviour in processing information and to evaluate their beliefs regarding the requirement to be lifelong consumers and producers of knowledge bases that would mould their meaningful understanding of the elements or aspects of what constitute life, living, and being assets through their mind/thinking. This could assist learners in attaining the cognitive wellbeing and positivity that cognitive and positive psychology aim to achieve. The researcher, therefore, strongly believes that teachers should take special interest in the study of the brain, because teachers should understand how the brain contributes to educational phenomena, such as learning, critical thinking, problem solving, information processing and memory. Teachers are indeed not neuroscientists, but they are members of the only profession in which their vocation is to change and transform the human brain daily.

Cognitive Engagement

Cognitive Engagement as a dependent variable, was significantly influenced by the independent variable: Grades Repeated in the past.

The hypothesis testing indicated that Grades Repeated in the past, as an independent variable, had a significant influence on conscious awareness, which implies that learners feel that their cognitive engagement in the classroom is greatly affected by the fact that they had repeated grades in the past. The *post hoc* test revealed that a significant relationship was evident between learners who repeated Grade 10 in the past in comparison to all other grades repeated in the past.

The descriptive statistics imply that over 40% of the learners in the sample had repeated a grade other than Grade 12. Teachers should be intensely aware of the fact that learners regard their past failures as significant indicators of their ability to be cognitively engaged in the learning process. Donald et al (2014) explain that Seligman's theory on positive psychology explains repeated experiences of failure perceived by learners would cause that they feel incapable of learning and subsequently achieve the desired learning outcomes. This holds true for learners in this study who felt discouraged by their past failures.

Teachers should equally promote learners' self-efficacy in terms of social cognition. Brandon (2016) explains how teachers could apply principles of social cognitive learning theory in an educational setting. Teachers should regard that learning as a cognitive process (perception, memory, language, problem solving and abstract thinking) takes place in a social context where



learners are regarded as active participants in the learning process. Information processing, i.e., learning, refers to the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses, known as cognition. In the application of effective teaching practices, teachers must regard that cognition, environment and behavior subsequently influence one another in the classroom. An additional teacher application of this theory is to encourage and assist learners to develop their individual self-efficacy through communicating high expectations and providing constructive feedback through the formative assessment process.

Metacognitive Engagement

Metacognitive Engagement as a dependant variable was significantly influenced by the following independent variables: Grades Repeated in the past.

The hypothesis testing indicated that Grades Repeated in the past, as an independent variable, had a significant influence on metacognitive engagement. This implies that learners feel that their metacognitive engagement in the classroom is greatly affected by the fact that they had to repeat grades in the past. The *post hoc* test revealed that a moderate relationship was evident between learners who had repeated Grade 10, when compared to ‘no grades repeated’.

Information Processing Ability

Information Processing Ability as a dependent variable was significantly influenced by the following independent variable: Age.

Learners believed Age was a significant predictor of Information Processing Ability. This entails that learners’ information processing ability is strongly influenced by their age. The *post hoc* test revealed a moderate relationship between the learners aged 17 and 19. Concerning Age, 34% of learners were older than 17, which implies that these learners had repeated a grade at some stage in their high school career.

CONCLUSION

The authors, as seasoned FET phase teachers and lecturers in tertiary education; has always been irked and astounded by a concern that raises the question, “Why in the learning situation, is it a common occurrence that some learners achieve good results while others perform poorly?” Conversely put, “Why do some learners perform poorer than the others in assessments even though they received the same content from the same teacher, and under the same classroom conditions?” With this study the authors attempted to identify the cognitive gap that exist in South African classrooms. In problematising grade repetitions, questions must be raised regarding the long-term consequences of such ignorance if this phenomenon is not continuously debated.



With years of teaching and the concomitant experience that has evolved into ideas and compounded into an ideology about teaching and learning; the authors tenaciously hold the view that education is not a neutral phenomenon. It is an ideology, with ideology conceived as a terrain on which people move and acquire consciousness of their position. It is proper to indicate that, precisely because education is ideological and an important mechanism for shaping societal values; teachers should be at the front and centre of educational diffusion in schools as the vital part of teaching and learning.

Through teaching, education is one of the most crucial vehicles for shaping broader societal values. It is always a carrier of particular messages, both implicitly and explicitly. As often cited, teachers mostly impart the societal messages through texts, modules, readers, and learning guides. Their vigour is explicated by the manner in which they teach and the content of the subject that they teach. The findings of this study are more convincing evidence for the latter contention. Teaching practices should be expanded to be more developmental in nature, and to encourage a kind of learner self-reflection inclusive of a perceptual shift that define higher orders of consciousness. If teaching is only experienced as a process, whereby learners believe that the expectation of them is only to focus on fixed predetermined procedures of recollection and reproduction of information, then the aim of education is defeated (Kotze, 2002). This study, and the results obtained, subsequently indicate that teachers should apply the principles of cognitive and positive psychology in their classroom practices. As sustained by the wider scholarly attention received, there is growing support for research and interventions that focus on promoting optimal cognitive functioning and well-being.

Based on the above-mentioned stance, the authors surmise that: the most critical strategy, performances, and the manoeuvres of a good and successful teacher regarding the ability to change and modify learners' behaviours to learn, is embedded in the power of the teacher to regulate and order learners how to think, act, and behave (i.e., *how* to process information) in addressing the cognitive gap that exists during learning and cognition. It is the authors' sincere desire that the implications of the findings and the recommendations based thereon, will be considered by teachers in attempt to lessen the extreme levels of grade repetition as evident in South African schools.

ACKNOWLEDGEMENTS

Funding was provided by Central University of Technology, Free State for a doctorate research study.



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