# THE DYNAMICS OF ACTIVE LEARNING AS A STRATEGY IN A PRIVATE HIGHER EDUCATION INSTITUTION

by

Mia Beyleveld

Submitted in partial fulfilment in accordance with the requirements for the degree of

Doctor of Philosophy

in the

Faculty of Education

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UNIVERSITY OF PRETORIA

PROMOTOR: Prof JJR de Villiers
CO-PROMOTOR: Prof WJ Fraser
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# DECLARATION

I, Mia Beyleveld, student number 21003697 hereby declare that this thesis, "*The Dynamics of Active Learning as a Strategy in a Private Higher Education Institution,*" is submitted in accordance with the requirements for the Doctor of Philosphy degree at University of Pretoria, is my own original work and has not previously been submitted to any other institution of higher learning. All sources cited or quoted in this research paper are indicated and acknowledged with a comprehensive list of references.

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Mia Beyleveld

25 August 2017

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# DEDICATION

I dedicate this research to my husband Paul who has supported me every step of the way and my children Alon and Micah that helped their Mom to write this “book”.

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# ABSTRACT

In South Africa, the Department of Education (DOE) via its South African Qualifications Authority (SAQA) mandates lecturers particularly at higher education level to deliver students that should be able to think critically and solve problems by the end of their undergraduate journey at any Higher Education Institution (HEI), whether public or private. HEIs have each taken their own approach on how to develop these competencies in their undergraduate students. This qualitative inductive case study focuses on understanding how eleven lecturers teaching at a private HEI in Midrand South Africa facilitate Active Learning in their classes, how they measure the success of Active Learning strategies and the support they have available to them by using semi-structured interviews and class observation data. Some of the findings highlight that these lecturers know exactly what Active Learning is even though most have never been officially trained. Six groups of different Active Learning strategies were identified including different questioning techniques, engagement via reading, engagement via writing, hands-on activities, use of technology and interaction with peers. Even though lecturers believed in Active Learning, evidence substantiating the effectiveness of their teaching methodology was mostly subjective. It was also found that lecturers had more support requirements than current support available and that the majority of current support was in the form of the immediate lecturer community.

Key Terms:

active learning, critical thinking, effectivity, lecturer support, private higher education, problem-solving, South Africa, teaching strategies.

# LANGUAGE EDITOR CERTIFICATE

*MAURINE FISCHER EDITING AND TRANSLATION SERVICES*
*P O BOX 989*
*SOMERSET WEST*
*7130*
Tel: 082 569 7457
mfporcelain@gmail.com
Fax: 0866 381 543
**Professional Editors' Guild Membership No: PEG: FIS001**

2017-07-10

**Client: Mia Beyleveld 21003697**

**The Dynamics of Active Learning as a Strategy in a Private Higher Education Institution by Mia Beyleveld**

Submitted in partial fulfilment in accordance with the requirements for the degree of Doctor of Philosophy in the Faculty of Education University of Pretoria

Promotor: Prof JJR de Villiers
Co-promotor: Prof WJ Fraser

It is hereby certified that the editing services in this dissertation have been performed by myself as the editor as set out below:

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# LIST OF ABBREVIATIONS

CCW: Core Collaborators Workshops
CHE: Council for Higher Education
CTI: Computer Training Institute
BBE: Black economic empowerment
DOE: Department of Education
DP: Due performance
HDP: Higher Diploma Programme
HEI: Higher Education Institute
HEQSF: Higher Education Qualifications Sub-Framework
IBL: Inquiry based learning
IELTS: International English Language Testing System
IGL: Inquiry guided learning
IT: Information Technology
LMS: Learning Management System
MGI: Midrand Graduate Institute
PBL: Problem based learning
PGCHE: Post Graduate Certificate In Higher Education
PLC: Professional learning communities
PIHE: Pearson Institute of Higher Education
PORTAAL: Practical Observation Rubric to Assess Active Learning
SAQA: South African Qualifications Authority
TALESSI: Teaching and Learning at the Environment-Science-Society Interface
TEI: Teacher Educational Institution
TEL: Technology enhanced learning
VARK: Visual, Aural, Read/write and Kinesthetic
VUT: Vaal University of Technology
UK: United Kingdom
USA: United States of America

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# CHAPTER 1: GENERAL ORIENTATION

## 1.1 INTRODUCTION

In South Africa, the Department of Education (DOE) via its South African Qualifications Authority (SAQA) mandates lecturers, particularly at higher education level to deliver students that should be able to think critically and solve problems by the end of their undergraduate journey at any Higher Education Institution (HEI), whether public or private. HEIs have each taken their own approach on how to develop these competencies in their undergraduate students. There is, however, no clear rule on exactly how a lecturer should do this. This study focuses particularly on the journey taken by eleven lecturers at a private HEI, that has three different faculties tasked with creating students ready for the workplace after graduation. One of the teaching strategies that has received attention in the higher education arena is the use of Active Learning to develop particulary critical thinking and problem-solving skills in students. The aim would be to learn from eleven different lecturers, representing each of the faculties currently implementing Active Learning strategies on how they are doing it, what tools they are using, how they know it is working and what difficulties they might be facing.

## 1.2 RESEARCH CONTEXT

Pearson is the world's leading education company, providing educational materials, technologies, assessments and related services to lecturers and students of all ages. In 2013 they obtained a 100% stake in the Computer Training Institute (CTI) Education Group of South Africa. CTI is one of South Africa's leading private higher education institutions with more than 9,000 students over twelve campuses, awarding degrees and diplomas to a growing market of full-time and part-time students in subjects such as business, information technology, law, psychology, counselling, science, graphic design and creative arts. The CTI group since 2006 has included Midrand Graduate Institute (MGI), as partner (Pearson, 2010). MGI also delivered degrees on the same CTI campuses. During the acquisition period which was finalised in 2016, CTI and MGI merged and were renamed Pearson Institute of Higher Education (PIHE) conferring degrees on the twelve campuses

throughout South Africa (see Figure 1.1). There was also restructuring with regards to the faculties. At the start of this study MGI had six faculties although, during the course of this study, the restructuring process created PIHE which now only has three faculties. The study took place at the PIHE Midrand campus where eleven lecturers representing the three faculties participated in the study.

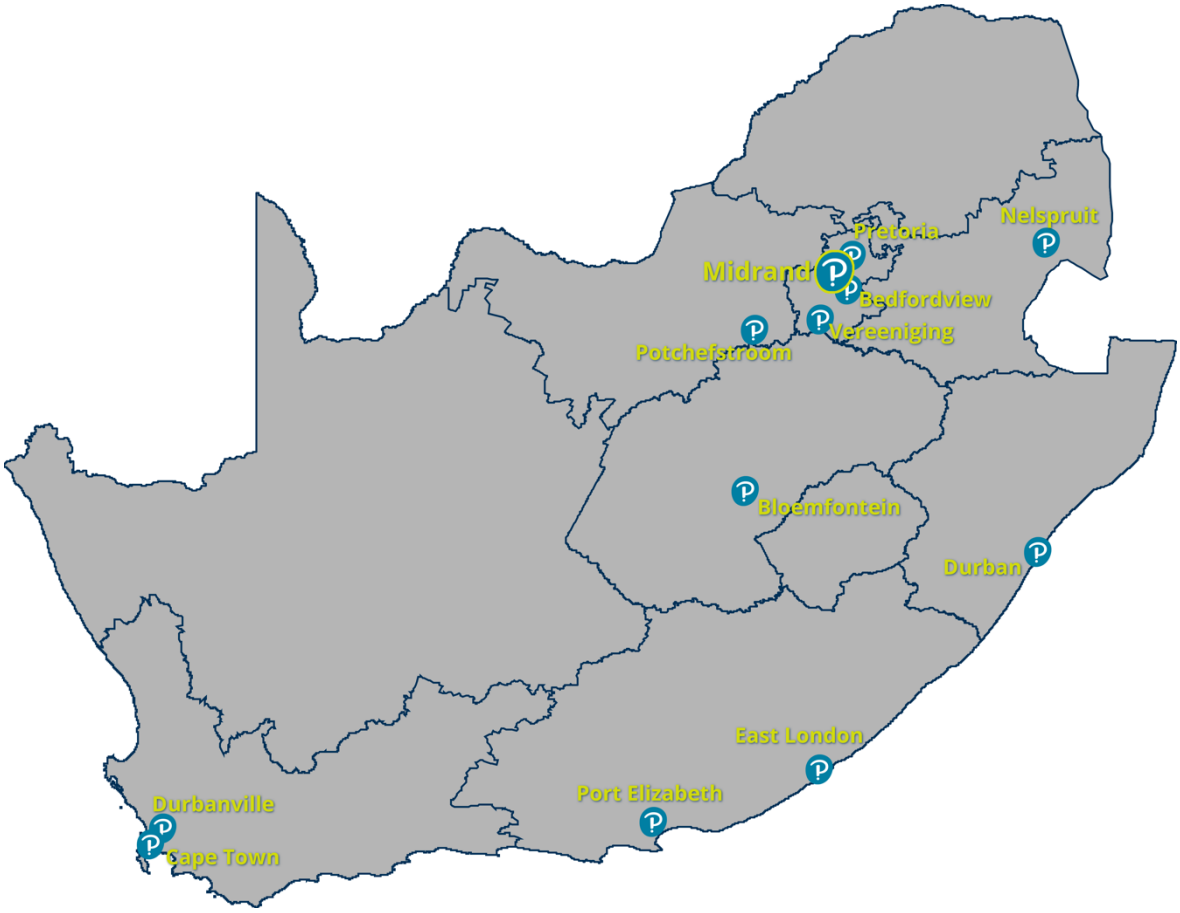


**Figure 1.1: Map of South Africa indicating the twelve PIHE campuses.**

## 1.3 STATEMENT OF THE PROBLEM

To understand the nature of the problem, the background will now be provided on the mandate given by the South African government, private higher education institutes (PIHE specifically) and prospective employers on the quality of student needed after graduation. This mandate but also the role of lecturers with regards to this mandate will be discussed.

The National Qualification Framework (NQF) Bill was passed into law as the South African Qualifications Authority (SAQA) Act (No. 58 of 1995) on 4 October 1995. The objectives of the NQF in SAQA outlined in the NQF Act No 67 of 2008 are as follows (http://www.saqa.org.za/, para. 1):

- To create a single integrated national framework for learning achievements;"
- Facilitate access to, and mobility and progression within education, training and career paths;
- Enhance the quality of education and training; and
- Accelerate the redress of past unfair discrimination in education, training and employment opportunities.

The objectives of the NQF were designed to contribute to the full personal development of each student and the social and economic development of the nation at large (SAQA, 2014).

The NQF developed by SAQA was published in the Government Gazette in November 2011. The 10-level framework represents levels of learning achievement arranged in ascending order from one to ten. The purpose of the level descriptors is to support the design and implementation of qualifications and part-qualifications within the NQF. They have been designed to contribute to coherence in learning achievement and facilitate evaluation criteria for comparability and thus articulation within the NQF (2012).

In South Africa, in May 1998, the Council on Higher Education (CHE) was established by the Higher Education Act of 1997. This council would be the quality assurance body that ensures that the NQF is adhered to. The function of the CHE includes (http://che.ac.za/about/overview_and_mandate/mandate, para. 1):

- To provide advice to the Minister of Higher Education and Training on request or on its own initiative, on all aspects of higher education policy.
- To develop and implement a system of quality assurance for higher education, including programme accreditation, institutional audits, quality promotion and capacity development, standards development and the

implementation of the Higher Education Qualifications Sub-Framework (HEQSF).

- To monitor and report on the state of the higher education system, including assessing whether, how, to what extent and with what consequences the vision, policy goals and objectives for higher education are being realised.
- To contribute to the development of higher education through intellectual engagement with key national and systemic issues, including international trends, producing publications, holding conferences and conducting research to inform and contribute to addressing the short and long-term challenges facing higher education.

As the educational policy of South Africa dictates that all qualifications should be registered with SAQA. All the degrees at PIHE is delivered with the following broad outcomes as defined by the NQF as governed by SAQA: Identify and solve problems using critical and creative thinking; organise and manage oneself and one's activities; collect, analyse, organise and effectively evaluate information; communicate effectively using visual and language skills in written and oral form; demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation; develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer-facilitated groupware and to demonstrate and analyse small group dynamics.

At an NQF 7 level (3rd-year modules at PIHE are presented at this level) students must be able to comply with the ten level descriptors presented. The ones I would like to emphasize are:

> *Problem-solving in respect of which a student is able to demonstrate the ability to identify, analyse, evaluate, critically reflect on and address complex problems, applying evidence-based solutions and theory-driven arguments* (SAQA, 2012: Level descriptor d, p. 10) and

> *Accessing, processing and managing information, in respect of which a student is able to demonstrate the ability to develop appropriate processes of information gathering for a given context or use; and the ability to*

> *independently validate the sources of information and evaluate and manage information* (SAQA, 2012: Level descriptor f, p. 10).

It is, however, evident that no guidelines are given on how these level descriptors should be achieved in the classroom. This means that each HEI needs to find its own way in complying with these requirements with a vision and strategy.

Since Pearson is the corporate governance of PIHE, one needs to look at what their vision and strategy are. In November 2013, Pearson announced a new commitment on learning outcomes across its product portfolio from 2018. This new approach to efficacy according to them is central to their purpose to help people make progress in their lives through learning. Efficacy is defined according to Pearson as "a measurable impact on improving people's lives through learning" (Barber & Rizvi, 2013, p. 12). An example of this is given as follows: “If a prospective university student passes an IELTS 5 (International English Language Testing System Test) in China that is good. What really matters, though, is that their mastery of English helps them to make progress in their career. Or, as another example, achieving ‘A’ grades at A-level is good, but what really matters is that, as a result, the student can progress to the university course or career of their choice, prepared – as it is phrased in the United states of America (US) debate – “for work, college and citizenship” (Barber & Rizvi, 2013, p. 12). This makes is quite clear that Pearson needs its employees involved in the direct delivery of content, especially those at higher education level, to produce students that are ready to do work in the real world.

PIHE aims to create real-world ready students by using methods that encourage participation, promote Active Learning and prepare students for the technology-driven world of work (www.pihe.ac.za):

> *One of the areas that really sets us apart is our interactive and supportive approach to learning. This approach is guided by relevant, quality assured and industry-led curricula. Because we are guided by learner needs, industry trends and employers, we have developed unique methods to encourage participation, to promote Active Learning and to prepare you for the technology-driven world of work. We don't just prepare you for success as a student; we give you the tools to succeed in the workplace too. Throughout your studies, you will have opportunities to develop qualities and skills that employers are looking for in today's graduates, such as critical thinking, goal setting, problem-solving, creativity, working in teams and communication.*

At PIHE the policy on teaching and learning (PIHE, 2014, p. 5) dictates to lecturers the strategy that should be used to develop students that are real world ready. Lecturers should facilitate learning, engaging the student to want to participate in the learning process:

> *At PIHE we believe that both the lecturer and student have their respective responsibilities in the facilitation of learning. The lecturer has to ensure that the curriculum and accompanying study material are relevant, innovative and of high academic quality – in line with PIHE's vision. The lecturer must also ensure that she/ he competently facilitates student learning by using a variety of applicable methods, e.g. lecturing, discussions, group work, tutoring, practical, self-study, and field trips. Lecturers should motivate students to attend class by making the study material relevant and applicable to real-life situations. Their classes should testify to their own interest and experience in the subject area and should never be a mere "covering of the material", passive learning, or regurgitation of what is in the textbook. Lecturers have to guide their students through the information in such a way that the students become critical, skilled and competent lifelong students who can think for themselves and apply what they have learned in such a way as to solve real world problems in a constantly changing context.*

One needs to look at what the expectations are of prospective employers to our students. In Hong Kong, employers place emphasis on English language ability and their capacity to innovate (Wing & Ming, 2000). In America, a study showed that employers needed general skills which include learning, reasoning, communicating, general problem-solving skills and behavioural skills (Carnevale & Smith, 2013). According to Carnevale and Smith (2013, p. 1) the move towards making people career ready essentially amounts to finding ways to learn basic knowledge, and transforming those capabilities into deeper learning in order to create a flexible and adaptable individual with the appropriate skills to survive in the twenty-first century. To summarise, lecturers at PIHE has the mandate to produce students that are prepared to do real work in the real world. The same expectation is shared with SAQA, Pearson, PIHE and prospective employers. So now that we know what is required of lecturers at higher education level, we need to consider teaching strategies that will develop these skills in students. Research in specifically higher education conducted in many countries such as America, United Kingdom, Australia, China, Ethiopia, Oman and South Africa has revealed a move from lecturer-centred environments to an adoption of student-centred and constructivist methods as the way to develop skills for the workplace. The way in which these

countries have facilitated this move will be discussed in Chapter 2. Learning through Active Learning is a widely advocated teaching and learning approach (Drew & Mackie, 2011). However, there is currently little systematic knowledge about the practice of Active Learning across various disciplines in higher education, more specifically in the private sector. The perception of the lecturer on his/her journey in acquiring the skills to use Active Learning in the classroom is also unclear.

## 1.4 STATEMENT OF PURPOSE

The purpose of this study was to find out how private higher education lecturers use the teaching strategy of Active Learning if at all in their modules as well how they assess student performance within the Active Learning context. This would provide insight on how far PIHE as a private higher education institute are on developing students with some of the required competencies mandated by SAQA, Pearson, PIHE and the employers. This would prove to be helpful in coming up with strategies from a teaching methodology or strategy point of view to deliver on this mandate given.

## 1.5 OBJECTIVES OF THE STUDY

The following objectives were addressed in this study:

a. To describe how lecturers at PIHE facilitate Active Learning in their modules.
b. To explain how lecturers at PIHE assess student performance in the context of Active Learning.
c. To describe the support that is available to lecturers in implementing Active Learning in their modules.

## 1.6 RESEARCH QUESTIONS

### 1.6.1 Primary research question

What is the role of Active Learning as teaching strategy (if any) for private higher education institution lecturers?

### 1.6.2 Secondary research questions

a. How do lecturers at PIHE facilitate Active Learning in their modules?
b. How do lecturers at PIHE assess student performance in the context of Active Learning?
c. How is support given to lecturers in implementing Active Learning in their modules?

## 1.7 RESEARCH STRUCTURE

To assure a well-structured research report in which the content flows in a logical order and in which the research aims and questions are addressed, the chapters were outlined as follows:

Chapter 1: General orientation
This chapter introduces the problem identified that led to the commencement of this study also providing the necessary background on the sites that were selected to participate in this study. The objectives and research questions are also described.

Chapter 2: Literature review and conceptual framework
This chapter will focus on providing a current understanding of Active Learning as a teaching strategy. The conceptual framework will be discussed as the lens used to make sense of the data obtained in this study. In this study a combined framework including the Activty theory and the Community of practice is used to make sense of the data to help understand the use of Active learning as a strategy in private higher education institution.

Chapter 3: Research methodology
In this chapter, the researcher's research design is discussed with reference to the paradigm, approach, method, strategy, data collection and data analysis. Here a inductive approach using qualitative design with a narrative case study strategy helps to not try and explain but rather to understand the use of Active Learning as a teaching strategy in a private Higher Education Institution. A screening questionnaire was used to purposefully select participants followed by more questionnaires, interviews and class room observation to gather data.

Chapter 4: Findings and discussions

This chapter informs the reader of what was discovered during the research and relates to the aims and research questions on which the findings and discussions are based.

Chapter 5: Recommendations and implications

This chapter provides an in-depth overview of the findings of this study in relation to the conceptual framework, its contribution, future research and implications.

## 1.8 CONCLUSION

The research context and description of the problem and purpose of this study have been provided which cumulated into the origin of the research questions which were addressed. In the next chapter, an overview of the current literature and the discussion of the conceptual framework will be done to address Active Learning as a teaching strategy used for successful teaching and learning in higher education.

# CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

## 2.1 INTRODUCTION

In this chapter, I review the current understanding of Active Learning as a teaching strategy, its definition which encompass many different teaching methodologies, and evidence from studies underpinning its use as a teaching strategy, especially in higher education. The conceptual framework consisting of the Activity Theory and Community of Practice will furthermore be discussed.

## 2.2 DEFINING ACTIVE LEARNING

As already discussed in Chapter 1, addressing the current challenge in higher education which includes developing critical thinking and problem solving skills in students, research shows that Active Learning as a teaching strategy is a strong candidate (Favero, 2011; Kyounga, Priya, Land & Furlong, 2013; Loji, 2012; Olivares, Saiz & Rivas, 2013; Snyder & Snyder, 2008).

The idea of Active Learning as the preferred approach, associated with lecturers teaching in higher education was referred to by Chickering and Gamson (1987) as referenced by Lewis and Harrison (2012, p. 3) who outlined the Seven Principles of Good Practice in Undergraduate Education. They argued that the most effective teaching strategies would be those that (a) ‘‘encourage active learning’’ as well as those that (b) ‘‘encourage cooperation,’’ (c) ‘‘encourage student–faculty contact,’’ (d) emphasize ‘‘using one’s time well,’’ (e) generate ‘‘prompt feedback,’’ (f) respect ‘‘diverse talents and ways of learning,’’ and (g) convey ‘‘high expectations’.”

In a PhD study titled: ‘Active Learning: Historical and Contemporary Perspectives’, Page (1990, p. 1) sets forth to summarize the views of five historical proponents of Active Learning (Rousseau, Pestalozzi, Dewey, Kilpatrick, and Piaget) and four contemporary proponents (Bruner, Wigginton, Freire, and Sharan) which show four common themes with regards to Active Learning: “(1) rejection of traditional

teaching methods; (2) belief in the cognitive learning paradigm; (3) faith in the ability of students; and (4) belief in the importance of the relationship of school to society." Interestingly, Drew and Mackie (2011) argue that the drivers for the adoption of Active Learning have largely been economic. To them it appears as if there is more concern with Active Learning in developing skills of learning (process orientated) rather than with Active Learning as a set of pedagogic strategies to enhance learning outcomes (product orientated). From the South African context, the NQF requires certain skills to be developed at each level and it seems that Active Learning would drive this skill development as a process orientated pedagogic strategy. Our students should be able to think critically and solve problems and thus the content of each module is simply a means to develop the correct competencies. As I would argue, if you only have the content or the product of learning, it will be hard to acquire any other, but if you have the competency to acquire the content yourself then you would be able to acquire any other or futher content needed.

Much might be debated on which terms, ideas, and concepts can be used to describe Active Learning but I would, however, suggest that Active Learning is an umbrella term that encompasses a wide array of characteristics, methodologies, and strategies that can be used by a lecturer which will be discussed below:

### 2.2.1 Active Learning underwritten by the constructivist approach

As stated in the problem statement, research in specifically higher education conducted in many countries has revealed a move from lecturer-centred environments to an adoption of student-centred and constructivist philosophy. Constructivism as Killen puts it: "people learn best through personally meaningful experiences that enable them to connect new knowledge to what they already believe or understand" (Killen, 2007, p. 10). Constructivism leads to learning that is action based where students create interpretations of their world through interactions in the real world (Matthews, 2007). For a lecturer to stimulate higher order thinking, it is argued that simply adjusting the questioning style can lead to students being forced to think at a higher level (Burton, 2010). Constructivism forms the basis of the Active Learning methodology (Cooperstein & Kocevar-Weidinger, 2004; Hunter, 2015). It requires students to move from experience to concepts, it is

the activity that leads to students gaining an understanding of the concepts. Although Ford (2010) argues that students should not just construct knowledge from their own experiences, but in constructing knowledge critique on what they know, they would come to their own realisation that what they know is insufficient, driving their own motivation to want to find out more.

There are seven characteristics (see Table 2.1) according to Cunningham, Duffy and Knuth (1993) that is representative of a learning environment that supports the constructivist philosophy. There is strong support from literature reinforcing Active Learning as a methodology that strongly depends on the constructivist view. The table provides a reference to publications where Active Learning is directly manifested by the constructivist characteristics provided. This table shows that when using Active Learning strategies they are all embedded within the constructivist philosophy. One can thus assume after reviewing Table 2.1 that using an Active Learning teaching methodology rests on the constructivist viewpoint.

**Table 2.1: Relationship between the Constructivist philosophy (adapted from Cunningham, Duffy and Knuth (1993) and Active Learning**

| Constructivist approach | Active learning strategy |
|---|---|
| A constructivist learning environment should: | Evidence from literature that supports Active Learning based on constructivism characteristics |
| provide experience in the knowledge construction process | Students take responsibility to construct their own understanding of knowledge (Chen, 2011; Gupta, Burke, Mehta & Greenbowe, 2015; Hoskins, 2012; Toth, Ludvico & Morrow, 2014) |
| allow learners to actively seek information in the case, organise it, analyse it, interpret it and draw conclusions or recommendations based on this process | |
| embed learning in realistic and relevant contexts | Active Learning embeds itself by providing authentic learning environments that prepare students for the workplace (Jollands, Jolly & Molyneaux, 2012; Karmas, 2011; Saboe, 2014) |
| encourage ownership and voice in the learning process | Students within the Active Learning context need to take responsibility and ownership of their learning (Chan, Graham-Day, Ressa, Peters & Konrad, 2014; McMullen, van der Mars & Jahn, 2014; Youssef, 2010) |
| embed learning in social experience | Active Learning strategies could entail small group engagement and peer learning (Samson, 2015; Tesfaye & Berhanu, 2015; Watkins, Carnell & Lodge, 2007; Yew, Dawood, a/p S. Narayansany, a/p Palaniappa Manickam, Jen & Hoay, 2016; Zher, Hussein & Saat, 2016) |
| encourage the use of multiple modes of representation | Active Learning utilises numerous teaching strategies that cater for different learning preferences of students (Kane, 2004; Knight, 2010; LoPresto & Slater, 2016) |
| encourage self-awareness in the knowledge construction process | Active learners are also known as self-regulated learners that are aware of their own learning (Alderman & MacDonald, 2015; Perez, 2011; Schunk, 1996) |

### 2.2.2 Self-directed learning

When considering Active Learning, it can be defined as *"*individuals who seek to understand how they learn and are usually self-motivated or self-directed in learning" (Roth, 1996, p. 4). In many contexts self-directed learning is used together

with self-regulated learning. Accroding to Loyens, Magda and Rikers (2008) both self-directed learning and self-regulated involve active engagement and goal-directed behavior. Both entail goal setting and task analysis, implementation of the plan that was constructed, and self-evaluation of the learning process. They do however have differences where most important the origin of the learning task in self-directed learning would be the learner or student – deciding for themselves what they need to learn. In self-regulated learning the teacher or lecturer produces the learning task but provide the learner or student the freedom to choose how to go about to address it (Loyens et al., 2008).

Self-directed learning was explored in a study conducted by Douglass and Morris (2014) using undergraduate student perspectives regarding specific factors associated with self-directed learning: it was concluded that there are factors that are student controlled, faculty controlled and administration controlled. I would like to highlight how students perceived their role in being self-directed. Five key dimensions that are given by Douglass and Morris (2014) show how self-directed students are active learners. They are proactive in class (attending class, taking good notes and actively participating in classes), proactive with other students (participate in student organizations, networking with other students and forming study groups), proactive outside of class (talking to professors to identify learning gaps and networking with people in the field), have good study habits (time management and building a routine to assess own learning) and understand their own learning styles.

Active Learning especially as shown by Kane (2004) encourages students to take responsibility for what they learn. This is also known as self-regulated learning. Zimmerman (1989, 1990, 1994) as referenced by Schunk (1996) states that self-regulation is the process whereby students activate and sustain behaviours, cognitions, and actions, which are specifically orientated toward the attainment of learning goals. Effective self-regulation depends on students performing assignments that enhance self-efficacy and motivation (Schunk, 1996). To have students move from passive to Active Learning requires higher levels of self-direction and self-discipline on the student's part (Alderman & MacDonald, 2015).

According to Zimmerman (2002, p. 66), self-regulation is not a single personal trait that a student either possesses or lacks. Instead, it requires selective processes that must be chosen at the right time personally adapted to each learning task. Some of these processes include: (a) “setting specific proximal goals for oneself”, (b) “adopting powerful strategies for attaining the goals”, (c) “monitoring one’s performance selectively for signs of progress”, (d) “restructuring one’s physical and social context to make it compatible with one’s goals”, (e) “managing one’s time use efficiently”, (f) “self-evaluating one’s methods”, (g) “attributing causation to results”, and (h) “adapting future methods”. It is the lecturer’s or teacher’s responsibility to provide the structure that supports these processes.

Active Learning would be the opposite of passive learning. The passive student is dependent on a lecturer to impart what is to be learned. Passive learning requires little student personal involvement and students do not self-reinforce (Petress, 2008, p. 1). Passive learning tends to get lifeless very quickly. Passive students are or soon tend to become disinterested, non-motivated and non-responsive, and ineffective students. That which is learned passively is typically not well retained and is commonly not effectively or enthusiastically applied (Petress, 2008, p. 1). Watkins et al. (2007, p. 71) regard Active Learning as encompassing three distinct dimensions:

- “behavioural: the active employment and development of resources”;
- “cognitive: active thought about experiences to make sense and so foster construction of knowledge”;
- “social: active interaction with others on both a collaborative and resource-driven basis”.

Perez (2011) found that teaching education students emotional awareness through inquiry-based education assisted these students to grow their self-regulation. This made them better equipped to better co-regulate the emotions of the children in their classes. A self-regulated learner produces self-generated thoughts, feelings, and behaviours that are oriented to attaining goals (Zimmerman, 2001). To be a self-regulated student means one needs to take responsibility for one’s learning, which is developed through students becoming aware of themselves, which creates self-motivation and behaviour (Zimmerman, 2002).

### 2.2.3 Student-centered learning

When considering Active Learning one needs to look at the role of the student in the process. According to Wohlfarth, Sheras, Bennett, Simon, Pimentel and Gabel (2008), the learner- or student-centered paradigm focuses on the students more than on the lecturers, more on learning instead of teaching. Classes emphasize critical thinking, Active Learning, and real-world assignments. This is supported by Keengwe, Onchwari and Onchwari (2009) who explore a model that proposes to improve the depth and scope of student learning by focusing on three pedagogical areas: (a) the student's unique identity; (b) stimulating learning through active learning activities; and (c) integrating technology into the classroom.

Based on a study done on the perceptions of practicing elementary, secondary, and post-secondary lecturers on the learner- or student-centered stance, it produced a descriptive definition of the term student-centredness that comprised of five elements: the lecturer's focus is on the students; the lecturer guides and facilitates learning; the lecturer promotes active student engagement; the lecturer promotes learning through interactive decision making; and the lecturer is a reflective, and ongoing student themselves (Paris & Combs, 2000).

### 2.2.4 Inquiry-based learning

There is also the more recent pedagogy which is called inquiry-based learning (IBL). According to McLoughlin and Padraig (2009), inquiry-based learning is a content-driven pedagogy; as such it is content-centred, not lecturer-centred or student-centred. Student-centered instruction according to McLoughlin and Padraig (2009, p. 3) is “when there is an active and dominant student participation component in the instruction and learning and there is little (if any) instructor (lecturer) participation component in the instruction and learning.” They explain that lecturer-centered instruction is “when there is an active and dominant lecturer component in the instruction and learning and there is little (if any) student participation component in the instruction and learning." For the instruction to be content driven thus inquiry-based, it requires both the active participation of the student and lecturer. It is a clear give-and-take and cooperation between student and lecturer but the instructor

remains responsible for the conduct (McLoughlin & Padraig, 2009). I would then argue that allthough as shown in Section 2.2.3, Active Learning is student-centred, I would elaborate by adding that the focus is primarily on the student being part of the learning process, although the student cannot be completely on his/her own. As pointed out in Section 2.2.9, minimal guidance by the lecturer does not support effective learning in an Active Learning environment.

In IBL, students are actively engaged in the learning process as they seek to develop solutions to problems and tasks (Oliver, 2007). Plowright and Watkins (2004) however argue that in certain fields of study like social sciences there are not many instances where a problem can be solved, but students can rather explore a range of explanations and creative interventions. Emphasis is placed on the learning activity that would produce critically reflective students who actively inquire into the knowledge, skills and value base required to address issues in their field rather than on the way issues are presented (Plowright & Watkins, 2004).

It seems that this learning approach offers a number of apparent learning advantages especially for students studying in large undergraduate classes at the first-year level. According to Oliver (2007), this allowed students to apply knowledge rather than just acquire knowledge, forcing them to also take responsibility for their learning. IBL is essentially a question-driven, philosophical approach to teaching that involves active, content-centred learning. This would differ from problem-based learning that would be problem-driven. The lecturer acts principally as a facilitator or mentor, guiding and encouraging students through the inquiry process (Spronken-Smith, Bullard, Ray, Roberts & Keiffer, 2008).

There has also been a study done at the University of Sheffield in the United Kingdom on how over five years the concept of inquiry-guided learning (IGL) was established in classes. According to Levy (2012), IGL is a flexible approach that can adapt to suit different educational purposes. Levy further postulates that IGL is characterised by students acquiring clearly defined knowledge which is certain or engaging students through the exploration of open-ended questions to which definitive answers have not yet been reached or do not exist.

### 2.2.5 Problem-based learning

In some circles IBL can also be known as problem-based learning (PBL) (Coelho, 2014), however, some argue that the connection between them is yet to be defined, and therefore it is not obvious, how close their connection is (Dostál, 2015). PBL is an instructional method that provides students with knowledge suitable for problem-solving (Schmidt, 1983). According to Oon Seng (2004, p. 1) PBL is an "active learning student-centered approach where unstructured problems are used to initiate inquiry which supports the learning process". He argues that instead of focusing on covering the content, students are engaged in a problem. The lecturer no longer "lectures" but coaches or guides the students allowing passive learners to become active problem solvers.

It is suggested by Schmidt (1983) to follow a seven-step procedure when facilitating PBL in the classroom. These steps would include: clarify terms and concepts that will be required and which are not readily comprehensible, define the problem for the students, allow the students to analyse the problem, make them draw a concept map highlighting all possible answers as discussed in the previous step, formulate learning objectives, collect additional information outside of the group and create and test the newly acquired information. Due to time constraints or course design limitations, a shortened version of PBL followed allowed a student to still learn concepts, engage with their peers and become actively involved and motivated by the real-world situation. This included the classic principles of PBL i.e. student interaction and Active Learning around a real-life problem however conducted in a one-time session (Elder, 2015). According to Hung (2002), the problem-solving process gives the students ownership of the learning process and encourages the development of competencies and knowledge that are transferable beyond the classroom setting. According to Veldman, De Wet, Ike Mokhele and Bouwer (2008) problem-based learning is one of the best teaching and learning strategies to help achieve the critical outcomes and general aims (including problem-solving, critical thinking and collaborative learning) set by the South African Education Department.

### 2.2.6 Deep learning

Deep learning relates knowledge gained from different classes and focuses on what is deemed significant within a program of study (Dugan & Hernon, 2006). Deep learning can further be explained by referring to where the motivation for learning comes from. Does it come from the inside? Is the student curious? (Ip, 2003). It involves the critical analysis of new ideas, linking it to already known concepts, and principles to be applied in the solving of problems in new, unfamiliar contexts (Biggs, 1987; Entwisle, 1981; Sims, 2006). Deep learning entails a sustained, substantiated, and positive influence on the way students act, think, or feel. In contrast, for students following a surface approach to learing, the motivation lies extrinsically (Ip, 2003). When a student without thinking accepts information and memorises it as isolated and unlinked facts, it leads to superficial retention of material for examinations and does not promote understanding or long-term retention of knowledge and information (Biggs, 1987; Entwisle, 1981; Sims, 2006). It has been reported how students that show interest, understanding and application (characteristics of deep learning) in a subject facilitates retention rates (DeLotell, Millam & Reinhardt, 2010).

Students also need time to reflect on what they have discovered, moving information acquired from the short-term memory or working memory, where it only stays for a few minutes, to the long-term memory where it will stay forever. The transfer requires attention, organisation, and repetition (Cooperstein & Kocevar-Weidinger, 2004). This is then also what is considered as deep learning (Biggs, 1987; Entwisle, 1981; Sims, 2006). According to Diamond, Koernig and Iqbal (2008), Active Learning strategies united with deep learning, facilitate problem-solving skill development in students. It has also been reported that various Active Learning strategies stimulate deep learning (Yew et al., 2016).

### 2.2.7 Cooperative learning

Cooperative learning according to Johnson and Johnson (1999, p. 14) is “the instructional use of small groups so that students work together to maximize their own and each other’s learning.” However, students working in groups do not

necessarily mean that they are working cooperatively. The five elements that make cooperation work is positive interdependence between group members, individual accountability, face-to-face interaction, social skills and group processing. The results of a carefully structured cooperative activity are achievement, psychological health and social competence (Johnson & Johnson, 1999).

Gillies (2016, p. 1) builds on this by adding that when these key elements are embedded in groups, students feel more motivated to work together to achieve both their own and the group's goals; accept personal responsibility for their contributions to the group as well as their behaviours towards group members. They respect others' contributions, commit to resolving disagreements democratically and work constructively toward managing the tasks and maintaining effective working relationships. Furthermore, lecturers learn best how to facilitate cooperative learning in the classroom by participating in reflection groups themselves that are organized with reference to cooperative principles. When lecturers experience successful peer interaction with their fellow lecturers guided by literature on teacher reflection and cooperative learning, they will be more likely to want their own students to experience the advantages of cooperative learning too (Farrell & Jacobs, 2016). It is thus seen that student participating in cooperative groups become active learners as they need to interact face-to-face and take responsibility for the role they need to play.

### 2.2.8 Connectivism

A more recent theory that emerged is that of the connectivist approach to learning. According to Siemens (2004), the starting point of connectivism is the individual. This individual’s personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feeds back into the network and then continues to provide learning to an individual. Having a student interact through a network with organisations and institutions allows students to remain current in their field through the connections they have formed. It is no longer about what you know or how you know it, but rather where to find knowledge and how to make sense of it in any given situation. It is primarily due to the overwhelming availability of information in today’s day and age that students and lecturers are further challenged

to stay abreast of the latest developments. This seems impossible until you consider the power of connecting with the appropriate networks and engaging with it. This is an important skill to develop to create students that can not only find information, but make sense of it and use it to the benefit of the workplace.

So although it seems that students might have to move away from simply constructing knowledge (basic constructivist theory) to rather being equipped with where to find knowledge, especially by utilising any form of networks, and what to do with it, it still requires the active participation of the student to develop the critical thinking and real-world problem solving skills required by 21st century trades and professional occupations (Kivunja, 2014). For now, it seems that we will have to consider more Active Learning methodologies that utilise technology to enable students to find information themselves to make sense out of it.

### 2.2.9 Active Learning in the classroom

According to Bonwell and Eison (1991), Active Learning is when students do more than just listen. They should read, write, discuss or be engaged in solving problems. This engagement must include higher-order thinking tasks such as analysis, synthesis, and evaluation. As eloquently put by Bonwell and Eison (1991, p. 5): "Strategies promoting active learning is defined as instructional activities involving students doing things and thinking about what they are doing".

Active Learning or in some contexts known as participatory learning is described by Kane (2004, p. 277) as*:* (a) "seek to encourage independent, critical thinking in students" (b) "encourage students to take responsibility for what they learn" (c) "engage students in a variety of open-ended activities" (projects, discussions, role-play exercises and so on) to ensure they have a more active, less passive role in education (d) "consider it an important though not exclusive role of the educator (i.e. lecturer) to organise appropriate learning 'activities' in which students can explore and develop their knowledge base and thinking."

Zayapragassarazan and Kumar (2012) published an article that describes the most popular active learning strategies that have shown to enhance learning within the

context of medical schools globally. They include having students draw concept maps, collaborative writing, brainstorming, collaborative learning (small group learning), one-minute paper/free writing, scenarios/case studies, problem-based learning, team-based learning, panel discussions. Teaching to learn/peer teaching and role playing, drama and simulations.

One needs to consider the argument of Kane (2004) that while promoting Active Learning is generally a good thing, the success of an Active Learning methodology does not only depend on the methodology, but ultimately, on the constantly-evolving, dialectical relationship between methodology and students, mediated by the lecturer. It has to be emphasised that minimal guidance during instruction does not work, rather direct instructional guidance where information that fully explains the concepts and procedures that students are required to learn, as well as support, should be given to them (Kirschner, Sweller & Clark, 2006). Student needs to be challenged sufficiently to engage them in the learning process, but clear guidance by providing learning material or resources and the process to follow must accompany the learning to ensure that a student is not left to fall behind and fail.

### 2.2.10 Conclusion

In my understanding, Active Learning is thus an umbrella term used to describe various characteristics, instructional methodologies and strategies that engage the student to participate actively in the learning process to develop competencies that can be transferred beyond the classroom (Figure 2.1).

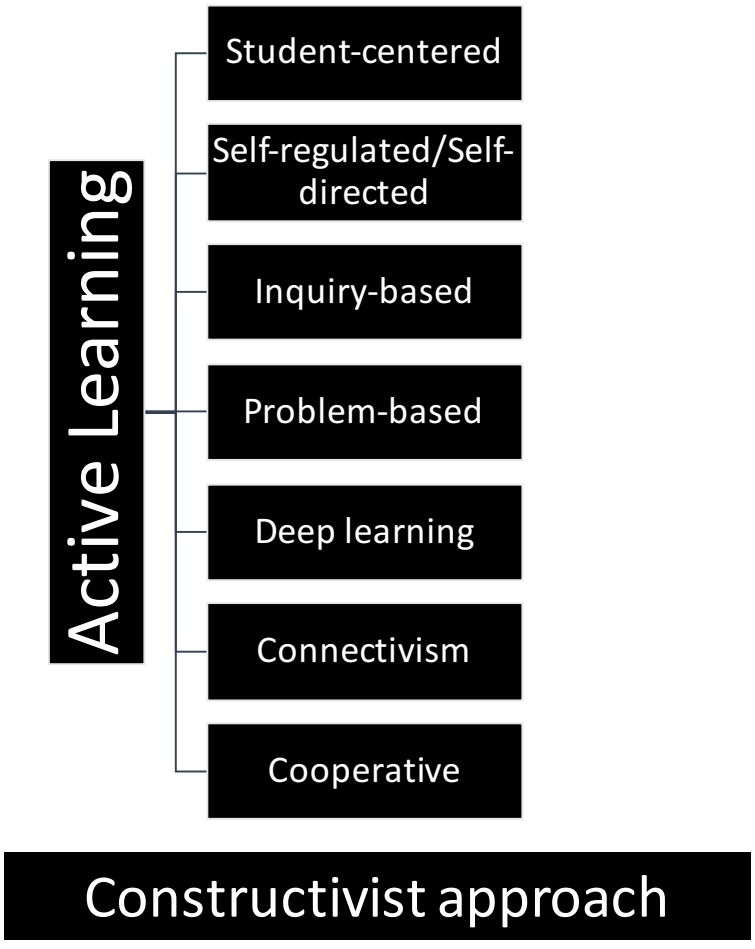


**Figure 2.1: Schematic representation summarising the characteristics, methodologies, and strategies used in Active Learning embedded in the constructivist approach.**

The students need to take responsibility for the learning with the guidance and participation of the lecturer. They become critical thinkers and problem solvers, they do and think about what they do. It appears from this description why lecturers that use Active Learning methodologies rather become 'facilitators' of learning instead of simply 'lecturers'. In the next section, I would like to explore evidence of the use of the Active Learning teaching methodology.

## 2.3 EVIDENCE FOR ACTIVE LEARNING AS SUCCESSFUL TEACHING STRATEGY

The efficacy of Active Learning as teaching strategy can be underlined by considering the nine instructional strategies for effective teaching and learning (Marzano, Pickering & Pollock, 2001) (Table 2.2). As these strategies are considered to facilitate effective teaching and learning in the classroom one would find that all nine strategies require the active participation of the student which would be a characteristic of Active Learning.

**Table 2.2: Nine essential instructional strategies (adapted from Marzano et al., 2001)**

| |
|---|
| Identifying similarities and differences |
| Summarizing and note taking |
| Reinforcing effort and providing recognition |
| Homework and practice |
| Nonlinguistic representations such as mental images and physical sensations |
| Cooperative learning |
| Setting objectives and providing feedback |
| Generating and testing hypotheses |
| Cues, questions, and advance organizers |

### 2.3.1 Global overview

Evidence from various studies internationally showing the success of Active Learning will be discussed highlighting especially the different strategies that would be considered to facilitate students becoming active learners.

At Flinders University, Australia, lecturers used the constructivist approach to teaching and learning in a first-year Bachelor of Environmental Management topic. Through the discursive analysis of student writings and formal feedback received through course evaluation questionnaires, the authors in this paper demonstrated how the combination of constructivist teaching methods led to a cohort that actively participated in their own learning (Szili & Sobels, 2011).

Active Learning as a teaching methodology has been linked to the development of critical thinking and problem-solving skills (Kyounga et al., 2013; Tomey, 2003). Karge, Phillips, Jessee and McCabe (2011, p. 58) state that " Innovative methods in teaching should be used in every college classroom to enhance student engagement, support any teaching environment and encourage inquiry among students. Adults learn best by participation in relevant experiences and utilization of practical information. When adult students are active in their learning they are able to develop critical thinking skills, receive social support systems for the learning, and gain knowledge in an efficient way."

Temple (2000) describes the 'Reading and Writing for Critical Thinking Project' which has now sent more than 70 volunteer lecturers into 20 countries across Central Europe and Central Asia to help lecturers to try out methods that foster Active Learning and critical thinking. The TALESSI (Teaching and Learning at the Environment-Science-Society Interface) project was shown to promote Active Learning for interdisciplinary, values awareness and critical thinking in environmental higher education (including environmental studies, environmental science, and geography) (Jones & Merritt, 1999). By using the Watson-Glaser Critical Thinking Appraisal, pre- and post-assessment of critical thinking skills showed that student engagement in Active Learning techniques within the context

of studying interpersonal skills for leadership appeared to increase critical thinking (Burbach, Matkin & Fritz, 2004).

Furthermore, the role of Active Learning promoting problem-solving skills was shown by using an innovative strategic tools course designed to enhance the problem-solving skills of marketing majors. The course format utilizes active and deep learning to provide students with the ability to identify a marketing problem, select and use a strategic marketing tool or set of tools appropriate to its solution, collect and analyse relevant data, and make concrete data-based recommendations. The course was designed to meet the needs and expectations of prospective employers (Diamond et al., 2008). According to Brandt and Lubawy (1998) using Active Learning tools to teach problem-solving skills student performance on problem-solving examinations had improved, moreover it was used in large classes and student evaluation of the method was found to be extremely positive. Carroll and Huang (1997) discuss how self-learning exercises incorporated into a Medical Physiology course for first-year students at the Morehouse School of Medicine in Atlanta, Georgia developed Active Learning and problem-solving skills in these students.

At a tertiary educational system in Oman, lecturers designed teaching methods to engage students in 'learning by doing' approaches in a business communication module (Matthews, 2007). At the Macquarie University, Australia the economics cohort of 500 third-year undergraduate finance students participated in surveys to find out the value of experiential learning. This type of learning incorporates active, participatory learning opportunities in the course. The goal of which is to develop generic student skills and place emphasis on vocation-orientated education. Sixty percent of students said experiential learning is important or very important and only 13 percent said it was unimportant or very unimportant (Hawtrey, 2010).

At a research-intensive educational institute in Australia, the Active Learning approach was adopted across a faculty of 45 academic staff and more than 1000 students. After implementation in a phase-lie fashion resulted in lecturers increasing exam questioning addressing higher order thinking skills by 51%. This change was also facilitated by lecturers being involved in the Active Learning process. This

change in the teaching and learning approach was done to allow students to obtain domain-specific learning outcomes and generic skills (White, Larson, Styles, Yuriev, Evans, Rangachari, Short, Exintaris, Malone, Davie, Eise, Mc Namara & Naidu, 2016).

Role-playing has also been used to engage students in Active Learning. A group of final year undergraduate Science students from an Australian university had to form hypothetical biotechnology companies and identify real issues of interest to industry. Participating in this activity contributed to the development of critical thinking and problems solving skills, communication skills and lifelong learning skills (Chuck, 2011).

In a case study done in the Iranian higher engineering education, they combined cooperative learning and the inquiry method to crowded classrooms. Students learned content in groups in non-official class sessions but engaged in inquiry-based learning during regular class sessions. Results were compared to a control class where traditional teaching was implemented which found that a simultaneous improvement of learning and behavioural attitudes, which included critical thinking of the students took place (Salehizadeh & Behin-Aein, 2014).

The success of PBL in dental education was demonstrated in a study done at the Peninsula Dental School at Plymouth University in the United Kingdom (UK). They followed the Maastricht seven steps in facilitating problem-solving learning (Schmidt, 1983) as already discussed. It was found that PBL can assist facilitators to provide a safe, non-judgmental, adult learning environment where students can take responsibility for their own learning demonstrated by contributing in-depth knowledge (Coelho, 2014).

It was showed in a study done at Central Michigan University in the USA that facilitating students by only discussing content vs individual writing about the content vs discussing and writing about the content provided evidence that when students wrote about a concept in class they performed better in subsequent writing-based assessments on that concept than those who only discussed the concept with peers in cooperative groups. This improved performance could simply be because they

understood the content better, but could also be due to increased ability to communicate on that particular concept (Linton, Pangle, Wyatt, Powell & Sherwood, 2014b). It is, however, interesting to note that in another study done in Sydney, Australia which set out to determine if the use of formative assessment throughout a semester enhanced better performance in summative assessment it showed that it had no impact at all. The formative assessments were in the form of short written tests at the start of the teaching period that mimicked questions in the exam. Here the researchers concluded that it is not just about writing, but that assisting students to understand the 'verb' used in the question could provide better results (Grosas, Raju, Schuett, Chuck & Millar, 2016). It seems that not only should focus be placed on allowing students to write about content, also not on how the student should write the content but on helping the student to recognise from the 'verb' used in the question what is required for the content when the student writes about it.

When it comes to utilising Active Learning methodologies there is support provided to move to what is known as 'active learning classrooms' where instead of having a traditional lecture theatre with a podium at the front, an open space with no indicated 'front' with tables organised in groups are created. It shows that this conceptual space design enabled students to become more open-minded, which means students no longer just focus on which questions will be on the exam, but start to embrace new ideas and modify and question assumptions, becoming life-long learners (Chen, 2015).

An action research team that formed a community of practice in Malaysia set out to find ways to stimulate deep learning in their classes. Their aim was to allow students to move away from being a spectator and rather become active participants. Their finding included that field trips allowed students to see the connection between theory and practice which enabled them to report a better reflection in their oral and written work. Role-playing also had similar results. They were concerned about using small and large group discussion as students could quickly simply become spectators again, but with careful planning and constant engagement, students reported positive experiences (Yew et al., 2016).

The role of games as an Active Learning methodology is also supported by a study that showed how first-year economics students by playing a game that modeled key economy concepts enabled them to perform well in a test in class and in the module overall. The success was, however, dependent on how the students played the game and typically the decisions they made during it (Byun, 2014). This however clearly illustrates the important role a lecturer needs to play during the facilitation process, not just having students play a game but guiding them to understand why certain concepts are required when and why.

The concept of 'flipped classrooms' has also been used to stimulate deep learning in large classrooms (Danker, 2015). It is a student-centered approach (Heinerichs, Pazzaglia & Gilboy, 2016) that was pioneered by Bergmann and Sams (2012). They proposed a teaching methodology that used online material mostly to review and reinforce classroom lessons and they used the classroom as a place to work through problems, advance concepts, and engage in collaborative learning. The use of this teaching methodology facilitated through exploratory learning guided through IBL engages students on a deeper level and develop higher-order thinking skills (Danker, 2015).

Combining face-to-face learning with on-line learning is also known as blended learning (Heinerichs et al., 2016). It has also been facilitated through online instruction before class, followed by a face-to-face class application during class and assessment after class. This has helped students to master content not just at the level of knowledge or understanding but also at the higher levels that include application, analysis, and evaluation as shown in a study done in Dallas, USA (Heinerichs et al., 2016). It has also been suggested by recent study in Bethesda, USA that a flipped classroom with Active Learning vs a non-flipped classroom with Active Learning had no difference in learning gains or better attitudes in students thus proposing that the flipped classroom may simply be the fruits of Active Learning (Jensen, Kummer & Godoy, 2015).

### 2.3.2 South African context

Moving to what has been seen locally in South Africa, lecturers from the University of the Western Cape utilized different Active Learning techniques (tutorials, question papers, and mock tests) to allow students to develop a deep approach to learning and retention of it in dentistry (Khan, 2011).

At the Rhodes University, South African lecturers have redesigned modules on purpose to engage students more. They have opted for a blended learning approach to engage students and equip them with competencies to apply their knowledge to new situations and develop life-long learning competencies (Tshuma, 2012). According to (Thorne, 2003, p. 16) blended learning "presents an opportunity to integrate the innovative and technological advances offered by online learning with the interaction and participation offered in the best of traditional learning". Another example would be at the University of Kwazulu-Natal, South-Africa where the use of tutorials to engage first-year genetics students not only improved their retention rate but also their ability to answer higher order thinking questions of Bloom's taxonomy (Fossey & Hancock, 2005). Further changes at the same institution afforded positive results when the restructuring of a first-year biology course from less 'lecture-based' sessions to more tutorials and laboratory sessions awarded better overall performance in students during exams and provided better skill transfer as indicated by other post-requisite modules (Downs & Wilson, 2015).

## 2.4 PERCEPTIONS OF STUDENTS AND LECTURERS ON ACTIVE LEARNING

There has been a multitude of research investigating the perceptions of students with regards to Active Learning. The majority of it showed that students felt that active participation instead of passive learning in the class helped them in their understanding (Detlor, Booker, Serenko & Julien, 2012) especially when their lecturer explained the motivation behind using the Active Learning approach (Welsh, 2012). In another study, students perceived that being required to write explanations prompted them to think more deeply about multiple-choice conceptual questions (Koretsky & Brooks, 2012). It has also been shown that Active Learning

encourages participation and provide benefits to both vocal and silent students even within large classes (Obenland, Munson & Hutchinson, 2012). Students were perceived to also become highly motivated and active in their learning when required to complete an authentic task in a constructivist learning environment (Neo & Neo, 2010).

In a recent study done of the student perceptions of Active Learning, data revealed once again that students valued participating in engaging learning activities and that it also positively impacted their learning (Lumpkin, Achen & Dodd, 2015). Interestingly in a study on student's perception of Active Learning, students stated that they valued traditional learning over Active Learning. The authors argue that the students want larger classes because they seek a lecturer-centered environment opposed to some forms of Active Learning that oblige them to work harder (Machemner & Crawford, 2007). The authors concluded that the study measured students' perceptions of the value of activities and that students may not always want what is best for their learning, thus preferring the easy route out. This shows that students acknowledge that Active Learning makes them do the hard work of acquiring knowledge (the only way to acquire competencies is to practice them), which reinforces the objective of Active Learning. It must, however, be mentioned that the assessment instruments used to gauge the amount of Active Learning taking place in the classroom should be cognitive of learning in the classroom as well as outside of the classroom (Carr, Palmer & Hagel, 2015).

However, there is a gap in our knowledge with regards to how lecturers perceive their role as facilitators of Active Learning especially in the higher education sector in South Africa. The mandate is given that lecturers in higher education need to develop the competencies necessary for the workplace. How are lecturers doing it? Which factors would influence the use of Active Learning? That is what I would like to understand. According to Drew and Mackie (2011, p. 464), the use of Active Learning by lecturers is not a new or innovative idea; however, given its prominence in current policy, there is a need for the development of clarity in the professional understanding regarding its meaning and pedagogical implications in order to support the effective educational practice. They suggest it is necessary to adopt a broader and more explicit definition for Active Learning as the examination of the

literature evidences a somewhat inconsistent picture (Drew & Mackie, 2011). They argue that there are still too many unknowns when it comes to changing from a passive to an Active Learning environment such as the identity of the lecturer as the more traditional provider of knowledge versus the constructivist guide to knowledge or where this change often necessitates changes in the beliefs, habits, roles, and power structures of the lecturers (Drew & Mackie, 2011). Nespor (1987) as referenced by Addy, Simmons, Gardner and Albert (2015) note that what lecturers believe are important in driving their teaching practice. In some cases, their beliefs might also be highly resistant to change, where their own experience as the student in a lecturer-centered classroom makes them biased to that approach (Zeichner & Gore, 1990).

### 2.4.1 Global perspective

In a workshop done under higher education lecturers at Niagara University, a small private university in New York, the goal was to understand lecturers' perceptions about the barriers to Active Learning. The workshop was titled: 'Active Learning? OK, but . . . Breaking down the barriers', presented in March 2004. It was clear from the feedback on this workshop that lecturers had numerous barriers as summarized in Table 2.3 Three broad themes appeared: Student characteristics or attributes, pedagogical issues that affect student learning by lecturers and characteristics or problems that directly affect lecturers (Michael, 2010).

This information can be helpful to understand the concerns of lecturers but more over to find creative and innovative solutions. Some of the lecturers perceived barriers is supported by especially studies done that indicate that experience in years of lecturers in teaching with Active Learning strategies do effect the success of implementation of Active Learning strategies and thus have an impact on overall success with the students (Linton et al., 2014b). It appears as if using Active Learning in classes is much more effective than traditional passive learning but according to Andrews, Leonard, Colgrove and Kalinowski (2011) only lecturers that have formal education research background have the necessary skills to facilitate Active Learning. For other lecturers it may superficially resemble Active Learning

without any significant impact. Their study originating from the USA showed that there was no relationship between lecturers that only have subject matter

**Table 2.3: Categories of barriers to doing active learning (adapted from Michael, 2010)**

| Student characteristics or attributes |
|---|
| Students do not know how to do Active Learning |
| Active Learning is compromised because students do not come to class prepared |
| Students are unwilling to engage in Active Learning |
| Active Learning is difficult to do because of student heterogeneity |
| Students lack the maturity needed for Active Learning |
| Students' expectations about learning are a barrier |
| **Pedagogical issues that affect student learning** |
| The classrooms in which we teach do not lend themselves to Active Learning |
| Active Learning takes too much class time and coverage of content will suffer |
| Student assessment is difficult in an Active Learning classroom |
| Class size is an impediment to Active Learning |
| It is hard to predict the learning outcomes in an active-learning classroom |
| It is hard to ensure "quality control" in a course with multiple sections |
| There are not enough learning resources available |
| Standard classroom periods are a barrier |
| **Lecturer characteristics or problems that directly affect lecturers** |
| Active Learning requires too much preparation time |
| In an Active Learning classroom, the lecturer has less control |
| The perceptions of colleagues inhibit Active Learning |
| Active Learning runs the risk of poor student evaluations or ratings |
| Lack of lecturer maturity (personal and professional) is a barrier |
| The faculty reward structure makes doing Active Learning unattractive |
| Lecturers do not know how to do it |

knowledge (this was specific for biological science related subjects) and the effective use of Active Learning strategies. These lecturers, possibly due to their experience, lack the understanding and ability to execute the constructivist approach that is required to bring Active Learning alive (Andrews et al., 2011). Another study from 12 universities within the Eastern and Midwestern United States showed that Science Faculties with educational specialties preferred student-centred approaches above those that are seen as traditional that include the focus being on information and transmission, the teacher's role being to deliver information (Addy et al., 2015).

Interestingly a study done in Turkey on the status on the usage of Active Learning and teaching methodology especially in social sciences showed that newly graduated social study lecturers used Active Learning methods much more than teachers with longer service duration (Akman, 2016). The author argues that this might be due to occupational exhaustion linked to job satisfaction or stress. The participation of lecturers in workshops or seminars that enhance their occupational learning also enabled these lecturers to use Active Learning in the classroom more so than those who did not attend these learning opportunities (Akman, 2016). The challenge of finding that Active Learning is time-consuming is not isolated, the Active Learning approach is time-consuming and physically and emotionally draining. Especially when you have to learn after implementing an Active Learning strategy that at assessment level students fail as reported by a study done in Malaysia (Yew et al., 2016).

Winstone and Millward (2012) address one of the other barriers listed in the Michael (2010) study: the effect of class size. They suggest that instead to focus on using Active Learning strategies as a way of making the lecture more effective in large classes, to use the lecture itself as a way to make effective use of Active Learning by adopting strategies that include and require a large group of students. Results from their study conducted in Leicester, UK showed that using research role-play exercises that required good group sizes to represent different experimental conditions as well as using formative assessment with feedback influenced students' learning strategies and contributed to the enhanced consolidation of the material. It is however mentioned that the discipline used in this study was

psychology which made it easy to work with many students as the discipline itself is about people, it might be more challenging in other disciplines (Winstone & Millward, 2012).

In China, an exploratory case study looked at how rural Chinese schools responded to their education reform document published in 2010 by the government. The reason for the change was primarily to stimulate creative thinking to keep pace with the international competition, but also to liberate education institutions from exam-oriented instruction and to embrace the impacts of technology and the internet. The results of this study indicated that participants reacted positively toward strategies embodying the active, child-centered pedagogy that the school reform efforts called for. These included constructivism, diversity of activity, innovation, communication, cooperation, collaboration, exploration, creativity, analysis, problem-solving, and independent thinking (Riley, 2013).

In a study conducted at the Midwestern University Arizona in the USA, the faculty perceptions of critical thinking at this Health Sciences University has analysed and accepted the following implications for teaching and learning (Rowles, Morgan, Burns & Merchant, 2013, p. 32):

- *Faculty should clearly understand and agree on what critical thinking is if they are to teach it.*
- *Faculty should be prepared to teach critical thinking and recognize the importance it has to long-term learning.*
- *Faculty development opportunities should include the learning and applying of critical thinking skills and dispositions to teaching in a context-specific manner.*
- *Administrators should provide the necessary resources and recognize the time and effort that will be required by faculty to incorporate critical thinking in the classroom.*

Although it has been made clear that the use of Active Learning in the classroom supports deep learning in a student, stimulating the development of critical thinking and problem-solving skills (Michael, 2006) which enable students to become real-world ready, Active Learning has also been used for other reasons.

As Active Learning engages students, learning opportunities become less boring for students. It has been used as part of a strategy to improve the public face of the sociology discipline for first-year students at the Indiana University in the USA so that they would want to continue with subsequent courses. The concern was however that creating an engaging class was one thing, creating an engaging class that ensures student learning, another. The researchers, however, showed that by incorporating Active Learning methodologies improved the public face of their discipline, while simultaneously ensuring student learning (Killian & Bastas, 2015).

### 2.4.2 Local perspective

The University of the Free State in South Africa has launched a study to survey student engagement. In short, student engagement can be defined as the time and energy students devote to educationally purposeful activities and the extent to which institutions employ effective educational strategies to facilitate students to do the right thing ("South Africa Survey of Student Engagement, 2014"). One of the primary applications of student engagement data is improving the quality of teaching and learning in HEI. This survey has various instruments that focus on either students or lecturers and their perceptions. The questionnaires given to students collected the following data (https://www.ufs.ac.za/sasse/sasse-home, para.5) :

- Students' participation in educationally purposeful activities;
- Students' interaction with lecturers and their peers, and the degree to which they engage with diversity;
- The way students perceive the university environment;
- Estimates of educational and personal growth since starting higher education; and
- Background and demographic information.

The data collected by questionnaires are specifically designed to measure lecturer perception as follows (https://www.ufs.ac.za/sasse/cssse-home, para.1):

- Staff perceptions of how students engage in different activities;
- The importance that staff place on various areas of learning and development;
- The nature and frequency of staff-student interactions; and

- How staff organise their time, both in and out of class

PIHE agreed to participate in this study which means that a wealth of empirical data will be produced to help the institution to understand what especially lecturers think with regards to engagement, which in effect will also incorporate teaching methodologies such as Active Learning which promotes student engagement. The first survey prepared by the University of the Free-state called the "Beginning University Survey of Student Engagement" has already been done and published.

### 2.4.3 Another Africa case

In a Ph.D. study, submitted by Carolyn Frances Casale in May 2010, the research question asked was: "How have teacher lecturers implemented and adapted Active Learning at the Teacher Educational Institution (TEI) in Ethiopia" (p. 1). This study took place at the Kotebe College of Teacher Education. The study examined the process of mandating Active Learning as a component of teacher lecturer qualifications. The Active Learning concept is traced from the Ethiopian Ministry of Education 1994 Education Sector Strategy policy to classroom implementation. This study analysed how teacher lecturers at TEI are addressing Active Learning challenges in the classroom. The emphasis was on examining the challenges of implementing Active Learning in a developing country (Casale, 2010).This study seems to be familiar with what I have investigated, although there are some significant differences:

- The Ethiopian study used lecturers teaching future teachers as its sample, in my study lecturers across various knowledge fields will be used.
- In 2003, the Ethiopian Ministry of Education mandated Higher Diploma Programme (HDP) certification credentials for teacher lecturers at educational facilities. The HDP describes that specific Active Learning strategies for teacher lecturers should be implemented, including brainstorming, gapped lecture, questioning, spider diagram, role play, pair discussion, and presentation. The HDP is a prescriptive in-service training guide for teacher lecturers culminating in a certification diploma. These prescriptive guidelines are lacking in the South African private higher education context.

- The Ethiopian study used an integrative framework incorporating both top-down and bottom-up paradigms with the sense-making component to understand the relationship between policy and practice. In my study, I used an integrative framework incorporating the Activity theory and Community of Practice theory to understand how lecturers' own drive and influences from outside guide them to implement Active Learning as a methodology of choice.

After considering the research portrayed so far, there is a clear understanding in the expectation (deliver students that are ready for work in the real world) and the strategy (using Active Learning) that lecturers must use, there is however limited guidance in how this teaching and learning strategy should be implemented to produce students with the necessary critical thinking and problem-solving ability in the South African private higher education sector.

## 2.5 CONCEPTUAL FRAMEWORK

A conceptual framework is based on the collaboration of different theories to propose a suitable framework for the purpose of the study. It can be defined as a visual or written product, one that "explains, either graphically or in narrative form, the main things to be studied – key factors, concepts, or variables and the presumed relationships among them" (Miles & Huberman, 1994, p. 39). The framework was built around two theories: Activity theory and Community of Practice theory.

### 2.5.1 Activity theory

One needs to acknowledge that people do not work and learn in a vacuum and thus the activity theory provides the necessary framework to discuss the various factors that can influence a lecturer in using Active Learning to support students in developing necessary critical thinking and problem-solving skills.

Activity theory also known as Cultural Historical Activity Theory is premised on the belief that learning is socially situated and mediated by artifacts. Thus it can examine multiple roles and functions within a dynamic educational system (Bourke,

Mentis & O'Neill, 2013). It is also defined as a cross-disciplinary framework and a descriptive tool for understanding, analysing and explaining different forms of human activity (Sannino, Daniels & Gutierrez, 2009). The theory has evolved through three generations of research. The first generation centered on Vygotsky's idea of mediation. It was expressed as a triangular model in which the conditioned direct connection between stimulus and response is transcended by a complex mediated act (Vygotsky, 1978). The first generation was limited as the unity of analysis remained individually focused, thus a second generation theory was produced by Leont'ev where the focus turned to the complex interrelations between the individual subject and his or her community (Leont'ev, 1977). It is typically represented using the activity triangle (Engeström, 1987) (Figure 2.2).

In 2001, the third generation activity theory was conceptualized by Engeström where he developed tools to understand the dialogue, multiple perspectives, and networks of interacting activity systems (Engeström, 2001). This unit of analysis is multiple activities rather than a single activity. For this study, the second generation theory will be used as the central concern is the individuals engaged in Active Learning activities.

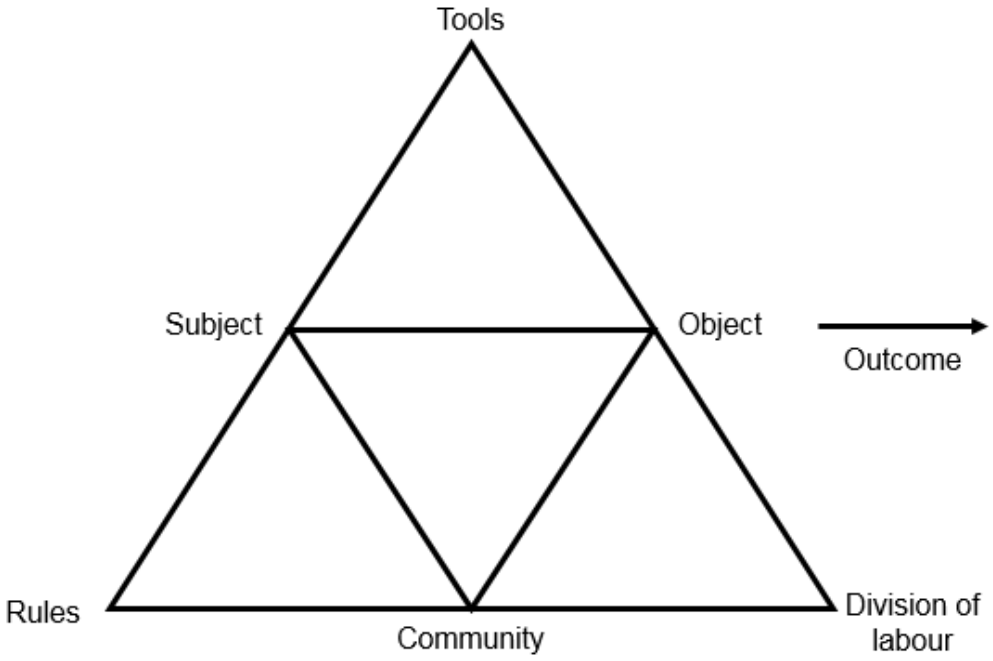


**Figure 2.2: Second-generation Activity theory triangle (Engeström, 1987)**

In describing how this theory will be applied during data analysis, the meaning of each factor in the activity triangle is discussed below (Engeström, 1999):

**Subject:** The individual performing the action and being impacted by or influencing the tools/instruments and the object. In this study, this would be the lecturers participating in the study.

**Object:** The object of the action refers to the aim of the activity system that is reached through the subject using the mediating tools and processes, concepts and/or mechanisms to achieve the object. In this study, the object will be lecturers using Active Learning in the classroom.

**Instruments/Tool:** Tools and processes, concepts and/or mechanisms used to achieve the object. In this study, the tools or instruments can be things such as class activities, curriculum design, assessment methodology, and assignments. As discussed previously various activities can be used by the lecturer to facilitate active learning including peer learning, group discussions, role play, concept maps, solving problems and case studies, to name a few.

**Rules:** The explicit and implicit rules and norms that guide and restrict the activity system. In this study, to understand which rules would guide the activity of Active learning, the characteristics of Active Learning as described in section 2.2 will be followed. Further rules to be considered could be that of tradition, time, authority and infrastructure.

**Community:** The social context in which the subjects belong. The social context of this study would include the students, colleagues within the department or faculty participating or not participating in the study, line managers, family and other departments or faculties.

**Division of labour:** The breakdown of power and tasks within the activity system. In this study the lecturer does not only facilitate Active Learning but is involved in curriculum development, assessment, faculty and class administration as well as research or own professional development.

**Outcome:** Describes the end result from investigating the activity system. In this study, the outcome would be the successful use of Active Learning in and outside of the classroom to achieve the development of critical thinking and problem-solving.

### 2.5.2 Community of Practice theory

Communities of practice (Wenger, 1998) sets out a social theory of learning based on the assumptions that "we are social beings; knowledge is a matter of competence with respect to valued enterprises…..knowing is a matter of participating in the pursuit of such enterprises…our ability to experience the world and our engagement with it as meaningful – is ultimately what learning is to produce" (Hill & Haigh, 2012, p. 974). Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Wenger, 2012). To be seen as a community, there are three characteristics that are crucial as explained by Wenger (2012, p.1 - 2):

- The domain: A community has an identity defined by a shared domain of interest. Membership implies a commitment to the domain, and therefore a shared competence that distinguishes members from other members. They value their collective competence and learn from each other, even though few people outside the group may value or even recognize their expertise. In this study, the shared domain of interest would be the teaching of students.
- The community: In pursuing their interest in their domain, members engage in joint activities and discussions, help each other, and share information. They typically build relationships that enable them to learn from each other. A website in itself is not a community of practice. Having the same job or the same title does not make a community of practice unless members interact and learn together. The community within this study would be the respective faculties and departments each with their members that engage on a daily basis.
- The practice: Members of a community of practice are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, and ways of addressing recurring problems - in short, a shared practice. This takes time and sustained interaction. The practice in this study would be facilitating students to engage in the learning process by using Active Learning strategies that enhance critical thinking and problem-solving.

Communities of practice can develop their practice through a variety of activities such as problem-solving, requests for information, seeking experience, reusing

assets, coordination and synergy, discussing developments, documentation projects, visits and mapping knowledge and identifying gaps (Wenger, 2012).

According to Wenger (1998, p. 67), there are three forms of belonging to a community of practice that shape an individual's learning and development: engagement, imagination, and alignment. Individuals develop their sense of belonging and alignment to a community of practice and its way of thinking and doing through their active engagement in the cultural practice.

The application of this theory is visible in the education field. The theory was used to explain how establishing communities of practice could allow lecturers to cultivate their research productivity. It was concluded that these communities of practice were strategic to build a research culture (Hill & Haigh, 2012). For pre-service lecturers, the use of a community of practice between lecturer and student enabled them to understand culture, community, and background of English language students (Jimenez-Silva & Olson, 2012). In another example communities of practice termed Core Collaborators Workshops (CCW) improved the quality of Active Learning materials, supported faculty transformation and disseminated these efforts nationally. It was put in place due to workshops by itself that effectively can disseminate ideas and techniques but often fail to sustain implementation. The CCWs, which created ongoing communities of practice, supported the widespread and sustained improvement in the classroom (Murray, Higgins, Minderhout & Loertscher, 2011). Lecturers participating in Active Learning activities themselves as investigated in this study may well be the critical factor in learning how to do Active Learning in the classroom.

### 2.5.3 Combined framework

If you consider the Activity theory as discussed in Section 2.5.1 you would recall that one of the factors this theory considers is the community. The Community of Practice theory describes that learning can take place within a community. The community being a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Wenger, 2012). This community of practice can thus be linked to the Activity theory as depicted in Figure

2.3. The community of practice can thus be part of the community as described by the Activity theory, where the community under the activity theory would be the social context in which the subjects belong (Engeström, 1999).

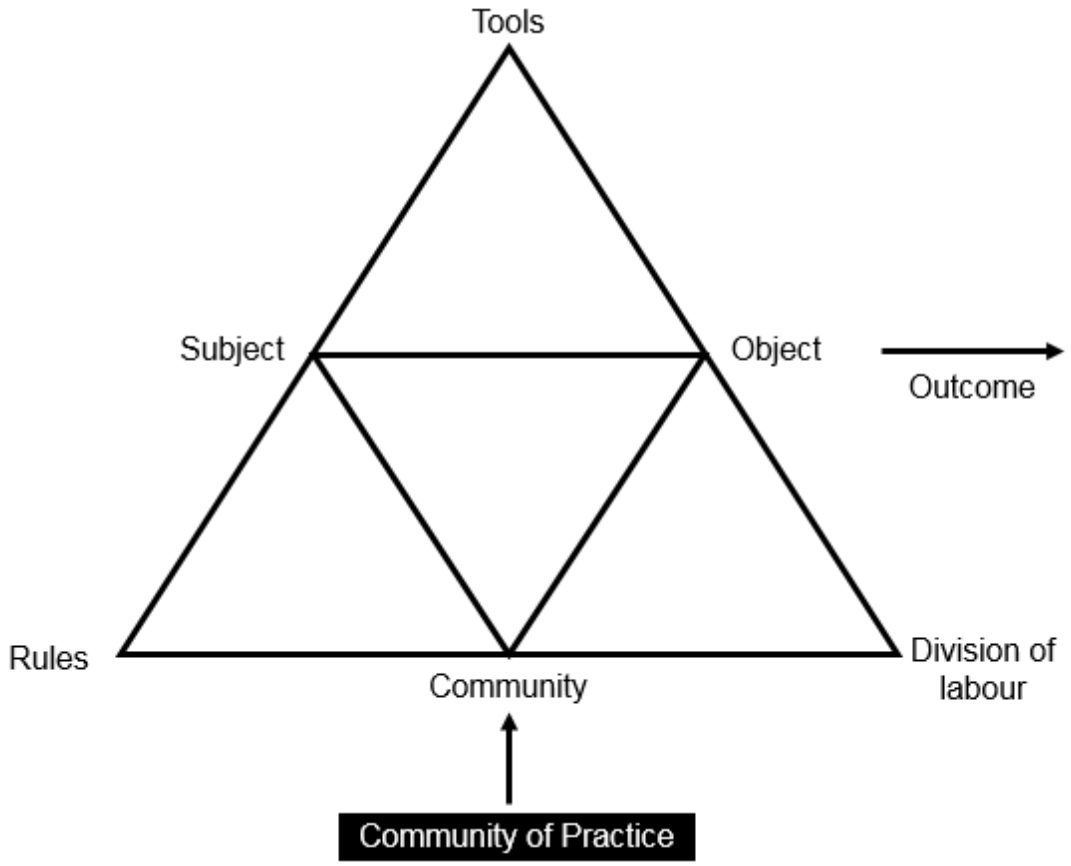


**Figure 2.3: Community of Practice theory linked to the Activity theory**

Figure 2.4 reflects the combined framework that will be used to describe the use of Active Learning as a teaching strategy in higher education. Each lecturer as the subject has the objective to use Active Learning in the classroom, but this is influenced by various factors such as tools, rules, the division of labour and the community. The tools include the activities or strategies/methods that can be used to facilitate Active Learning; the rules have been underwritten by considering the definition of Active Learning together with contemplating the possible reasons lecturers would be using Active Learning. The problems or barriers linked to using Active Learning together with possible solutions would further flesh out what would be considered to be the rules of this activity framework. The lecturers are not just involved in the activity described within this framework, they also have other responsibilities besides facilitating Active Learning in the classroom. This will be

described under the division of labour section of the activity framework. The lecturers are not on their own and the impact of their immediate community would be reflected in the community of practice. Ultimately after considering the above, one would like to understand how lecturers know that Active Learning works, that it actually does what they believe it says it does as the outcome of the activity framework.

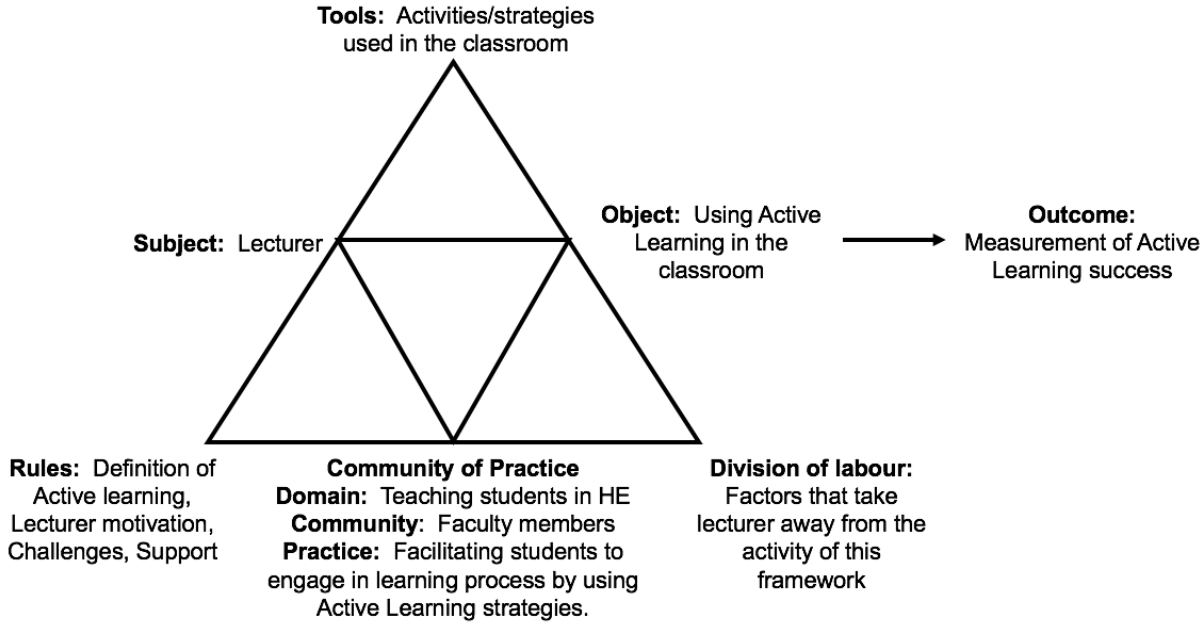


**Figure 2.4: The use of the combined framework in relation to Active Learning as a teaching strategy in higher education**

## 2.6 CONCLUSION

Active Learning is an umbrella term encompassing an array of instructional methodologies, strategies, and characteristics. There is overwhelming support for the use of Active Learning in a higher education context to develop the necessary skills i.e. critical thinking and problem solving which are some of the requirements of the workplace. Student perceptions with regards to Active Learning have been well documented but the perceptions of lecturers especially in a private higher education South-African context is unknown. The combined Active theory and Community of Practice theory will be used as the underwritten framework to make sense and understand how lecturers use Active Learning in their classrooms, how they assess student performance in the context of Active Learning and what support

is available to them to assist in implementing Active Learning in their classes. The sub-themes identified in Chapter 4 will be analysed in the context of this combined framework. In Chapter 5 the results will be discussed by considering this combined framework.

# CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

## 3.1 INTRODUCTION

The research methodology I used will be explained by using Saunders, Lewis and Thornhill's (2012) 'research onion' research design. It helped me to depict issues underpinning the selection of data collection and research methods. According to the research onion, there are six stages to consider: Philosophical stances, Approaches, Strategies, Choices, Time horizons, Techniques and procedures (Saunders, Lewis & Thornhill, 2012). I used an adapted version of the 'research onion' procedure as seen in Figure 3.1 to explain the research design and methodology. It is important to first develop your stance with regards to the outer layers of the research onion i.e. your philosophy and approach before decisions with regards to method, strategy and data collection and analysis can be made.

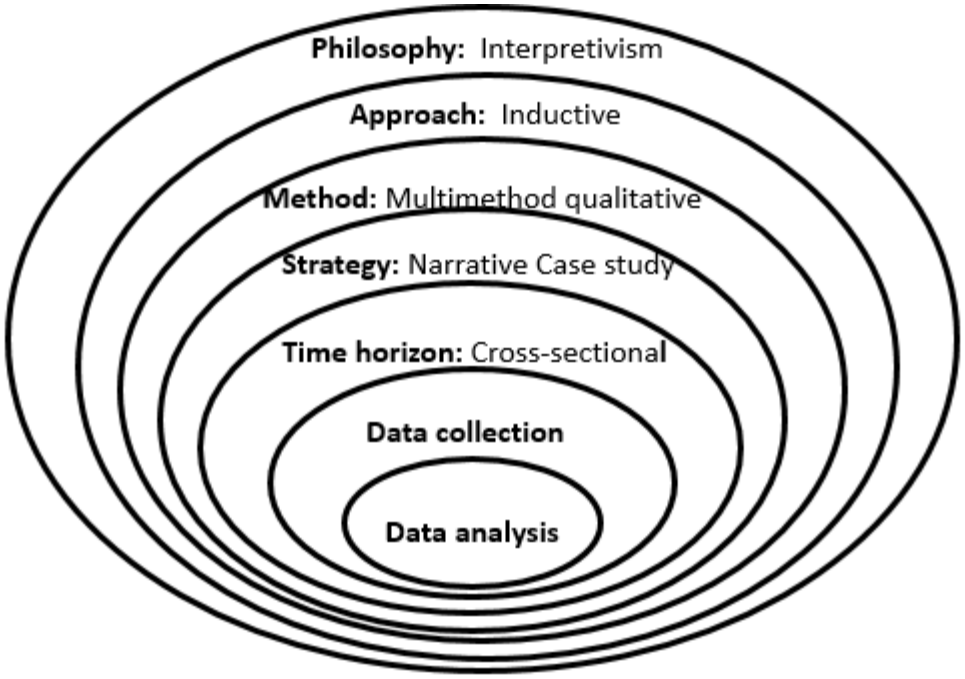


**Figure 3.1: Research onion procedure (adapted from Saunders, Lewis and Thornhill, 2012)**

## 3.2 RESEARCH PHILOSOPHY: INTERPRETIVISM

Using the interpretivism philosophy means that a researcher aims at interpreting (hence 'interpretivism') or understanding human behaviour, rather than explain or predicting it (Babbie & Mouton, 2012, p. 643). In this study I went about to understand each participant's view, their background and probable factors that could have influenced the decisions they made. It was important for me to confirm with the participants that I clearly understood what they were saying.

The interpretivist perspective is based on the following assumptions (Nieuwenhuis, 2012):

- The lecturers can only be understood from within and the focus will be on their subjective experience of active learning.
- By placing the lecturers in their social contexts will create opportunity to understand the perceptions they have of their own activities. This will help to understand how the lecturers interpret and interact with social environments.
- Human behaviour is affected by knowledge of the social world proposing that different lecturers will experience the phenomena of active learning differently.
- The social world does not exist independently of human knowledge. The lecturers' knowledge and understanding are restricted to things they have been exposed to, their own unique experiences and the meanings they have conveyed.

According to this interpretivist position, the fact that people are continuously constructing, developing and changing their every day interpretations of their world, should be considered at the initiation of social science research (Babbie & Mouton, 2012).

## 3.3 APPROACH: INDUCTIVE

I took the inductive approach in this study which meant that as Babbie and Mouton (2012) propose that rather beginning with an existing theory or hypothesis, I began with an immersion in the natural setting which is PIHE Midrand campus, describing events as accurately as possible, as they have occurred, and slowly but surely I started

to build second-order constructs, a hypothesis and ultimately a theory that made sense of the observations.

## 3.4 RESEARCH DESIGN: QUALITATIVE

The research design is concerned with the overall plan for the research and how the researcher intends to answer the research questions. It is the way the research questions and objectives are operationalized into a research plan (Saunders et al., 2012). According to Van Maanen (1979) as referenced by Welman, Kruger and Mitchell (2005) qualitative research is an 'umbrella' phrase "covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning of naturally occurring phenomena in the social world" (Welman, Kruger & Mitchell, 2005b, p. 188). In this study I sought to describe, decode and translate the ideas of the participants with regards to using active learning as a teaching strategy to develop critical thinking and problem-solving skills in their class rooms. Table 3.1 summarised the research design for this research study.

**Table 3.1: Summary and layout of research design**

| Purpose | Data collection | Data analysis | Participants | Trustworthiness |
|---|---|---|---|---|
| Qualitative investigation | 24 June – 9 July 2015: Pre-screening questionnaires.<br>7 September 2015 – 15 February 2016: Background questionnaires Semi-structured interviews.<br>15 September 2015 – 15 April 2016: Classroom observations using the *PORTAAL observation rubric* | Analysis of data during and after data collection using Atlas ti 7.<br>Used the Hermeneutic approach four step visual model:<br>(1) *data preparation phase* ,<br>(2) *data exploration* ,<br>(3) *data reduction (Categorizing and coding of transcriptions' data)* and<br>(4) *data interpretation* | Eleven lecturers using active learning strategies for more or less three years in their classrooms | The trustworthiness of qualitative research can be established by using four strategies: credibility, transferability, dependability and conformability (Guba & Lincoln, 1985).<br>The study should reflect several methods of data collection such as observation, interviews and document analysis and allow for transcript and document checking by participants (Nieuwenhuis, 2012). |

## 3.5 STRATEGY: NARRATIVE CASE STUDY

The research strategy can be defined as a plan of how the researcher will go about answering the research questions (Saunders et al., 2012). When conducting a qualitative study, the typical research methods or strategies used are ethnographic studies, case studies and life histories (Babbie & Mouton). A case study is an intensive investigation often of only one individual, but units of analysis can also include individuals, groups and institutions (Welman et al., 2005b). When the study is experimental or quasi-experimental, the data collection and analysis methods are known to hide some details which might be able to help with understanding a specific observation (Stake, 1995). Case studies on the other hand, are designed to bring out the details from the viewpoint of the participants by using multiple sources of data (Tellis, 1997).

The purpose of a case study might be exploratory, the collection of data with a focus upon discovering what is happening; descriptive, capturing the picture of what is there; or explanatory, focused upon 'how' or 'why' questions or perhaps a combination of these (Hamilton & Corbett-Whittier, 2013). In this study both description and explanation took place.

The narrative case study is a research strategy that is used for the in-depth study of various social and clinical problems. It sets out to understand stages or phases in processes, and to investigate a phenomenon within its environmental context Gilgun (1994) as referenced by Brandell and Varkas (2001). Where a case study is a story told for the purpose of understanding and learning, a narrative case study provides access to information that might otherwise be inaccessible. It offers the possibility to capture phenomena that might not be understood as readily through other means of study (Brandell & Varkas, 2001). In this study the use of active learning as a teaching strategy were investigated focusing on understanding the participant's view on active learning. It will allow access to information that currently is not known to anyone.
One needs to consider what will be seen as the 'case' in this study. A case can be defined as a phenomenon of some sort occurring in a bounded context (Miles & Huberman, 1994). I would argue that the case in this study was the use of active

learning as a teaching strategy to develop critical thinking and problem-solving skills in the classroom.

The case study strategy has been used in various studies where specifically the activity theory (Anthony, 2012; Bourke et al., 2013; Page & Clark, 2010) as well as the Community of practice theory was used (Chen, Li & Wang, 2012; Hanewald & Gesthuizen, 2009; Wang & Lu, 2012).

## 3.6 RESEARCH SITE AND SAMPLING

This study took place at a private higher education institute in Midrand, Gauteng. Permission to perform my research was obtained from the institute itself by way of applying for ethical clearance. I contacted the Deans from each of the faculties and arranged a meeting to discuss the purpose of this study as well as their support in helping me to identify the correct participants. The participants in this study were purposefully selected based on whether they were utilising active learning strategies in the classroom as well as the years they have been teaching this way.

The aim was to select at least two participants from each faculty, one with more than three years teaching experience using active learning and one with less than three years' experience in using active learning in the classroom. During the study the institution of choice underwent changes in structure and the original six faculties were reduced to only three faculties in total. The three faculties are currently: Faculty of Social Science, Faculty of Commerce and Law and the Faculty of Applied Science. It was hoped to see if experience might have any impact with regards to the use of active learning strategies in the classroom. The expectations of the study were explained to potential participants verbally and in writing which called participants to voluntarily participate.

## 3.7 DATA COLLECTION PROCEDURES

This study was multi-method qualitative where data were retrieved from background questionnaires, curriculum vitae documents, semi-structured interviews as well as class observation data. I enlisted the help of the Deans of each of the faculties to

provide me with a platform to discuss the purpose of my study to potential participants. To assist me in selecting participants that would be able to contribute to this study I disseminated a pre-screening questionnaire (see Appendix A) that explained the purpose of the study as well as ethical considerations during staff meetings or with assistance from the Dean. I contacted each Dean via email to arrange a meeting to discuss the purpose of the study and how I would need their staff members to participate. Deans either provided me the platform during a staff meeting to address their staff or they helped me to disseminate the pre-screening questionnaires by providing me with permission to approach their staff members individually. To ensure that participants were afforded the least possible interference with regards to their daily work responsibilities I decided to limit interviews to one visit of one hour at a time and place at the convenience of the participant. To ensure that I obtained the most from the interviews I asked all participants to complete a background questionnaire (see Appendix B) that included a copy of their curriculum vitae. Classroom observation times were discussed after interviews with participants where they could choose a day and class in which they would be most comfortable. Figure 3.2 depicts the data collection process.

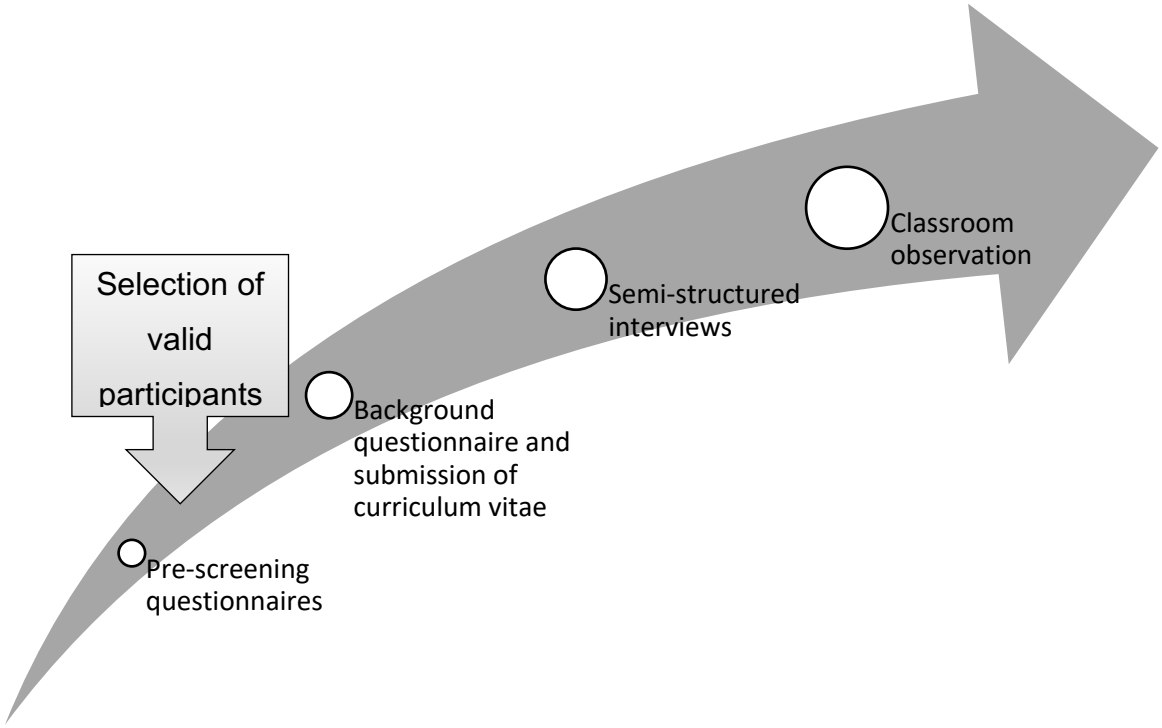


**Figure 3.2: The data collection process starting with the pre-screening questionnaires and ending with classroom observation.**

## 3.8 DATA COLLECTION INSTRUMENTS

I will now discuss how each of the instruments were used in the data collection process ending with a summary linking the research questions posed by this study and the method of data collection.

There are two units of analysis in this study: the individual lecturer and their social interaction with their students. When collecting data in a case study design, two main procedures are used: participant observation and unstructured interviews (Welman et al., 2005b). Interviews may also be semi-structured which is usually best suited for case study research (Hancock & Algozzine, 2011a). Using semi-structured interviews researchers ask predetermined but flexible worded questions, the answers to which provide tentative answers to the research questions of the study (Hancock & Algozzine, 2011a). It is also possible to use documents or texts produced by participants (Nieuwenhuis, 2012). In this study semi-structured interviews as well as participant observation were used as sources of data.

### 3.8.1 Pre-screening questionnaire

As the purpose of this study is to understand the dynamics of active learning in a private higher education institute I had to find participants that were using what they believed to be active learning in their classrooms. I went about this by designing a pre-screening questionnaire (see Appendix A) that explained the purpose of the study as well as any ethical implications. Participants had to answer four questions. The first two asking the participant to describe their teaching philosophy and teaching strategy. To enable clear understanding I simplified the questions by providing it in lay-man's terms.

I arranged with the Deans of each faculty to disseminate the questionnaires either individually as I met with individuals or during a faculty meeting. Each Dean also signed a consent form as acknowledgement of their understanding with regards to the study. I received a total of fifteen questionnaires from the six faculties as tabulated in Table 3.2.

**Table 3.2: Number of screening questionnaires received from the faculties**

| Before structural changes | | After structural changes | |
|---|---|---|---|
| Faculty | Number of participants | New Faculty name | Number of participants |
| Commerce | 3 | Commerce and Law | 5 |
| Law | 2 | | |
| Creative Arts and Communication | 3 | Humanities | 4 |
| Social Science and Education | 1 | | |
| Science and Engineering | 3 | Applied Sciences | 6 |
| Information Technology | 3 | | |

For the Faculties of Commerce, Information Technology, Law as well as Social Science and Education, I managed to speak to the lecturers during staff meetings. I explained the nature of the study, handed out the screening questionnaire and arranged to have completed questionnaires collected after a week. For the faculty of Creative Arts and Communication as well as Science and Engineering I saw possible participants one by one and asked if they were willing to complete the questionnaire after which I then arranged for collection a week later. I managed to obtain at least two individuals from each faculty except for the Faculty of Social Science and Education. I went to this particular faculty again to repeat the invitation to participate at which point only one participant indicated to be available.

I scrutinized the pre-screening questionnaires received from this private higher education institute and looked for years in teaching experience in using Active learning. More than three years and less than three years were used to categorize the participants. I believed that experience in using Active learning as a teaching strategy could play a role in how active learning is used as a strategy in the classroom. Participants also had to write down their teaching philosophy and strategy. I used this to select individuals that clearly wrote that they felt students had to participate in the learning process or that lecturers have to adapt to the needs of students. From these fifteen questionnaires I selected using the criteria as explained above and obtained permission from the participants as tabulated in Table 3.3 to participate in the study.

**Table 3.3: Participant years' experience in using Active learning in their classes**

| Participants (Pseudonyms) | Gender | Years' experience in using Active learning | Faculties |
|---|---|---|---|
| Melissa | Female | Less than 3 | Commerce |
| Heleen | Female | More than 3 | |
| David | Male | Less than 3 | Creative arts and Communication |
| Bo | Female | More than 3 | |
| George | Male | Less than 3 | Information Technology |
| Daren | Male | More than 3 | |
| Chrizelle | Female | Less than 3 | Law |
| Lucy | Female | More than 3 | |
| Lisa | Female | Less than 3 | Science and Engineering |
| Hope | Female | More than 3 | |
| Anne | Female | More than 3 | Social Science and Education |

### 3.8.2 Background questionnaire

Before each interview I emailed what was known as a 'background questionnaire' (see Appendix B) to require initial information about the participant which helped me in structuring the interview. All participants were also asked to voluntarily send their latest curriculum vitae. All the participants did send it and I found it extremely useful in understanding the participant's background qualifications, prior work experience and especially to understand during their interviews their motives in being a lecturer. This also helped to focus more on the research questions during the interviews.

### 3.8.3 Interviews

Due to the interpretive paradigm of this study individual in-depth semi-structured interviews were done. It is a process in which the researcher is more interested in the process by which the content of the conversation has come into being, rather than the content itself (Babbie & Mouton, 2012). In this study this would mean to understand rather how participants have come about their understanding of active learning as a strategy than simply what active learning is. For each of the participants I arranged a

one hour interview session in a private room of their choice. During the interviews I focused on asking 'why' questions on occasion; this helped me to come to a better understanding of how the participant came to this understanding and not necessarily what the understanding was. The interview schedule included six key interview questions (see Appendix C for interview schedule combinded with the interview observation sheet).

I started each interview by first referring to the background questionnaire to require more depth in their answers given, focusing on the 'why' of each answer. I made sure by utilising an echo probe (Bernard & Ryan, 2009) that I understood what participants were saying by repeating the last thing someone had said and asking them to continue. During interviews I also made notes about observations or key insights that I made on an interview observation sheet (see Appendix C). This helped me later on to compile an accurate representation of the interview. All of the interviews were audio-recorded and where recordings did not happen successfully or where we ran out of time, follow up interviews were held. Recordings were send to a third-party company for transcription. Transcriptions were proof-read before sent back to me for analysis. At each of these interviews I then also arranged the time and venue of their class visit at which I made observations. All class visits happened after the interview as to see if what the participant spoke about during the interview was reflected in their classes.

### 3.8.4 Classroom observations

Each participant was asked to select a class in which they would be most comfortable to show how they implement their active learning strategies in the classroom. Consent letters for students (see Appendix D) were distributed after I explained to them the purpose of the study and the reasons why I would want to observe their class and video-record it for data analysis purposes. I made it clear that I was observing their lecturer in particular to see how the lecturer was facilitating active learning in the classroom.

To provide me with some form of guideline I used the PORTAAL (a Practical Observation Rubric to Assess Active Learning in the college science classroom) as observation rubric (see Appendix E) to capture data during the participant observation

sessions (Eddy, Converse & Wenderoth, 2015). Although the rubric could not be accurately used in all class rooms due to lecturers following their own approach it was useful to detect when active learning was taking place in the class room.

## 3.9 DATA ANALYSIS STRATEGIES

The data collected was obtained from eleven different participants using what they believed to be active learning as a teaching methodology in their classrooms. As the data collected was qualitative, analysis followed a hermeneutical approach. This is an interpretive approach, emphasizing the importance of the views of participants based on their experiences and their standpoint. It is an attempt to unveil the world as experienced by the subject through their life world stories (Kafle, 2011).

Data analysis based on the hermeneutical approach applies the hermeneutic cycle that constitutes reading, reflective writing and interpretation in a rigorous fashion (Laverty, 2003). This process can be demonstrated as in the given Figure 3.2

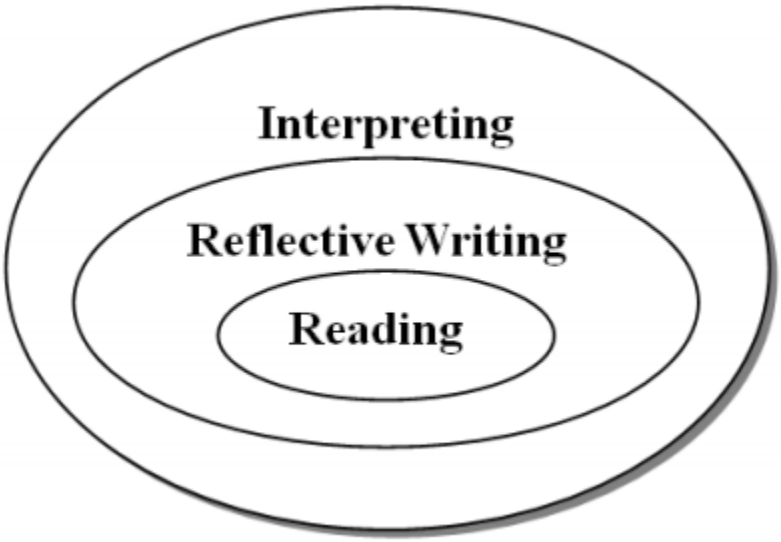


**Figure 3.3: The Hermeneutic cycle (Laverty, 2003).**

A more extensive model which I used based on the hermeneutic approach was the four-step visual model described by Hesse-Biber and Leavy (2006, pp. 344-358): (1) “data preparation phase where data from interviews, observations, and field notes were transcribed and entered in a database”; (2) “data exploration where I read, thought and reflected on the data to become more familiarized with it”; (3) “data

reduction which includes coding, memorising, and looking for patterns"; and (4) "data interpretation to make sense and get meaning out of the data". In doing case study research these phases as listed would be a recursive process, where data was examined and interpreted in an ongoing fashion (Hancock & Algozzine, 2011b). In performing the data reduction phase identifying themes is one of the most fundamental tasks in qualitative research. Themes can be obtained by either word analysis, reading of larger units, intentional analysis of linguistic features, physical manipulation of texts and secondary data where reports or information (secondary data) on the same topic that is being analysed is used to question and review the field notes (primary data) (Welman, Kruger & Mitchell, 2005a). The computer-aided qualitative data analysis software Atlas-ti v.7 was used to assist with the management and organisation of data (Smit, 2002). I took all of this into account when I started the categorisation of the data.

### 3.9.1 Coding the transcripts of the interviews

In adherence to the four-step visual model I extensively read and reflected on the data captured in the transcripts. I then followed with the data reduction phase which included coding and looking for patterns.

According to Saldana (2009, p. 3), a code is "most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data". I used the structural, descriptive and in vivo coding strategies during the first round of coding (Saldana, 2009, pp. 66-75). The structural coding strategy focuses on creating codes that relate to a specific research question as revealed during the interview. I used the questions in the background questionnaire as well as the six key interview questions as guidelines in creating some of the codes. Having to use descriptive coding became essential when the data revealed certain 'topics' or 'themes' emerging not necessary related to the research questions. Finally it happened that some of the ideas or words used by the participants necessitated that being used as a code, thus providing a platform for the use of in vivo coding. Following this systematic approach helped me to organise the data into coherent data structures that would make sense. The codes created for the transcript data covered all the secondary research questions. This was

followed with code reduction (2nd round of coding) where I grouped codes together that provided similar ideas.

### 3.9.2 Coding the class observation videos

I used the class observation data to provide insight with regards to the secondary research question two only. This question seeked to understand how lecturers at PIHE facilitate active learning in their modules. With this question in mind I set out to code all the active learning activities that were observed. This contributed to develop a better understanding about the strategies used in class by lecturers to promote active learning. I used the PORTAAL assessment rubric as guideline in determining when active learning was taking place and when not. After this first round of coding I followed with a second round of coding to align the strategies identified during the first round of coding with those that were identified from the transcripts. Table 3.4 summarised the relationship between the research questions, data collection method, data source and purpose of this study.

**Table 3.4: Research questions mapped against the data collection, source and purpose.**

| Secondary research questions | Data collection method | Data source | Purpose of data source in this study |
|---|---|---|---|
| How do lecturers at PIHE facilitate active learning in their modules? | Semi-structured face-to-face interviews that are audio-recorded. | 11 Lecturers from three different Faculties. | To investigate whether lecturers know what active learning is.<br>To explore why lecturers are using active learning strategies in their classrooms.<br>To understand the factors that possibly would influence the use of active learning in the classroom.<br>To examine the challenges lecturers face in using active learning.<br>To determine possible solutions provided by lecturers in solving problems associated with using active learning in the classroom. |
| | Semi-structured face-to-face interviews that are audio-recorded.<br>Participant observation. | | To consider the possible strategies used by lecturers in the classroom to perform active learning. |
| How do lecturers at PIHE assess student performance within an active learning context? | Semi-structured face-to-face interviews that are audio-recorded. | 11 Lecturers from three different Faculties. | To determine if lecturers have evidence of how the use of active learning strategies assist students to perform better.<br>To explore possible assessment strategies used by lecturers to assess the success of using active learning strategies in their classroom. |
| How is support given to lecturers in implementing active learning in their modules? | Semi-structured face-to-face interviews that are audio-recorded. | 11 Lecturers from three different Faculties. | To determine the level of support received by lecturers from the institution.<br>To explore further support that would be required by lecturers to use active learning strategies in the classroom. |

## 3.10 QUALITY ASSURANCE: DATA VERFICATION

### 3.10.1 Trustworthiness

The traditional criteria for ensuring the credibility of research data, which include objectivity, reliability and validity, are used in scientific and experimental studies because they are often based on standardized instruments and can be assessed in a relatively straightforward manner (Spencer, Ritchie, Lewis & Dillon, 2003). In contrast, qualitative studies are usually not based upon standardized instruments and they often utilize smaller, non-random samples. This case study used purposefully selected participants, therefore, the evaluation criteria mentioned before cannot be strictly applied to the qualitative paradigm, particularly when the researcher is more interested in questioning and understanding the meaning as well as the interpretation of phenomena (Thomas, 2010).

Trustworthiness is the corresponding term used in qualitative research as a measure of the quality of research. It is the extent to which the data and data analysis are believable and trustworthy (Guba & Lincoln, 1981) . The trustworthiness of qualitative research can be established by using four strategies: credibility, transferability, dependability and conformability (Guba & Lincoln, 1985). Within these were specific methodological strategies for demonstrating qualitative rigor, such as the audit trail, participant checks when coding, categorizing, or confirming results with participants, peer debriefing, negative case analysis, structural corroboration, and referential material adequacy (Guba & Lincoln, 1981, 1985). To ensure the trustworthiness of the data it will be necessary to ask participants for confirmation during the interview process (i.e. did you mean…?).

During interviews, in some cases, I repeated to the participant what the participant had just said to verify if I understood them. A copy of transcripts and preliminary analysis were also sent to participants to give them the opportunity to confirm or deny the conclusions made. Participants were included in a final individual meeting where their ethnographic narratives and class observations findings were validated. Participants were also provided the opportunity to ask questions about the findings of the study.

### 3.10.2 Crystallisation

Triangulation can be described as crystallization (Denzin & Lincoln, 2000). Triangulation means the use of two or more forms of data collection or the use of two or more perspectives contributing to the understanding of the topic (Hamilton & Corbett-Whittier, 2013). In the crystallization process the researcher tells the same story through data gathered from different data sources. This is also followed by a process that considers the data from various angles – by highlighting different aspects, depending on different phases of the analysis (Richardson, 1995). In this study, participant observation, semi-structured in-depth interviews, pre-screening questionnaires and background questionnaires including the participant's curriculum vitae were used to collect data. Furthermore, I used at least eleven different participants in the study to produce different perspectives.

Borkan (1999) explains an extended form of crystallisation which is known as 'Immersion/crystallisation' for the qualitative data analysis process. It involves:

- Immersion is a process whereby the researcher immerse themselve in the data that they have collected by reading or examining some portion of the data in detail. This is usually followed by
- Crystallization where one would temporarily suspend the process of examining or reading the data (immersion) in order to reflect on the analysis experience and attempt to identify and pin down patterns or themes noticed during the immersion process.

These dual processes continue until all the data have been examined and patterns and claims emerge from the data that are meaningful and can be well articulated and substantiated. I managed to follow this advice by reading sections of the data received and reflecting on what it was telling me.

## 3.11 ETHICAL CONSIDERATIONS

In general, ethics is defined as "norms for conduct" that distinguish between acceptable and unacceptable behaviour (Resnik, 2011, p. 1). There are two guiding principles: respect and responsibility. The researcher should respect the person (s)

involved in the study, their knowledge, democratic values, the quality of educational research and academic freedom. At the same time researchers have the responsibility to participants, sponsors of research, and the community of researchers Bera (2004) as referenced by Hamilton and Corbett-Whittier (2013). This research proposal was submitted for approval to both ethical committees of University of Pretoria as well as Pearson Institute of Higher Education before any data collection took place.

For my participants, during their introductory meetings before any data collection started the following aspects were discussed as recommended by Hamilton and Corbett-Whittier (2013): The principle of voluntary informed consent was used.

- I explained my project clearly to the people in my study and obtained the requisite permission from those in charge.
- I provided an agreement form (Appendix F) with an outline of what the research was and why, as well as my position and purpose, the ethics guidelines I was abiding by and the consent form.
- I provided access to the sections in my writing pertaining to them after the study.
- I arranged individual feedback sessions to discuss their contribution to the study and what was learnt from it.

In the social research fraternity there is a general agreement among researchers about what is proper and improper conduct of scientific enquiry. The most important agreements which I followed according to Babbie and Mouton (2012) was:

- Voluntary participation: No individual should feel forced to participate. Individuals may withdraw at any time.
- No harm to the participants: The research should never injure the people being studied, regardless if they volunteer for the study or not. The study shouldn't reveal information about them in such a way that would embarrass or endanger their home life, friendships, job and so forth. Participants can be harmed psychologically, thus the researcher must look out for the subtlest dangers and guard against them.

- Anonymity and confidentiality: Participants' identity must be protected. In the case of interviews, the participant was not anonymous but the participant's responses in the interview were kept confidential, meaning that it was not published unless with consent from the participant. Thus throughout the study pseudonyms was used to hide the identity of participants to the public.

## 3.12 CONCLUSION

In this chapter I have explained the research design and methodology that guided this research study. In the next chapter I will discuss the findings obtained using this qualitative research design.

# CHAPTER 4: FINDINGS AND DISCUSSIONS

## 4.1 INTRODUCTION

In this section I introduce each of the participants by providing a short narrative on their motivation in being a lecturer, the reasons behind them being in higher education and their first experiences with Active Learning. This will follow with an explanation on how the data was analysed by referring to the process followed: first groups of codes were created followed by a reduction phase after which the reduced groups of codes identified were categorised into sub-themes and themes.

The results of the data analysis are then discussed per secondary research question (theme) given per participant. The first part of this discussion focuses on the data obtained from the interview transcripts, screening and background questionnaires. This is then followed with the results and discussion of the data analysis done on the classroom observation data. In the following section I introduce each of the participants.

## 4.2 ETHNOGRAPHIC NARRATIVES ON EACH OF THE PARTICIPANTS

In all cases pseudonyms have been used, some proposed by the participants themselves. The participants are introduced according to the faculty they present.

### A. Faculty of Commerce and Law

#### 4.2.1 Melissa

I had an appointment with Melissa on 15 October 2015 at 11:40. I met up with her at her office and first had to wait for her to deal with some of the students that needed her attention. We closed the door and I made sure I added the 'Please do not disturb, Interview in progress' sign. Melissa was keen in getting the interview going so I started by first asking her about her background.

Melissa is 33 years old and obtained both her M.Com in Marketing Management (2013) and her Post Graduate Certificate in Higher Education (2014) from the University of Pretoria, South Africa. Before becoming a lecturer Melissa was involved as a research executive who had to develop relationships with existing clients and run projects to develop the company's client service in advertising. I wanted to know why she left industry to become a lecturer to which she replied*:*

> *..we had to mentor a lot of interns as well and that teaching process as well as the presenting of knowledge process was very exciting to me and it was somewhere in that whole process or everything working together where I decided I wanted to become a lecturer (Interview transcript p.1).*

Melissa resigned to complete her Master's degree full-time so that she could get closer in becoming a lecturer when she received a call from Midrand Graduate Institute, now known as PIHE, during her notice period to become a lecturer and complete her Master's degree while doing that. She did not study to become a lecturer initially as her parents did not believe that public sector teaching would be able to support her. But to her amazement years later the doors were opened for her and she jumped at the opportunity to work in Higher Education. Melissa wanted to work especially with young adults and justified the decision as follows:

> *I like working with young adults. Equipping them with what they need to join the workforce. It is inspiring to see your students go into the industry and become the individuals you always knew they could be (Interview transcript p.3).*

She has been involved in teaching seven different modules at PIHE in the Faculty of Commerce including Research Methodology, Tourism Environment, Internet Marketing, Advertising and Sales Promotion, Marketing Research, Product and Promotion Management and Business Management. These modules are spread across years one to three of the programme.

Active Learning as a teaching strategy made its way into Melissa's life after she completed her Post Graduate Certificate in Higher Education. It was one of the top management individuals that suggested it to her. She also spoke to other colleagues who had completed the programme and met up with two other individuals from other faculties at PIHE who were also interested in pursuing the certificate. She admitted that she was a specialist in her subject field but lacked the tools on "How do you teach?" The only frame of reference she had was how she was taught during her

student years as well as perceptions she experienced from watching other colleagues at work. I would consider that one off the outcomes of Melissa's journey in obtaining her certificate was the development of her new teaching philosophy:

> *To inspire the learners whom I mentor and facilitate to become life-long learners by establishing an environment conducive to learning, creativity and exploration. Learners should continually be encouraged to play an active role in determining what and how they learn (*Screening questionnaire p.1).

Melissa was teaching her classes based on this teaching philosophy for only six months at the time I spoke to her. At the time when I interviewed Melissa she was under pressure and felt "overwhelmed". According to her there was a shortage of personnel which added more responsibilities on current staff members. She felt that having to teach six modules was seriously affecting the quality of her teaching.

After having spent over an hour with her I found that Melissa was passionate about being a lecturer, she believed in what she was doing even though she did not necessarily see a positive response at the moment. She wanted to prove that this new belief of hers in using Active Learning as a teaching strategy was not in vain.

### 4.2.2 Heleen

I met up with Heleen on 18 September 2015 at 11:40 in her office. Just by walking in I could sense that I am dealing with a person that is organized and do things in a structured way. Her desk had neatly piled documents, nothing out of its place – I got the idea that Heleen is serious about what she does. Heleen is a 35 year old who obtained her Bachelor degree in Technology (B Tech) Tourism Management from the Nelson Mandela Metropolitan University in 2004. Her parents always suggested that she enter the education field but Heleen felt she lacked the confidence to speak in front of people. During her studies she also had strong influence from her lecturers, one who eventually developed Parkinson's, but he noticed that Heleen had potential, that she was a natural leader and that she taught with enthusiasm. The other lecturer influenced Heleen's teaching style – this lecturer had classes that Heleen now recall as being interactive, I would guess the beginnings of Heleen's understanding of what Active Learning is.

However during her studies, Heleen ventured into the tourism industry and this was where she realised that she truly does have a passion for teaching and learning. It was during this time when she had to take tourism students on excursions to explain to them more about the inner workings of the tourism industry or train fellow staff members that Heleen realised that she truly enjoyed working with a large group of people; at last she had grown the confidence over time. It was at this point that Heleen decided that she would rather prefer to lecture than to work in the tourism industry. This shaped Heleen's path and she found herself lecturing tertiary level students ever since at various higher education institutes including her alma mater, the Nelson Mandela Metropolitan University, Damelin, Rosebank College and now PIHE. Heleen's mind is set on working in the higher education space as she herself says:

> *I am more challenged by students within higher education. It allows for more flexibility and creative freedom (*Background questionnaire p.1).

Heleen has been with PIHE for the past five years teaching in the Commerce faculty the first year module, Introduction to Tourism, Travel and Hospitality as well as both second year Marketing modules.

As already mentioned it was one of Heleen's lecturers who had a very big impact on the teaching style she uses in her classes. As a student attending this lecturer's class she felt it was valuable, as she herself had learnt more by doing or participating in activities and thus is using similar strategies in her classes today. Heleen believes that:

> *The learning environment should be stimulating and allow for intercommunication…I also encourage life-long learning amongst students* (Screening questionnaire p.1).

Heleen first learnt about the concept of Active Learning through her fellow colleagues at PIHE, especially a particular colleague in her faculty who was busy with a Post Graduate Certificate in Higher Education. She realised then that she has been facilitating Active Learning in her classrooms all along, although she had room for improvement. In working with this colleague Heleen learnt from her where and how to improve. Heleen realised that students should discover things for themselves and a lecturer should utilise different strategies to get them engaged. Heleen felt that she would benefit tremendously from doing this same certification but that her current work-load at PIHE is adding time constraints. Heleen however felt strongly about also

investing time in her own professional development. I got the idea that Heleen always does exactly what she says.

### 4.2.3 Chrizelle

I had an appointment to see Chrizelle on 10 September 2015 at 13:30 in her office. Her office door was closed so I knocked, I could see that she was expecting me. She stood up and came to the door to welcome me. Her desk was neat and tidy and definitely did not have piles and piles of papers, I got the idea that this is how it could be having a consultation with your lawyer, strictly business. This idea however quickly passed as Chrizelle was overflowing with energy and zeal. I could see that she was looking forward to talk about her teaching, opening herself up for me to see what the source of her contagious personality is.

Chrizelle is a 26 year old that has a Master's degree in law obtained in 2012 from University of South Africa (UNISA). I could not but help to ask Chrizelle why if she could practice as an advocate she opted to rather teach right after graduation. Surely there would be much more money in the law profession than teaching? Chrizelle was clear that she had already made that decision during her third year of study that she did not want to go into practice. She elaborated by saying that she actually has several reasons why (I could see that this was carefully thought about and considered) she did not want to practice. She never liked the "living in the little box" kind of image life, she wanted to do her own thing. As an advocate or attorney one could become a certain kind of person that is in a box always following the same rules, doing the same thing. Your cases might differ but you have to do the same thing over and over again. Chrizelle also said that she was never interested in the whole glamorous image and getting the big bucks in law, she was always more interested in actually helping people understand the law. Chrizelle believes that there is a need for lawyers but there is also a demand for academics.

It is because of these deep convictions that Chrizelle thus stayed within the academic field, especially when she was offered a position to teach at UNISA during her honours degree. As Chrizelle said:

> *I do not know - it just happened that I ended up in Higher Education* (Interview transcript p.2).

She has no regrets about it. Like being in the right place at the right time. It might be that Chrizelle already decided to teach in her third year of study to become a lecturer but some influential people cultivated this. During her studies Chrizelle had a number of friends that needed help with their law studies. She immensely enjoyed the feeling of helping someone to understand something and to share in their feeling of self-accomplishment when they succeeded in a module. This made Chrizelle realise that she could make a living by doing this every day. Chrizelle also had a post-graduate supervisor and mentor that showed her that teaching can always involve an element of fun and that a proficient and involved lecturer can have an influence on a student's life and education.

I believe that these experiences helped Chrizelle understand that you do not necessarily have to be a lawyer to change a life, a lecturer has a very big influence in a student's life. A lecturer can change the way students think. It is also because of this that higher education is better for Chrizelle, she admits that she does not have the patience to deal with younger learners. She however, believes that tertiary level students can now think for themselves, they can participate in debates and inform everyone about their views. She started at PIHE in January 2015 and has been involved in teaching the following subjects in the law faculty; the law of succession, law for psychology students, criminal law: general principles and criminal law: specific crimes.

Her thoughts about Active Learning developed through her own understanding of teaching at UNISA which was distance learning and then going to a corporate company in which she was involved in electronic learning (e-learning). It was here that she learnt about the concept of "chunking" where big concepts are broken down into smaller sections. With all of these different influences Chrizelle developed her own way of teaching, not just reading a textbook to students as all students can read, but to help them understand the content and to measure whether they do understand it. All of this can be summarised in Chrizelle's teaching philosophy:

> *I view myself primarily as a facilitator of learning, rather than an expert who simply delivers information to students. I encourage my students to engage in critical thinking rather than just focusing on the learning outcomes. I attempt to consider the student's various learning styles and rates of learning by presenting my lectures in various methods* (Screening questionnaire p. 1).

It is amazing to consider that without any formal training, Chrizelle has found her way in what she believes is the best way to teach. She saw that her students responded to it. She only realised after following her own philosophy in class for some time that she might be busy with Active Learning coming to this conclusion after talking to her boyfriend who is also involved in e-learning. This made her start to read up on the concept of Active Learning.

It was insightful to have this discussion with Chrizelle, to see an individual that is teaching out of choice and enjoying it. I also came to realise how the drive of an individual's own passion can work to find the best teaching and learning practice.

### 4.2.4 Lucy

I almost ran late for my appointment with Lucy on 22 September 2015 at 12:30. I was a bit out of breath as I stood in front of the office block scanning a row of doors every few meters all facing outside, looking for Lucy's office number. I recollected myself and made myself visible in front of the open door. Lucy immediately invited me in. Lucy is a 45 year old with a bachelor of law (LLB) from UNISA and a Master's degree in Human Resource Management that she obtained from University of Johannesburg. She is a qualified attorney that also opted to rather teach than to be in practice, interestingly not because she did not have the opportunity to practice law. Lucy worked at various attorneys' offices as well as the road accident fund before she fell pregnant. At that time she already found her work boring and realised that she in some cases lacked the confrontational skills that were sometimes required in litigation. It was at the time after she gave birth to her children that she decided it was the time to get out of practice. After her maternity leave she started at a small investment company where she was involved in training. She felt at that time that whenever she was in a conversation people would be talking about teaching, so she applied for a part-time position at Damelin where she started to teach in the morning before work at the small investment company and in the evenings after work. It all started here. Lucy did not look back and moved to PIHE as full time lecturer since 2005.

She has been involved in teaching at first year level family law and the law of persons within the law faculty. She enjoys the interaction with the students. She also likes the challenge of presenting knowledge in ways that are more accessible and interesting.

The flexibility in terms of time also made this career an easy choice to balance life with her family. Becoming a lecturer in the end seemed to be a natural choice even though Lucy only found her calling a bit later in life. Her mother was a teacher, and when she was still in industry, she always found training others the best part of any job she had before starting to lecture.

It was with her facilitation skills that she had to develop during her time as a trainer that definitely helped Lucy shape her teaching practice. As a lecturer she was expected to lecture, as a trainer she was expected to facilitate. She realised that she could not deal with seeing her students fall asleep every time when she would stand in front of them giving them the information as a lecture. She decided to act by looking at what she was doing in the classroom with different eyes, she decided to include more facilitation type of situations as she did when she was a trainer. When she saw that it worked she started to develop it.

Lucy never did officially hear about the concept of Active Learning. She developed her own understanding based on what she saw happening in her classroom. Today Lucy believes:

> *Teaching today should be remedial, interactive and entertaining. Our students struggle with language and understanding. They also often lack critical thinking skills which are essential for their studies and functioning in a working environment. This means that I have to break concepts down and have them repeat and practise as much as possible. They also struggle to focus on the same thing for long. Because of this the class is broken up in smaller time frames for different things* (Screening questionnaire p. 1).

It was interesting to hear about Lucy's philosophy and that by trial and error, she has created a strategy in her classroom which she believes helps students learn better. Lucy seems to be quite an important stakeholder in her faculty, our interview was interrupted twice due to urgent matters to which she profusely apologised. It was however positive to see that despite being distracted by other things Lucy could remain focused. I believe the same quality would be to the benefit of her students too.

## B. Faculty of Social Sciences

### 4.2.5 David

I met up with David on the 6th of October 2015 in his office at 13:30 in the afternoon. It was a hot day and I felt the relief of cool crisp air as he opened his office door. “Come in, Come in” he was saying as he was beckoning me in and showing me to a chair. I could see that David was excited and ready for our interview. David is a 46 year old who grew up in Nigeria and completed his Diploma in Journalism at the Times Journalism Institute in Lagos in 1994. David wanted to do his degree in Journalism as he felt that he would not go far with just a diploma. He wanted to leave Nigeria due to the country’s circumstances. He had his mind made up to go to the United Kingdom (UK), but it was a friend who used the following argument that persuaded him to come to South Africa:

> *Listen you’re gonna spend a whole lot of money to study in UK and you can get the same quality in South Africa. So why do you want to go and spend lot of pounds there? And you’ll be paying your rent every week. Why don’t you go to South Africa?* (Interview transcript p.1).

David made up his mind and came to South Africa and did his degree in Communication at the University of South Africa (UNISA) after which he obtained his honours degree in Journalism and his Masters degree in Communication. It was during this time as a student that he was provided an opportunity by one of his lecturers, Professor Khan to become a tutor. He worked at UNISA and got his foot in the door at PIHE when he came in 2008 to invigilate exams. There was a vacancy then, he applied and he got it and has been there ever since. David believed that it was God that helped him. He wanted to teach because he loves it and he has a passion to learn. According to David being a lecturer in higher education helps him to develop his creative skills. He has academic freedom to explore new ways and change his curriculum accordingly without being questioned about it. David has been teaching in the social science faculty the first year module Communication Science 1 and the second year modules Journalism Writing, Journalism Ethics and Communication Science 2.

It was at this point that David very proudly showed me the publication his students bring out every year, called the Midrand Flame. This newsletter helps his students to

get prepared for the real journalism world and David, well he has the freedom to facilitate his students to write this publication creatively. David also has the flexibility as lecturer at PIHE to be involved in outside newspapers to help him keep abreast of the latest in the journalism field. He has the freedom to still do some writing.

David heard about the idea of Active Learning when he was still a tutor at UNISA. Many years back they still had some face-to-face learning, today they are primarily distance learning. It was during that time that David had access to various workshops that were held. It was here that I first realised that students should not be given answers but be guided to find the answers themselves. David also has quite a bit of experience in teaching on-line and explained how students that send an email would expect him to just provide an answer but that he would rather ask them "What do you think?". Somehow David admitted that when he came to PIHE he didn't think too much about Active Learning because he thought he knew it, but it was attending a workshop in 2009 at PIHE that really helped him to make more sense of it. I believe this helped David to develop his teaching philosophy which states:

> *My teaching philosophy is student-centered which provides support, facilitation and enhances students with the ability to develop knowledge for themselves rather than transmitting knowledge to students. I encourage students to take individual responsibility for their learning* (Screening questionnaire p.1).

At some point I was hit by a coughing fit and David was quite concerned, he switched off the air-conditioner to help. I felt that David was truly passionate about what he is doing and that he is tangibly infectious when he comes alive while sharing how he is helping to shape the lives of his students.

### 4.2.6 Bo

On my way to meet with Bo on 21 September 2016 for our 14:00 appointment I passed one of the visual arts studio's and through the window saw her in deep conversation with some students. I waved to her and she acknowledged me. I waited outside and when she joined me, one could see that there was much on her mind as she was rummaging through her bag to get her office keys. If you have seen Bo once, you will likely never forget her. In my mind the first thing I thought was colourful, eccentric, 'do not care what you think of me' attitude. I thought what an impact she must have with

students just by the way she dresses. Creativity and being different in a good way just flowing from her personality.

When we reached her office it was a quick 'hi' to some colleagues and check with others on things happening. I added the "Please do not disturb, Interview in progress" sign on the door, as I had to make sure that the interview remain focused. Bo is a 34 year old who obtained her BA in graphic design specialising in multimedia from MGI in 2002. She then furthered her expertise in writing, advertising and internet marketing by doing various courses at other institutes, worked in various industries and eventually started her own business. It was during this time that Bo was contacted by an acquaintance about a part-time lecturing position at MGI. Bo thought it would be good for her to help out the institute she studied with and loved and give something back. The role as lecturer became more and more demanding as she was teaching at different MGI campuses so she eventually downscaled her business to dedicate her time to teaching as Bo loved it.

Bo has been with PIHE since 2009 teaching in the Social Science faculty first year modules; Design Studio, History of Graphic Design and Digital Design as well as Design Studio for the second year students and Copywriting for the third year students.

Bo wanted to do her Honours in Graphic design but at the time couldn't afford it. It was her Dean at that time that mentioned the Post Graduate Certificate in Higher Education and Bo felt that she could "sink her teeth into " it. It offered her the flexibility to still work in her field of expertise but from an educational viewpoint. Bo completed this certificate in 2014. This is also where the concept of using Active Learning in the classroom ignited. Bo still freelances and does her business as a "one-man-show" to remain in contact with the industry. The opportunity to teach might not have been Bo's idea at first, but being placed in the position of becoming a lecturer brought Bo fulfilment. It was the interaction with her students that made her feel that she is busy with something "spectacular and special". In Bo's own words:

> *I was always concerned (in the beginning) about not having the relevant qualifications but I realised that a degree doesn't make you a good facilitator of learning just as much as being tall doesn't make you a model* (Background questionnaire p.1).

She feels that she can make the world a better place by teaching. The freedom that higher education offers with regards to no formal education qualification needed as well as flexibility in curriculum delivery provided Bo the opportunity to create learning opportunities that can assist the student through the process of becoming a graphic designer. She enjoys being part of the development process in young adults.

> *I believe that you need to want more for your students and should not try and force your ideals and ways of learning on them. Each one is like a ball of clay that will eventually become their own unique piece of pottery. I can help mould them but the clay has its own way of moving and being shaped and eventually setting* (Background questionnaire p. 1).

We couldn't finish Bo's interview in the hour scheduled so we scheduled another date and time for a follow up. Bo speaks her mind and I could see that she is truly passionate about what she is doing. She feels stretched and frustrated in wanting to spend more time with her students in deep inspirational and meaningful ways to help their learning but is inundated with administration and feels that she is not given the budget or time to develop herself further as a lecturer. Even though she feels constrained I could see that Bo keeps on going, being stubborn in a way, pioneering ways that would help her students to grow into the individuals that will make a positive contribution to this world.

### 4.2.7 Anne

Anne was the last participant that I managed to see and I was grateful that she was willing to sacrifice valuable time to assist me in my research at one of the busiest times of the year. She really made it easy and did her part at every point and turn. I met up with Anne on 15 February 2016 at 12:00 in her office which resides in the Humanities Building. We had a bit of a discussion on some of the student registration issues but quickly regained focus. Anne is a 34 year old who obtained her Master's degree in Counselling Psychology from the University of Johannesburg. Anne cannot really explain how she decided to become a lecturer:

> I can't tell you about the light-bulb moment. I just always, I've always wanted to teach and I think I grew up teaching (Interview transcript p.1).

Her mother ran a nursery school and every day after school Anne would go and sit down with the children. She was brought up in a teaching environment. She however wanted to become a psychologist, that was her goal, but during her studies she realised what a lonely job it would be. She started to understand that although she

would be seeing people all the time and listening to what they say, she would not be heard and Anne realised that being heard would be important for her. She would not have the freedom to talk about her work due to the confidential nature of consulting. This encouraged Anne to find a way to still have her interest in psychology maintained but alternating it with something, as Anne put it "more social, something more active". Anne's sister is a teacher and has been a lecturer in the past. Their continuous discussions around education encouraged Anne to dip her toe into the water of lecturing in higher education.

Anne applied for a position at Computer Training Institute (CTI) Randburg campus in 2010 and managed to secure it; she then later moved to the PIHE Midrand campus. She taught modules at undergraduate level such as general psychology, counselling psychology, developmental psychology, personality psychology, community psychology, assessment and evaluation modules. She has also taught second year level subjects in the past. Currently she is teaching at honours and masters level, modules such as developmental psychology and advanced developmental psychology. Before this time Anne taught at pre-primary school level Grade R (5 – 6 year olds) and Grade 00 (4 – 5 year olds) but it was her passion to stay in the field of psychology that urged her to look into a lecturer position in higher education, especially in the private sector as Anne wanted to focus on teaching and learning and not necessarily on the pressure of having to publish all the time. Anne enjoys the flexibility her current position offers that allows her to continuously develop professionally via her own private practice but then using that which is learnt there as the basis to teach tertiary level students.

Anne had heard about the term Active Learning several times during her life, the first time Anne assumes to be during her undergraduate studies when she did one of her education modules. She admits that she quickly had to search the term on www.google.com in preparation for our interview but then decided against further investigation to not influence herself. It looks as if Anne figured out her teaching philosophy based on what she believes is the most natural way to lecture. It also seems to be the way she personally learns best. It is at this point that Anne ventured in explaining how she performed very poorly in school and how her attitude changed when she entered her undergraduate program. She realised that during her school

years nothing was expected of her while during her undergraduate studies she started to participate in the learning process. She felt there was an expectation that was lacking during her school years. It is these personal experiences that have contributed to Anne's teaching philosophy:

> *My teaching philosophy centres on responsibility taking. In terms of the lecturer this means taking responsibility to provide engaging lectures, transparency regarding assessment and timeous and appropriate feedback. It includes modelling and facilitating responsibility taking in the students. I strongly communicate to students that I work from the principles that they are responsible for their own learning and development and expect them to take responsibility for their learning* (Screening questionnaire p. 1).

Anne seems to be confident in her beliefs and has a strong conviction in how she believes is the best way for her students to learn. One can see that Anne is serious about being a lecturer, she wants to know each of her students and provide them the opportunity to find out that if they are accountable they will succeed.

## C. Faculty of Applied Science

### 4.2.8 George

George shared an open office with colleagues so we arranged to meet in one of the meeting rooms in the administration building on 14 September 2015 at 13:00. He arrived right on time and I could see from the start that he might be a bit uncomfortable, but I reassured him and explained that I would truly appreciate his input as it is valuable. I must say we didn't have the best of starts as my recorder was being a bit temperamental, but George took it all in his stride. We had to start the interview again and even after our interview I had to arrange a follow up interview with him due to the poor quality of the recording, missing every third or fourth word. George just worked with me the whole time and really took it all serious helping me out to ensure that I could get my data. I was in a way looking forward to hear what he had to say, especially when in the pre-interview questionnaire he wrote that he is a lecturer "because I believe that I am good at it and I enjoy it".

At the time I interviewed George he had only been a lecturer for that year as he graduated from MGI with a BSc Computer Science degree in 2013. He then completed his honours degree in Information Technology at the same institute in 2014 and started to assist within the faculty where he was studying as a laboratory assistant

and tutor. As a 27 year old at the beginning of his career it was truly interesting to find out why he actually decided to lecture. George enjoys the interaction with students. He perceives that his students are relaxed in his classes and eager to learn, he is approachable as students easily come to him for help. George believes he is good with lecturing because by students coming to him for help he can understand their problems more which helps him to tailor his lecturing style and also help those in class who are too shy to ask for help. He uses particularly the facial expressions of students during his classes as an indicator of their understanding and reach out to these students after class if they are shy.

He chose higher education because he believes tertiary level students are more focused, they know what they want which makes his role so much easier as they seek help. He doesn't have to make them seek help because they want to obtain their degree. I however believe that George's biggest influence in making him decide to become a lecturer in higher education was the Dean, at that time of the Information Technology faculty, as well as his father. The dean motivated him to start as a tutor in the final year of his degree, as she saw in him an ability to do presentations very well. She coached George by giving him advice on how to manage himself in a class. She told him that he shouldn't be scared, and that the students would guide him in what they need which would help him to know what he should deliver. His confidence grew as a tutor which made him feel ready to become a junior lecturer the next year. He was teaching as a lecturer the module Computer Skills since January 2015. George also had support from his father as his father understood his personality. His father knew that George could be a talkative person if he could overcome his shyness. For George it was at first about obtaining a job that would make him lots of money but his father encouraged George by saying that:

> *You will get a lot of money in the later stage but then for now find your place, find yourself and find what you think you are going to enjoy, what you know you like* (Interview transcript p. 3).

George had not been introduced formally to the concept of Active Learning but he, simply by looking at the word, interpreted it in his own words according to what he thought it was. His past experiences as a student also helped to shape his perception of Active Learning. He had multiple lecturers all with different teaching styles and as a student in their classes it was easy for him to see which strategy worked. As a

student he actually spoke to other students in his classes to form an opinion that what worked for him also worked for others. He found that those lecturers that made students participate in the class, engaging them and trying to understand their views were far superior in enabling learning. He was serious about understanding how he would learn best as he had modules in which he struggled and strongly believed to first investigate himself to see what he perhaps could do differently. It was also in conjunction with attending a short training session that exposed him to different learning preferences in students, when he started as a tutor that helped him create his own understanding of what Active Learning is. George believes that:

> *The teacher or lecturer should make it their responsibility to make the learning environment friendly and encouraging for the students. Learning should be flexible and not a one-way channel. The teacher or lecturer needs to find a way to allow the students to teach the lecturer what the lecturer already knows* (Screening questionnaire p. 1).

We ended our interview and George was very interested about the research I was busy with, asking questions and telling me that he would want to read my article once it was done. It was good to see a young individual that chose to teach and wanted to create an environment that help students flourish.

### 4.2.9 Daren

I met up with Daren on 16 September 2015 at 12:00 in a meeting room in the administration building. While I was getting my papers and recorder sorted Daren came in finishing his 500 ml buddy Coca Cola. He came across as a quiet spoken individual, I wondered if I would manage to get him to open up to share and not just answer in single word syllables. Daren is a 32 year old and obtained his BSc degree in Computer Science, as well as his Honours in Applied Statistics and Honours in Information systems at the University of Fort Hare. Daren had to come to South Africa to do his tertiary level studies and planned to go back to his own country Zimbabwe after completion, but due to the economic situation in his Zimbabwe Daren decided to stay in South Africa.

He started as a business analyst after graduation but didn't feel it was fulfilling. He was working with documentation and did not feel that he was contributing to the development of individuals, something which he believed would provide more job satisfaction. This drove Daren to look for other opportunities and he found it when he

became a lecturer at CTI education group which also became part of PIHE. He moved from the Potchefstroom CTI campus where he lectured for just over two years since 2012 to the Midrand Campus. Here he has been involved in teaching modules such as Java as a programming language and Computer Science: social practices and security. Daren is a lecturer because he is passionate about teaching students and imparting knowledge that he knows one day will be a useful tool for them to make a positive change that contributes to the development of society. Teaching in higher education allows him to not just work with students that consume knowledge but to work with students who actually contribute to the knowledge base. He believes that tertiary level students have the drive to want to go the extra mile to learn more than that, which is simply discussed in class.

Daren was also influenced in his decision to teach from the feedback he always received as a student from fellow classmates who were inspired and impressed by the way Daren explained certain concepts to them. It also helped that his father, who was a secondary school teacher provided Daren some inspiration. Daren was fortunate that by attending a workshop that was presented at the CTI Potchefstroom campus he was introduced to the concept of Active Learning. Daren is quite clear in how he believes he should teach:

> *I believe teaching is a process which should involve both the student and the teacher. The teacher providing the learning material through different media (i.e. lecture presentations, audio, video etc.) and guiding the students to use appropriate resources. The teacher should encourage an Active Learning environment to ensure students play their part in their learning* (Screening questionnaire p. 1).

I was initially concerned that Daren might not open up to fully share his experiences but in the end it was good to get to know Daren and I could see that he works with a plan.

#### 4.2.10 Lisa

I met Lisa in her office that overlooks a beautiful swimming pool. Quite a strange venue for offices but it seems that Lisa makes it work for her. We had our interview scheduled on 14 September 2015 at 09:00 in the morning. Lisa closed her office door and I could see that when she returned to her chair she was ready for our conversation. I had unfortunately a glitch in my recorder and had to start again, luckily only the first

few minutes. Lisa was understanding and helped me to remember a few of the things that she had already stated. Lisa is a 26 year old with a Master's degree in Pharmacology obtained from the University of Pretoria in 2016. At the time of our interview she was in the final leg of writing her thesis and busy with feedback from her supervisors. Lisa is actually a product of PIHE when she obtained her Batchelor of Science degree in Biomedicine in 2010 from MGI. She always maintained her ties with her alma mater and thus applied for a part time position in the Science faculty while she was busy with her Master's degree. Working as a lecturer was a logical step for Lisa as it allowed her time to complete her studies by providing flexibility. She applied for a full time position later on which she obtained within the Science faculty. Lisa has been with PIHE for the past two years teaching modules such as principles of biology, animal and plant biology, histology, endocrine and neuropharmacology, systems pharmacology and chemotherapeutics, biopharmaceutical marketing as well as clinical trials and good manufacturing practices.

When I asked Lisa why she is a lecturer she clearly stated that firstly and most importantly to assist students who may not have been as fortunate as herself to grasp the sciences and to transfer her passion for life sciences to developing scientists and researchers. Lisa said that since her pre-school years, she enjoyed explaining things to others. Secondly, Lisa argued that her position as lecturer assisted her to keep the theoretical content fresh in her mind. Therefore while earning an income by preparing content for students that should be relevant, it helped her to complete her studies which were in the same field which she lectured. Lisa also admitted that she decided to become a lecturer as it is very difficult in the South African job market and she could not find any positions that would allow for a person of her demographics. She spoke about the multitude of black economic empowerment (BEE) positions in South Africa, which afforded her quite a bit of disappointment when it came to applying for them. Thus being a previous student of PIHE (previously known as MGI) gave her connections to find herself a position that would not only provide an income but would also allow her the flexibility she needed to finish her studies.

Lisa was quite emotional when she shared with me that even though being a lecturer is her first choice for now, she doesn't see herself as a lecturer for the rest of her life. I do believe that her husband plays quite a big role with regards to this view as Lisa

shared that her husband doesn't believe that Lisa spent so much time in the laboratory to further herself in the sciences to not end up in industry where she would become a professional. I could see that Lisa was a bit torn between the different views – one to continue to teach that which she is passionate about or two to obtain valuable experience in industry that she would not be getting remaining as a lecturer. I do believe what makes the decision difficult is that Lisa does not necessarily believe that the "grass is always greener on the other side", but she feels she might be missing out on that which she has not experienced before asking herself: How could she give advice to the students graduating to an industry if she herself has never been there? Then there is also the financial situation of wanting a better quality of life that would come with a position in industry, something not possible with the salary of a lecturer. It also seemed that Lisa was having difficulties with her conscience with regards to how PIHE was making decisions with regards to students. I could see that Lisa was upset when she shared about students not writing tests because they are "not feeling well", then applying for a supplementary test by paying their R50 (South African currency) and Lisa felt promoting this behaviour in students is taking away the responsibility they should have. I could see that it was draining for Lisa.

Despite this outpour of her feelings Lisa continued our discussion when I asked her about her first experience with Active Learning. Lisa spoke about attending a few workshops in the faculty where lecturers were encouraged to incorporate facilitation into their courses, to prevent passive learning in the faculty so that lecturers could shape life-long learners. Lisa believes that:

> *The success of a student lies predominantly with themselves but a facilitator must see the strengths and weaknesses in every individual and motivate each student to strive to outperform their own past accomplishments or failures* (Screening questionnaire p. 1).

Lisa admits that although her journey using Active Learning strategies is in its infancy, with practice she is making her teaching strategy more student-focused and flexible. I could see the determination in Lisa to succeed but was also crushed to have seen so much anguish when Lisa spoke about her current work feelings. She explained that she was stressed and slightly overworked, especially having to design new curricula every semester since starting, which puts her on her back foot, taking away the time she could have to grow her very early understanding of Active Learning.

### 4.2.11 Hope

I had an appointment with Hope on 7 September 2015 at 10:00 in her office. She was my first interviewee and I knew that the success of it would influence how I would go about future interviews. Her office is set in a block that overlooks a soccer field. It also has a view of a dam in the corner of the property, quite a peaceful environment. Hope was ready when I entered her office, looking relaxed and welcoming showing vigorously with her hands for me to sit down. I was looking forward to our discussion as Hope gave me the idea that once she starts it will be difficult to stop her. Hope is a 39 year old originally from Nigeria who has been teaching at PIHE since 2011. She has been involved in teaching various modules within the faculty of science including bioethics and principles of biology at first year level, economics of healthcare and food technology at second year level and Industrial and environmental biotechnology as well as agricultural biotechnology at third year level.

It was already during her studies in obtaining her Higher National Diploma in Science Laboratory Technology and Microbiology at the Yaba College of Technology in Lagos Nigeria that Hope realised that she would be good at becoming a lecturer. She was doing an assignment in one of her modules that turned out to be more of a test. Her lecturer at that time was impressed by the knowledge that Hope obtained by reading scientific journal articles which she simply just wrote down from memory. Her lecturer asked her to explain some of the concepts that she mentioned and this made Hope feel on top of the world as everyone had so much respect for this particular lecturer and here she was in a position to actually teach him something:

> *I was thinking he was being sarcastic but then I looked into his eyes and I noticed that he was actually seeking knowledge and he said: Where did you get this, read this? Well I was thinking…I brought the journal and thought that he was going to look down on me or something and we started talking and suddenly I thought to myself: Wow, I am teaching Mr. Peter. That was for me the turning point* (Interview transcript p. 1).

Hope's mother also made her feel that she could become a good lecturer. Hope explained to me how it thrilled her when she explained very technical content with regards to microbiology to her mother who was illiterate and how her mother just by the way she explained it could understand it, reproduce it and ask questions. It however only happened when Hope decided to come to South Africa in 2005 that she was afforded further opportunity to obtain her M.Tech in Biotechnology from the Vaal

University of Technology (VUT) in 2010. Hope was at a crossroad in her life after her father had passed away, with finances being difficult and with a son to come to South Africa through a position that she had at a juice manufacturing plant. It was when she started to lecture at PIHE that Hope found that she could now start to transfer her knowledge and skills to students, something she strongly believed in. It was during her studies at the VUT that she had another lecturer that influenced Hope to become a lecturer. This lecturer challenged Hope to do things differently in class such as sitting on the floor to study biochemical cycles.

> *So I finished and I called Yvette and I said I'd always wanted to teach but you have reinforced that I want to teach. Then I started writing some study guides for the University of South Africa but it was still not what I wanted, there was no classroom, there was no one-on-one with students, I wanted that which Yvette gave…* (Interview transcript p. 6).

Hope also believes that due to her subject specialist knowledge she could have a bigger impact working with tertiary level students. She would not be patient with learners that lack any form of basic knowledge within her field of expertise, she has a passion to want to take students to the next level.

Hope's first contact with the concept of Active Learning happened during interaction with colleagues within her work environment. I do believe that Hope already made a decision about her teaching strategy at the time when the specific lecturer asked her to study by sitting on the floor. She formed her own philosophy when it came to teaching in the classroom after including some in-depth reading on the topic of Active Learning. Today Hope believes that:

> *Teaching should evolve with class dynamics. Every class has a different need and a teacher should constantly carry out a needs analysis and make determinations on the teaching approach based on the needs expressed* (Screening questionnaire p. 1).

Based on this needs analysis Hope then devises strategies to incorporate both active and passive learning in her classroom. I could also see from our further discussion that the PhD in Environmental Science Hope is busy with is adding more strain. It asks of her to maintain a fine balance between being a lecturer, being able to provide the knowledge for students and also introspectively trying to absorb the knowledge she is creating herself, but with support she has received from management Hope is confident to find her way and is grateful that she is able to balance her time at the

moment between teaching and research. I was definitely not disappointed with the overflowing nature of Hope's conversation as I had to keep directing the conversation to remain focused. I could see that Hope does not shy away from opening herself up to others.

## 4.3 INCLUSION CRITERIA THAT GUIDED THE CODING OF THE DATA

While keeping in mind the secondary research questions of this study and the conceptual framework I purposefully coded text in the transcripts and data sources that reflected:

- the Active Learning strategies used by the participant.
- how the participant knew that using Active Learning strategies was successful.
- the support the participant was receiving in using Active Learning as a teaching strategy.

These codes can be directly linked to the three secondary research questions and are thus seen as part of the inclusion criteria to that which should be purposefully looked for during the coding process. Table 4.1 below summarises the inclusion criteria for groups of codes that directly addresses the secondary research questions.

**Table 4.1: Group of codes derived from data, which directly addresses the three secondary research questions**

| Inclusion criteria linked to research questions | Groups of codes |
|---|---|
| Active Learning strategies (Secondary research question 1) | Different questioning techniques<br>Engagement via reading<br>Engagement via students doing hands-on activities<br>Engagement via technology<br>Engagement via writing<br>Interaction with peers<br>Outside of the classroom |
| Measurement of Active Learning success (Secondary research question 2) | Feedback from students<br>Observation and Reflection<br>Students succeed in what is expected of them<br>Using assessments |
| Active Learning support received (Secondary research question 3) | Community<br>Experience as student<br>Personal research<br>Policies and procedures from Institute<br>Support from managers<br>Workshop/training |
| Number of groups of codes | 17 |

It was clear that in focusing on the above mentioned criteria participants contributed significantly further in clarifying their reasons behind their actions. Further criteria that emerged included:

- the view of the participant on the definition of Active Learning.
- the motivation of the participant in using Active Learning strategies.
- factors that influence the use of Active Learning strategies.
- frequency in using Active Learning strategies.
- challenges to using Active Learning in the classroom.
- solutions to problems self-identified.
- support required by participants to help them to use Active Learning strategies.

Table 4.2 below summarises the inclusion criteria for the groups of codes that indirectly address the secondary research questions:

**Table 4.2: Groups of codes derived from data, which indirectly address the three secondary research questions**

| Indirectly linked to research questions | Groups of codes |
|---|---|
| Active Learning definition | Guidance<br>Interaction<br>Self-discovery<br>Student-centered<br>Student participation and involvement<br>Using different activities/resources to accommodate different learning styles |
| Active Learning motivation | Inspired by colleague<br>Own experience as student<br>Students are prepared for the workplace<br>Students develops skills<br>Students enjoy classes<br>Students get engaged during class<br>Support learning of students |
| Factors that influence the use of Active Learning strategies | Year of student taught<br>Type of module<br>Class size<br>Modules presented at remote sites<br>Student feedback<br>Work-load |
| Challenges in using Active Learning in the class room | Difficult to administrate and facilitate Active Learning<br>Higher cost<br>Infrastructure<br>Lack of knowledge<br>Student attitude |
| Solutions to problems self-identified | Enable lecturers to use Active Learning<br>Internet access in class<br>Motivation of students<br>Community<br>Evidence that support Active Learning<br>Repository of Active Learning resources |
| Support required by participants to help them to use Active Learning strategies | Support from managers/administrators/decision makers<br>Preparation of students for Active Learning methodology<br>Support with use of technology<br>Workshop/training |
| Number of groups of codes | 34 |

## 4.4 EXCLUSION CRITERIA FOR CODING DATA

I excluded text from data sources that did not relate to the research questions or provided extensive details not required by the study or the proposed conceptual framework. These included:

- Personal experience not related to the study.
- Extensive elaborations on their qualifications.
- General announcements in class not related to the class topic at hand.
- In depth discussion pertaining to work done outside of the institution.

## 4.5 REDUCTION AND CATEGORIZATION OF CODES

After immersing myself in the data by repetitive reading at several time intervals I started the coding process of using my secondary research questions as my main themes and the development of new ones based on the data. A theme is usually the outcome of coding, categorization and analytic reflection (Saldana, 2009, p. 13). The quantity of data was showcased in having 249 codes produced from all the data sources. The more challenging part was to reduce these codes into meaningful groups creating sub-themes linked to themes. The themes identified contributed to addressing the secondary research questions of this study. The 249 codes were reduced to 51 groups of codes that sorted into nine sub-themes which were categorized to the three main themes (linked to secondary research questions) (see Figure 4.1).

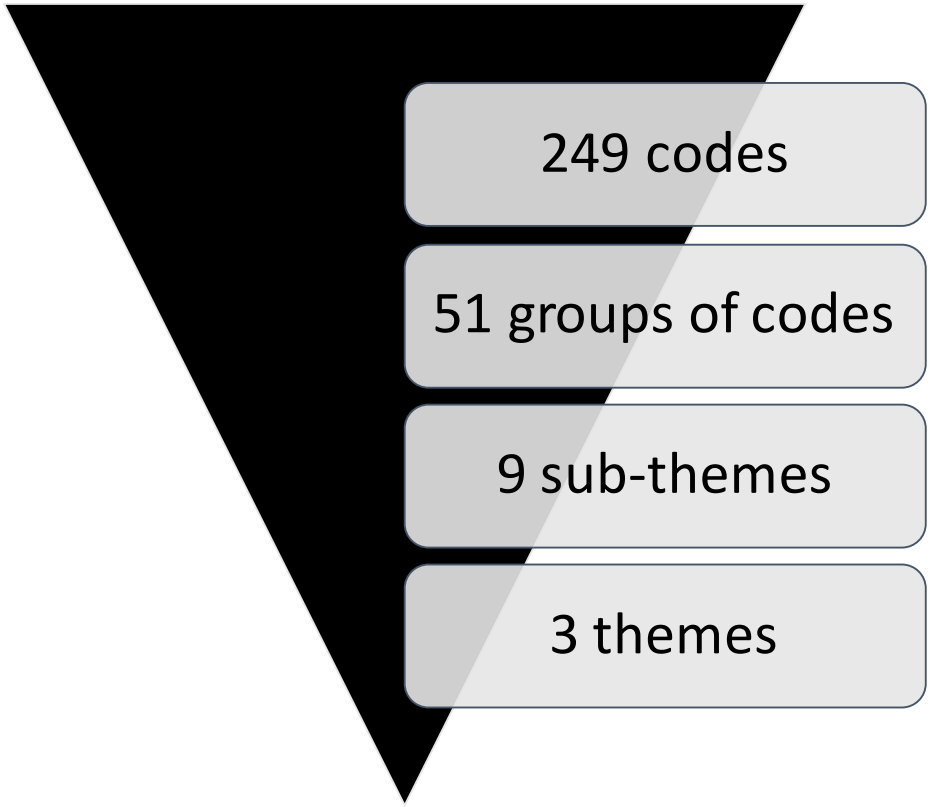


**Figure 4.1: Schematic diagram showing a summary of the code reduction process**

During the reduction phase I looked at each of the 249 codes and searched for codes that were overlapping or had the same meaning. In some cases two groups of codes were merged into a bigger single group. I was trying to make sense out of it in such a way to address my research questions and keeping the conceptual framework in mind.

As an example of how I went about the process consider Figure 4.2 below showing the initial 17 codes (MAL1 – 9) with sub codes (MAL1.1 – 1.5, MAL7.1 – 7.2 and MAL9.1) that were linked to the sub-theme measurement of Active Learning success that categorised under the student performance theme. This theme is linked to the secondary research question 2.

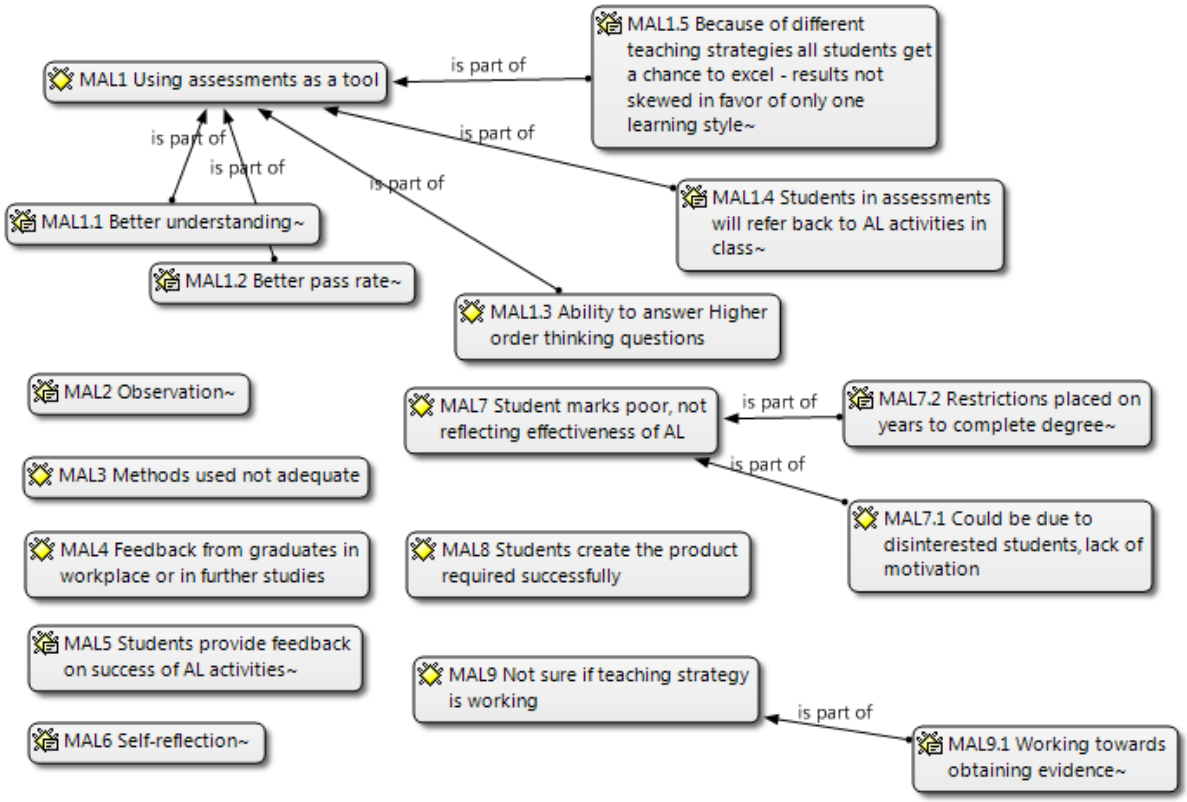


**Figure 4.2: Schematic diagram showing the codes and sub-codes for the sub-theme measurement of Active Learning success that organises under the theme student performance**

See Figure 4.3 below showing how the initial 17 codes and sub-codes as shown in figure above linked to the secondary research question 2 theme (Student performance) were reduced to four groups of codes only.

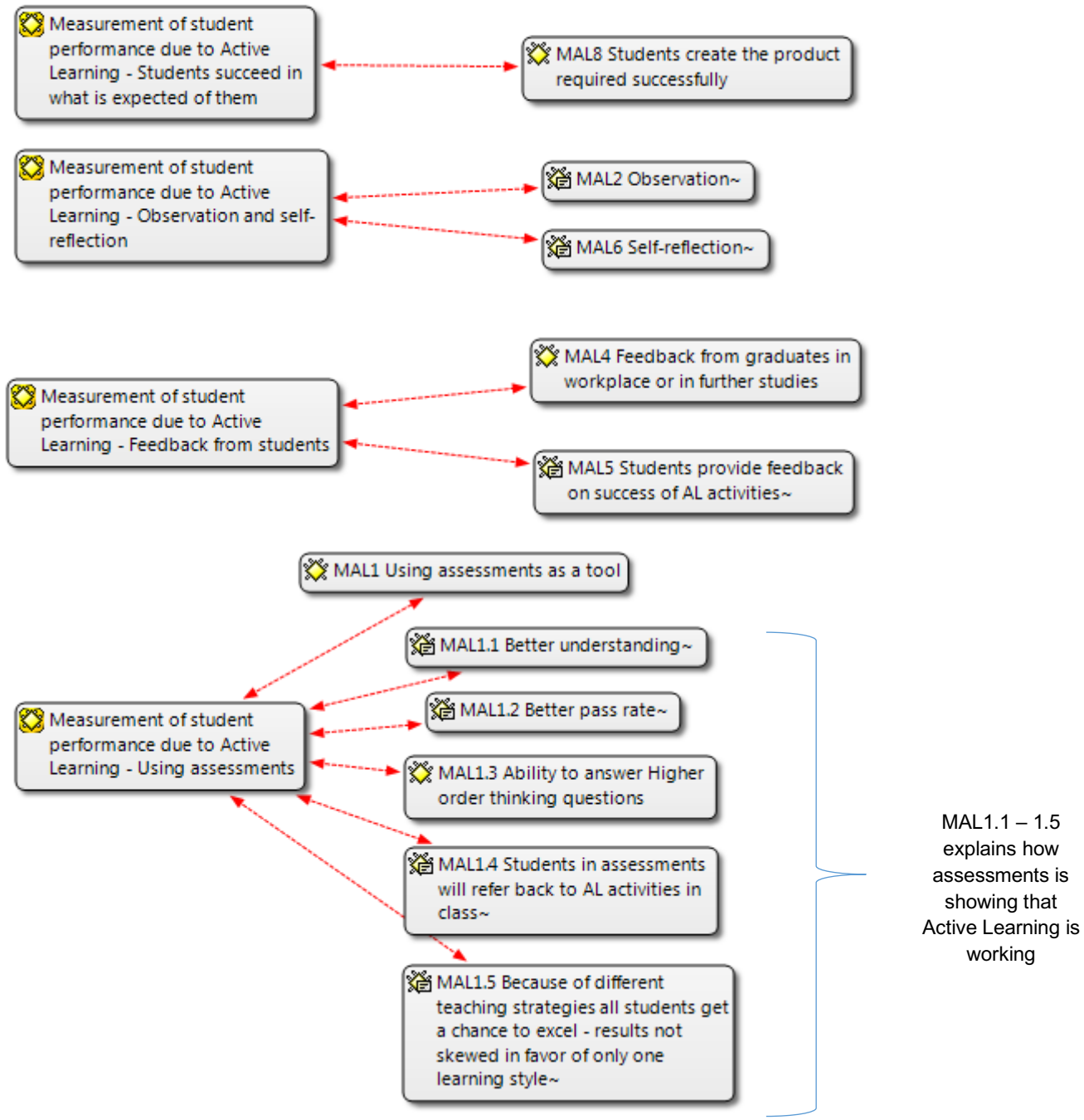


**Figure 4.3: Seventeen groups of codes and sub-groups as indicated in Figure 4.1 were reduced and categorized to four groups of codes**

The codes MAL3, 7 and 9 were moved from the theme Student performance to the theme Staff support that is linked to the secondary research question three (Figure 4.4). This was done because these codes rather reflected that there is still a lack of evidence that Active Learning is successful and thus fits with the support staff which are required in performing Active Learning.

The final lay out of themes and sub-themes that were developed from the data is shown in the schematic diagram in figure 4.4 below.

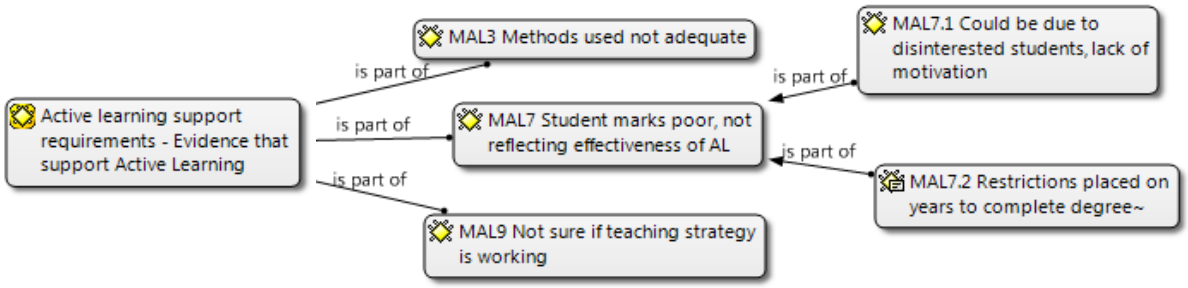


**Figure 4.4: Schematic diagram showing the codes moved from the measurement of Active Learning success sub-theme to the Active Learning support sub-theme**

By repeating the cycle of explore, reduce and interpret I created the final categorization of all the groups of codes into sub-themes and themes as depicted in the schematic representation in Figure 4.5.

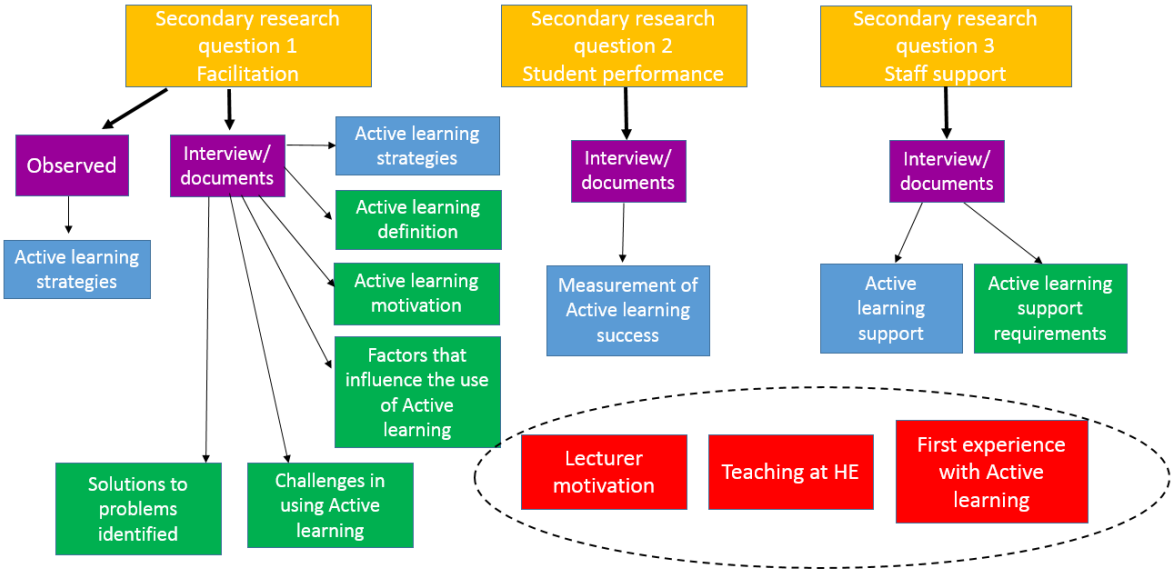


**Figure 4.5: Schematic diagram showing end result of reduction phase with three themes (orange), twelve sub-themes (blue and green) and three themes only used in ethnographic description (encircled red)**

Blocks in orange indicate three main themes linked to the three secondary research questions. Blocks in purple indicate the source of the data that contributed to the

development of the sub-themes (blue and green). Documents here refer to those completed as part of the screening process (i.e. screening questionnaire), the background questionnaire or the curriculum vitae documents submitted. The blue sub-themes are those that address the secondary research questions directly. The green blocks indicate sub-themes that emerged from the data while coding and address the research questions indirectly. Blocks in red show themes that were used in writing the ethnographic background of each participant. The ethnographic information was primarily retrieved from the screening questionnaire, curriculum vitae and background questionnaire documents that were submitted by each participant. Further clarity on information provided by these documents were obtained during the interview as well, especially to understand why participants answered the way they did.

To indicate the depth of data retrieved I will highlight one of the sub-themes namely Active Learning strategies that resort under the Facilitation theme retrieved from the interview data only. Figure 4.6 represents a schematic diagram showing the seven groups of codes including the individual codes that contribute to each code group for the sub-theme Active Learning strategies (interview data). I decided to group the codes in groups based on the type of engagement i.e. reading, writing, interacting with peers, interaction with technology, hands-on physical activities, activities outside of the class room and different questioning/answering techniques.

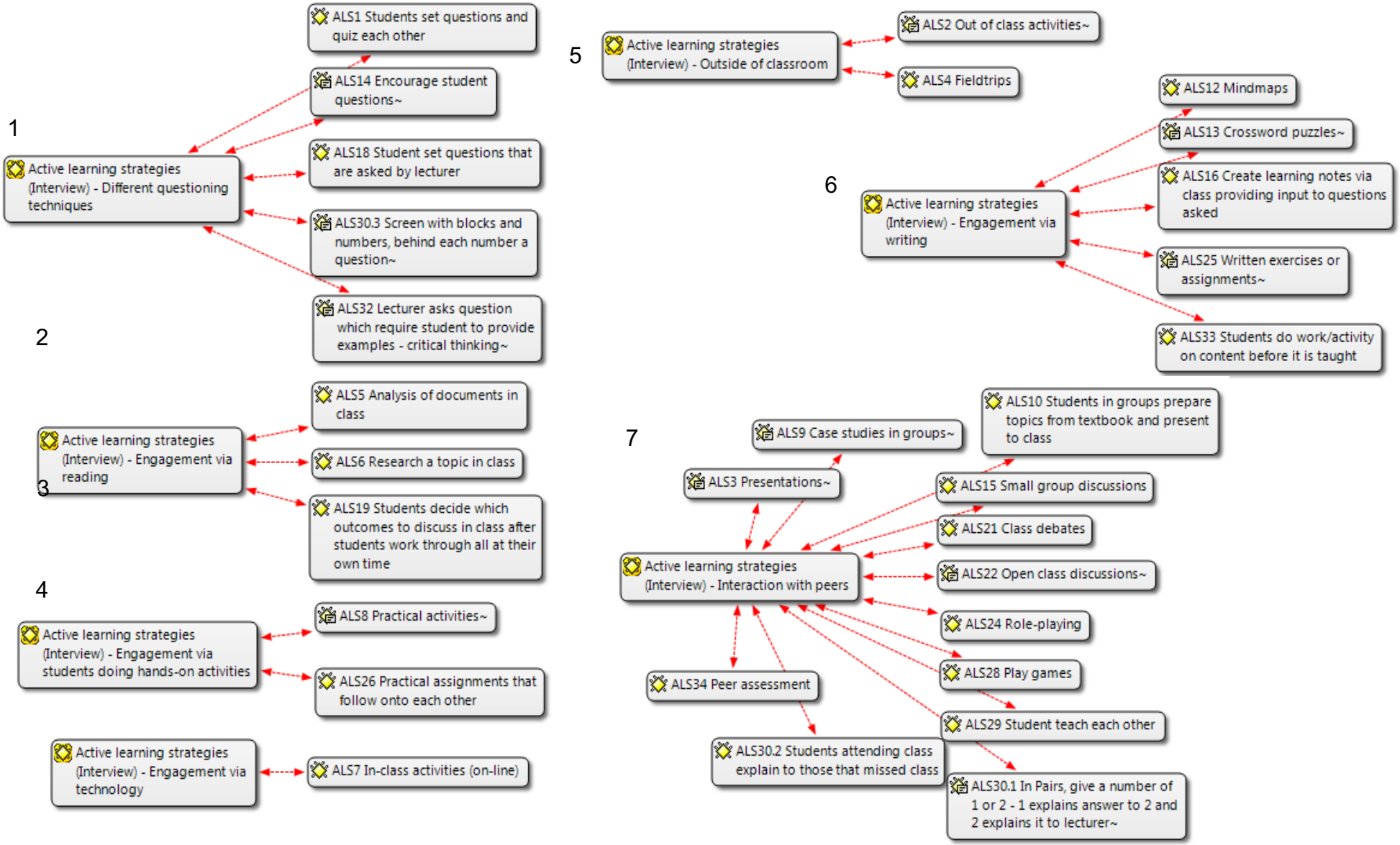


**Figure 4.6: Schematic diagram showing the seven groups of codes linked to the sub-theme Active Learning strategies (interviews) linked to the theme Facilitation**

## 4.6 INTERVIEW AND DOCUMENT ANALYSIS DATA

This section presents and discusses the results obtained in this study from the screening questionnaire, background questionnaire and interview transcript data. It happened that during the interviews I asked participants to elaborate on the answers that they gave in the background questionnaires to understand the thinking behind their answers and to ensure that I understood exactly what they meant.

### 4.6.1 Theme 1: Facilitation

One sub-theme Strategies (See 4.6.1.1) was identified that describe how lecturers use Active Learning in their classrooms. Five sub-themes (4.6.1.2 – 4.6.1.6) addressing additional information emerged from the data that helped to understand why lecturers use these specific Active Learning strategies.

#### 4.6.1.1 Sub-theme 1: Strategies

Participants were questioned on how they facilitated Active Learning in their classes and seven groups of codes portraying the strategies used by lectures were found. These groups of codes were created based on the well-known VARK (Visual, Aural, Read/write, and Kinaesthetic sensory modalities) inventory (Fleming, 1995). As most individuals would only fall in one of the modes discussed the inventory also caters for multimodal students who would have preferences in more than one of the modes listed. There are two types of multimodal students: Type I multimode students are context specific. They choose a single mode to suit the occasion or situation. If they have to deal with legalities they will apply their read/write preference. If they are to watch the demonstration of a technique they will be expressing their kinaesthetic preference. Type II multimode students are not satisfied until they have had input (or output) in all of their preferred modes. This means that they need to first learn in all of their preferred modes before acting. They are considered as slower learners but they often have a deeper and broader understanding (VARK learn limited, 2017). This inventory has been used across several disciplines in higher education (Anjali & Ratnakar, 2014; McKean, Brogan & Wrench, 2009; Peyman, Sadeghifar, Khajavikhan, Yasemi, Rasool, Yaghoubi, Nahal & Karim, 2014; Urval, Kamath, Ullal, Shenoy, Shenoy & Udupa, 2014; Wright & Stokes, 2015).

As will be seen in the next section (4.6.1.2) participants linked Active Learning to the ability of a lecturer to cater for students' different learning preferences. This inventory was thus used to categorise the different strategies used in the class in relation to the learning preference types provided by the VARK inventory. I also considered what has already been mentioned by Bonwell and Eison (1991) that Active Learning is more than just listening; students should read, write, discuss or be engaged in problem-solving.

Figure 4.7 summarises the alignment between the VARK modes of learning and that found within this study. What was found was that some of the Active Learning strategies such as engagement via reading and writing, interaction with peers and engagement of students via hands-on activities tend to be single mode learning the majority of the time. Although it has to be said that even these strategies can cater for other modes too. Strategies such as the use of technology, questioning techniques and out of class activities were designed to provide preference for any of the modes thus being multimodal. An example would be of a lecturer audibly providing a question and a student answering it aurally (aural/auditory mode) or the lecturer distributing worksheets which would ask of students to read questions and write down answers (read/write mode). This can furthermore be enhanced as a bimodal learning exercise by asking students to discuss answers with peers (aural/auditory) thus combining reading and writing with aural and auditory preferences. Interestingly I did not find any strategy that would only address the visual learners, but rather found that strategies classified as multimodal could be adapted to address visual learners too.

Ebeling (2000) proposes a four-step process to aid teachers in adapting their teaching style to increase the likelihood that more students will learn. He states that the more options a teacher has at his or her fingertips, the more likely it is that he or she will use those options to benefit the learners in the classroom. Lisa supported this when she said:

> *You need to firstly know who your students are and what distribution of learning styles you're looking at. You need to have the ability to have, if I can call it a library of activities available, to be able to adapt every year the module that you're lecturing according to the students that you're looking at, you're working with* (Interview transcript p. 10).

The importance with any activity planned is that it should be adaptable depending on what a lecturer is seeing in the class room. Active Learning activities should be designed and implemented by the lecturer (Kane, 2004). It should however be mentioned that according to Keng Sheng (2016) the onus should rather be on the student to adjust the amount of learning efforts they put in according to their preferred or not preferred learning styles. This is due to the fact that in some instances due to the content of a module certain learning preferences would be more popular for example a doctor having to operate on a patient (kinaesthetic learning) as this is a skill required versus a doctor only reading and writing about how a patient should be operated. This flexibility in using different learning styles to acquire knowledge and learn new skills would be a characteristic of active learners. Indeed as referred to, already active learners learn to understand their own learning styles (Douglass & Morris, 2014). It is therefore up to lecturers to enlighten them about the different learning preferences so that students are aware of it (Keng Sheng, 2016) – helping them to understand their own learning ability and adapting it where necessary (Zimmerman, 2002).

Table 4.3 provides a code group frequency table derived from Atlas ti v. 7 per participant for sub-theme strategies. These would be the strategies that were collected from document but primarily interview data.

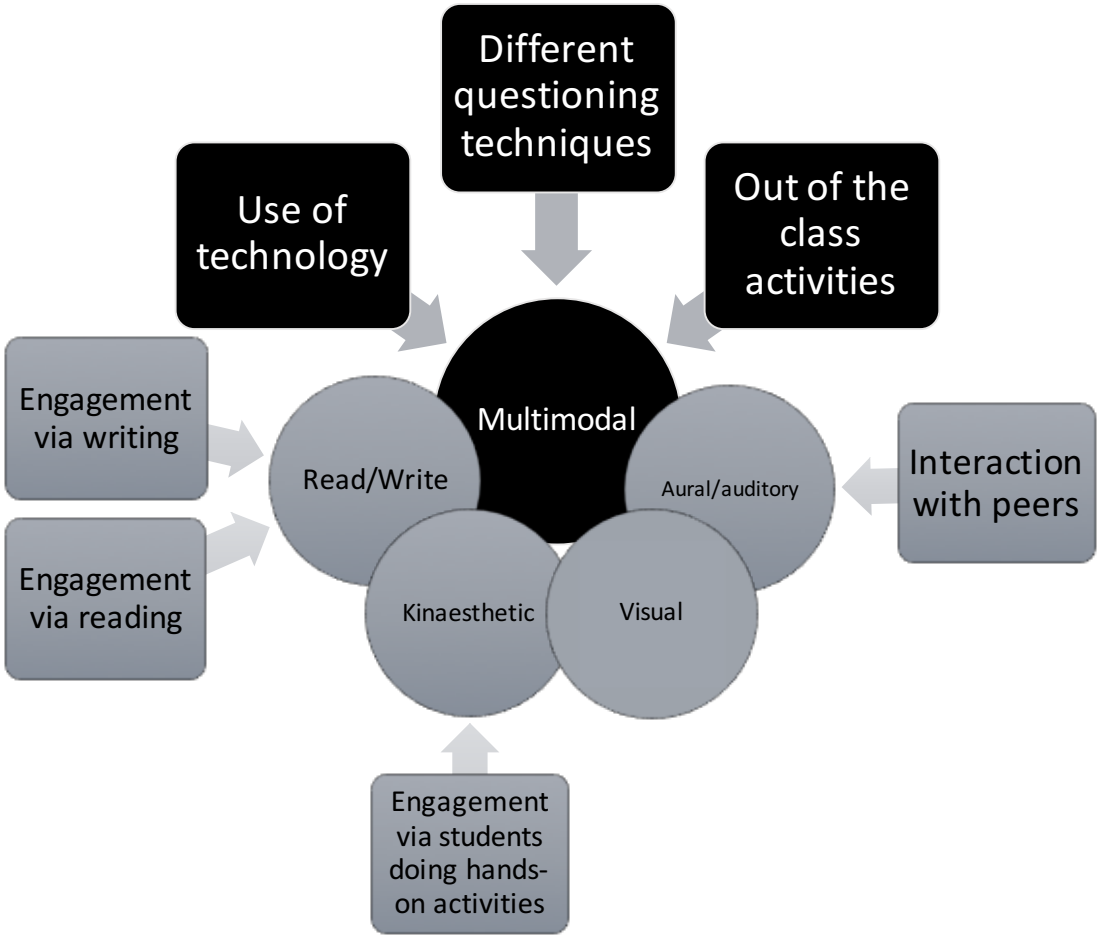


**Figure 4.7: Schematic diagram showing the relationship between the learning preference modes as provided by the VARK model (circles) with the Active Learning strategies identified from this study (blocks)**

**Table 4.3: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme strategies**

| Pseudonyms | Different questioning techniques | Engagement via reading | Engagement via students doing hands-on activities | Engagement via technology | Engagement via writing | Interaction with peers | Outside of classroom | Frequency of contribution per participant |
|---|---|---|---|---|---|---|---|---|
| Anne | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 4 |
| Bo | 0 | 0 | 2 | 0 | 0 | 4 | 0 | 6 |
| Chrizelle | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |
| Daren | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 5 |
| David | 0 | 0 | 9 | 0 | 0 | 5 | 0 | 14 |
| George | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 5 |
| Heleen | 2 | 1 | 3 | 1 | 0 | 4 | 4 | 15 |
| Hope | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 4 |
| Lisa | 1 | 0 | 0 | 1 | 3 | 2 | 0 | 7 |
| Lucy | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 5 |
| Melissa | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 3 |
| Frequency of codes per sub-theme | 6 | 2 | 19 | 2 | 3 | 38 | 5 | 75 |
| # Participants | 5 | 2 | 8 | 2 | 1 | 11 | 2 | |

- *Interaction with peers*

Interaction with peers was by far the strongest tool used by lecturers to facilitate participation and allow students to learn. All the participants referred to activities where students in some way had to interact with other students. This interaction could simply refer to engaging with peers within the bigger classroom (i.e. student speaks to the whole class by using a presentation, open class discussions, class debates or the student could also participate in a game that involves the whole class) or the lecturer can facilitate students to work in smaller groups (i.e. group discussions that can also use case studies or textbook content).

Three participants made reference during their interviews to how they expect their students to perform presentations in class:

> *They do the presentations so I want to see what is their understanding of the topics which they will share with one another so it is almost like they become the lecturers* (Heleen, Interview transcript p. 11).

> *So what basically happens is that I give them the same learning objectives and learning opportunities at the beginning, they come into class and they must teach me. Must come into class and teach me so they can decide if it's going to be taught as questions or they are going to do presentations, but every week we know what our structured learning objectives are* (Hope, Interview transcript p. 16).

> *For example, you can actually divide a chapter into sub-chapters and then each group focuses on those sub-chapters and now they come back, they maybe do presentations or they do some explanations that they have to do in front of the class* (Daren, Interview transcript p. 15).

Two participants made reference during their interviews to class debates:

> *We had class debates where I divided them even in that massive group. So, for the ethical scenario we used for that class debate was, I told them about surrogacy* (Hope, Interview transcript p. 23).

> *I like them to get, to get them talking. To get them talking about debating between each other if this one says okay this is how they feel I am always looking for someone in the class that feels a different way* (Chrizelle, Interview transcript p. 10).

Two participants shared about open class discussions where students can learn from their peers:

> *I like to get them talking in class because it feels for me and I can see it in their tests most of the time the things we talked about easily and when we do not have text books in front of us or etcetera, they do better in tests because I think it is…they remember it easily. Yes. So I think that is the way I am approaching it* (Chrizelle, Interview transcript pp. 10 - 11).

David referred to Active Learning as being manifested in "open discussions in the classroom" (Background questionnaire p. 2). The use of classroom discussions can make students more active participants of the teaching and learning process by stimulating imaginative and conceptual thinking that can sharpen their logical reasoning (Omatseye, 2007).

Three participants referred to having students play games during their interviews:

> …*might give them an activity where they can play a game where they have to play a role. So when they play that game they can actually improve and understand certain concepts* (Daren, Interview transcript p. 16).

> *When I created that game for them as well where I got them to compete with each other and then, because most of them wear blue, there was the odd yellow, green, red, I put them into the groups and that was also very interesting for me to see the different dynamics of how that all came about but the competitions, the games, getting them to teach each other, those were great things* (Bo, Interview transcript p. 16).

> You know, so we, I come up with things like that. I'm just remembering now in L16 we did thirty seconds as well. You know the game thirty seconds? I almost lost all my fingers that time. So I had them in groups so they had thirty seconds to put up their hand and after thirty seconds I would stop them. They loved that. That was also my hundred and thirty that in group. So that was an interactive game as well (Lucy, Interview transcript p. 17).

Roleplaying was another activity that was mentioned by three participants. Role-play could involve the whole class:

As Chrizelle shared by way of an example:

> I mean you can get them to actually be the lawyers to get a judge to do a whole I do not know what the English word for…mock court I think. Moot court, mock court something like that (Interview transcript p. 14).

Role-play could also be done in smaller groups:

> …*sort of group work but one-on-one then throwing them into a different group and also disconnecting the way that they thought about history, making them turn it into stories where they would actually tell one group this story how they imagined it, putting on dramatic plays, dressing up, creating things especially as graphic designers* (Bo, Interview transcript pp. 15 - 16*).*

Role-play can be a successful active learning strategy to use in the class if students are allowed to be prepared up front; they require some knowledge to be able to participate effectively (Stevens, 2015).

Moving to interaction with peer strategies that are done primarily in small groups, reference is made to group discussions that could also use case studies or textbook content. Participants commented in their interviews:

> *We could do a group discussion, maybe we just gonna analyse case studies, to make sure that it matches the theoretical stuff that we've taught, which is in the book* (David, Interview transcript p. 19).

> *I take a Chapter. Break it up into different sections and then students, each group gets a section which they need to prepare and then come and teach the rest of the class on whatever that specific area or piece of theory means. And that must tie in with the outcomes as well* (Melissa, Interview transcript p. 4b).

> *I would try and have the ones that understand try and teach those that are not understanding and I have noticed that when students teach each other they also learn to remember what they did in class* (George, Interview transcript p. 1b).

Although participants place emphasis on students needing to interact with one another, learning within groups only truly works when students work together as cooperative groups. Cooperative learning allows students to work together to maximise their own and each other's learning (Johnson & Johnson, 1999). In a study where student perceptions of group experiences were examined, three key characteristics critical to the success of groups were shown: structure of activities, relationships of group members and accountability of group members. Students favoured these group experiences more (Grant-Vallone, 2011). This suggests that group activities in class should be planned to ensure that students obtain value when participating in them.

- *Engagement via students doing hands-on activities*

Moving to the next code-group, eight participants referred to engaging students via hands-on activities. This would primarily include activities that practise what was learnt or provide opportunity for students to apply what was learnt. It did not necessarily only involve physical interaction with materials or objects.

> *Because the whole thing about journalism is news, news, news. So we first establish that, then we do the practicals. But it differs from one class to another.*

> *There are different aspects of news that we take in this class that we make sure that in this class there's a practical to run it off. We have to do practicals in each class* (David, Interview transcript p. 17).

Bo shared about a specific assignment students need to do:

> *…they have to design a tattoo for themselves but it all has to do with the theory and research of ink and how ink as this medium for creation can land up as ink in your skin* (Interview transcript p. 17a).

George explains how he teaches students computer skills:

> *…one thing that I do is I give students instructions what to do and or instructions as to how to solve a certain problem right and if I can see that they are still confused they don't understand what I'm actually saying then I demonstrate it on the PC then from there I would leave them to do it.* (Interview transcript p. 1b).

Practical work is a strong element in the information technology field as Daren added:

> *They have to do practicals. Give them a problem scenario different to what you gave them before. Now they have to apply what they now know and…and solve it. Like for example, creating a small programme that has to do a certain task so that's another one*. (Interview transcript p. 17).

Anne shared how she incorporates the activities that afford students to apply what was learnt in her classes:

> *So we go through that process and then I make them sit in small groups and I say to them, okay you're at Baragwanath Hospital, you have to construct an assessment to screen for post-traumatic stress disorder. You need to now, each come up with two questions and explain those questions and then I make them stand up and explain it to the class and why they did it and what, ya what kind of principals they used from the textbook and that. So I try in every class to give them some sort of activity to do* (Interview transcript p. 10).

Particularly Heleen would ask her students to apply knowledge they have learnt in class with regards to Marketing to see if they can analyse an advertisement:

> *They need to know: What are their objectives of advertising? Different types of appeals so we will look at advertisements and we analyse the advertisements* (Interview transcript p. 10).

Lucy explained how she expected students to sometimes do work on a topic even before she has taught it: "So there, sometimes we even have them do the work before I teach it "(Interview transcript p. 3).

David explained how he does practical activities that follow onto one another:

> *…like in my second year of the module its four major assignments, we've got individual and improved one. But one leads to the next, leads to the next, to*

> *the next. Like the first assignment is they have to write a general news story. That's a continuation of things they've learnt in first year…then because you've done an individual first assignment, you do group in the second one, then they will find they will resolve it they will write something there. Then they've done the personality profile… Then once you did from that is what you now turn to investigative reporter, which is your final assignment* (Interview transcript p. 7).

Interestingly none of the participants from the Science faculty referred to the laboratory sessions that is done as part of the curriculum, assuming that during the interview these participants only focused on their theory classes and not those allocated as laboratory sessions. This may also indicate a misunderstanding that active learning is primarily focused at classes that are theory based.

- *Different questioning techniques*

Five participants referred to different questioning techniques that were used. Not all questions can be considered as engaging the student. When a lecturer asks a question and it is not answered at all or answered by the lecturer, that is not considered as questioning that facilitated active learning (Eddy et al., 2015).

Participants referred to engaging students in setting questions that then is used to quiz each other or then used by the lecturer to ask the class.

> *I divided them into groups and they had to formulate their own questions and then they quizzed each other* (Heleen, Interview transcript p. 7).

> *So they submit these questions and then for submitting the question they get incentivised and that means I will get to do more, they get marks for submitting the question. I throw the question to the class and then they answer those questions within their groups. They discuss the questions, they answer the questions. And it is for me the best way to teach them…* (Hope, Interview transcript p.11).

Encouraging questions from students can be considered as Active Learning if the lecturer facilitates the questioning and guides the class to try and answer it. A student asking a question out of his own accord is not seen as Active Learning (Eddy et al., 2015).

Lisa describes her questioning style as follows*:*

> *I encourage students' questions. So I'm really not afraid to stop and have a student ask me a random question, even if they think it's somehow related to the content that we're currently covering, I love that, I love that interactivity that students get with, I encourage that interactivity, and then I like to go off on tangents and I like to have a class discussion about it, so if a student says something and asks me a question, I don't want to give them a straight answer.*

> *I'll either ask that student again why are you asking that question or why do you think that question is relevant or what do you think, and the student would give a bit of an answer* (Interview transcript p. 11).

This probing of the students by not providing answers but asking more questions is also known as the Socrates questioning strategy. Gose (2009) provide his own interpretation of what Socrates questioning would entail, this includes: asking probing questions about what is being discussed, ask questions that require the student to expand about relationships among ideas, be the devil's advocate, spend time to maintain the group and its processes and take advantage of positions and roles taken on by others in the discussion. The context that underlies the questions is also important as it help students to think, especially allowing them to consider different approaches in answering the question (Widjaja, Dolk & Fauzan, 2010).

George shared how the type of questioning can force students to think critically*:*

> *I ask them to give me examples of what they are actually saying of the answers that they are giving me. I don't encourage them to give me scenarios or examples that are from the text book I need for them to think of scenarios that come up in their everyday lives because if they can come up with that scenario that means they actually understand what you are talking about* (Interview transcript p. 4c).

The way in which a lecturer poses a question can stimulate different levels of thinking, it can be lower-level questions which include factual questions or factual recall of information previously given by a lecturer or it can consist of higher-order questions that go beyond expecting a student to simply understand information, they must now be able to analyse and evaluate information (Zhao, Pandian & Singh, 2016).Questioning can also be done in the form of a game. Lucy uses Microsoft PowerPoint as a tool to engage students in answering questions:

> *I found a PowerPoint online, I'm sure you know it. It has four columns with numbers on it and you can click on the number and put a question in. So the columns would be ten marks, ten points, twenty, thirty, forty, and fifty. So I would put questions in for all the different modules and put them in groups. And then the group will choose a question they want to answer for twenty marks. And then you click and they have their question. And they would literally kill each other for those marks* (Interview transcript p. 7).

When using different questioning techniques it is important to consider that not only does questioning engage students but it can facilitate effective formative assessment. Duckor (2014) highlights seven essential moves to ensure effective formative assessment. These include: prime students first by explaining the purpose of the questions and what would be expected of the students; ask questions that size up the

context for learning, have purpose related to the lesson and relate to a larger essential question of your discipline; pause during questioning; probe student responses; redirect questions to the class; accept correct and incorrect answers to deal with misconceptions or misunderstandings and finally sorting student responses into categories such as correct answer or misconception. Questioning is a powerful strategy when used correctly to not only engage students, but to develop their critical thinking skills and allow the lecturer to gage their understanding.

- *Engagement via Reading*

Two participants shared how they engaged students in Active Learning by allowing them to read in the class. Students could be asked to read up on a topic during class:

> *I literally allow them the opportunity to first research in class so they will use their tablets. They will go and look for the information and they provide the feedback* (Heleen, Interview transcript p.11).

Students could also be asked to read before class:

> *So when the students come in we have the five minutes where they tell me Ma'am, we have read and these are the areas that are a problem* (Hope, Interview transcript p. 13).

- *Engagement via writing*

Only one participant engaged students by specifically asking them to write. Lisa explains how she facilitates students to draw mind maps or complete cross word puzzles:

> *I would tell the students to do mind maps, to help them to grasp the information* (Interview transcript p. 11).

> *I've had students do crossword puzzles to help them memorise side effects of drugs and link them to drugs. Also to help students with spelling because I've noticed that's the thing that's very dreadful, across the board* (Interview transcript p. 11).

She also shared how students in her classes need to write down answers to questions that are peer-assessed. These are then used as notes to the content that was discussed:

> *So I think how it's set up now students then prepare everything themselves, answer questions that are put in the learning opportunity and next to every question it says what the mark or the weight of that question is. So it gives the student some guidance as to how much writing am I meant to do…the answers that they write down then are peer reviewed. So they swap out with a friend, the friend reads through it and then together in the class I ask students, by*

> *name, what did your friend write, and then they answer and then I populate a sheet and the students raise their hands, Ma'am I don't agree with that statement, Ma'am isn't this also part of that and then we have a discussion on it and we populate this document together* (Interview transcript pp. 13-14).

- *Engagement via technology*

For an institute that strongly supports the use of technology in the classroom only two participants mentioned it. They however did not speak about students using applications on their tablet devices but rather referred to the on-line learning management system (LMS) which is Module-based that can be accessed by their students in or outside of the classroom from their tablet, laptop or cellular phone.
Heleen facilitates learning using the LMS in and outside of the classroom. In the class they can follow on links created to obtain information:

> *In class that is what I refer to. I have divided it into they have obviously online access to the links and everything where they will access information where for example like I said the car rental agency will look at the booking which we can do which is live. I will show them virtual tours of the airbus* (Interview transcript p.14).

Lisa uses the LMS as a content manager where she can share pictures with her students:

> *They're told to bring their tablets to class so that they can in class go through images that are loaded on e-portal for them that give you the different kinds of tissues and show you labelled, where this structure that they're referring to in the text book is.* (Interview transcript p.13).

There are various reasons why technology would be used in the classroom including enabling learning anytime-anywhere, cost reductions, more effective learning with personalised instructions and flexibility (Yusuf & Al-Banawi, 2013). Popular terminologies such as 'e-learning', 'learning technology' and 'computer-based learning' is better known today as Technology Enhanced Learning (TEL) (Bayne, 2015, p. 1). TEL would be where technology plays a significant supportive role in improving the quality and outcomes of learning (Goodyear & Retalis, 2010). When considering the term "enhancement", Kirkwood and Price (2014, p. 14) argue that this can be described in three different ways: (1) "operational improvement (e.g., providing greater flexibility for students; making resources more accessible)" (2) "quantitative change in learning (e.g., increased engagement or time-on task; students achieving improved test scores or assessment grades)" (3) "qualitative change in learning (e.g.,

promoting reflection on learning and practice; deeper engagement; richer understanding)".

According to Gregory and Lodge (2015) a range of activities can be involved in TEL including the use of a LMS, from individual activities that utilise a specific technology, to flexible course delivery with complete online course offerings through distance education and massive open online courses. This can be categorised as both hardware such as interactive whiteboards, handheld technologies and software including computer-supported collaborative learning systems, LMS, stimulation modelling tools, online repositories of learning content, educational games, web 2.0 social applications and 3D virtual reality (Goodyear & Retalis, 2010).

When using technology Glover, Hepplestone, Parkin, Rodger and Irwin (2016) argue that implementation of technology should follow the teaching practice of the lecturer and that technology should not decide the learning experience. This means that a lecturer first needs to decide what they want to achieve in a particular lesson and then decide whether technology could be used to improve the learning experience for the student. Not considering this can lead to what has been termed technology enhanced non-learning (Kinchin, 2012). The success of using technology to enhance learning has been shown in a technology enhanced, cooperative, group project which improved students' comprehension and academic performance (Tlhoaele, Suhre & Hofman, 2016). When using TEL students are empowered to embark on active and independent learning (Yusuf & Al-Banawi, 2013).

- *Outside the classroom*

Finally two participants referred to engaging students in activities outside of the classroom. This included a lecturer expecting students to do work before or after coming to class. It also referred to lecturers that could take their students on field trips.

> *I say to the students for more in depth knowledge information you have to go and study it or read it through on your own and they will do that and then sometimes I will have the quizzes and I will ask questions in class to see they actually do that and there I can pick up yes or no* (Heleen, Interview transcript p. 15).

> *If we don't get it done in the class I'll always give it to them to do afterwards* (Anne, Interview transcript p. 11).

> *I mean something else that we do as well is the field trips. This year we went on a Soweto tour, but yes, it is a fun day but also needs to be informative for the students so there is a questionnaire of certain questions I ask them so while we're on this field trip they need to find the answers to these questions so you will see that they will also work in groups together…* (Heleen, Interview transcript p. 10).

As already discussed, Heleen especially believes in Active Learning because it prepares students better for the learning process as well as enhances their academic performance. She facilitates this by using strategies that encourages learning to take place outside of the classroom.

To conclude, Active Learning strategies can include discussions, visual-based instruction that provides a focal point for other interactive activities, in-class writing, case studies, cooperative learning, debates, drama, role playing, simulation and peer teaching (Bonwell & Eison, 1991). From what was gathered from the interview data all the participants used some form of strategy that would be considered as an Active Learning strategy. The success in using these strategies is however unclear. It has been mentioned before that lecturers that have formal education research background have the necessary skills to facilitate Active Learning, for others it may look like Active Learning without any significant impact (Andrews et al., 2011).

#### 4.6.1.2 Sub-theme 2: Active Learning definition

As this study focuses on particularly how lecturers use Active Learning as a teaching strategy it was interesting to find out whether they understood what Active Learning was. I thus asked each participant to write down in the background questionnaire their own definition for Active Learning. I then asked participants to elaborate on their definition during their interviews. Based on the answers received I grouped their responses into six groups of codes as shown in Table 4.4.

- *Student participation and involvement*

The concept that was mentioned the most was that according to ten of the eleven participants, Active Learning involved student participation and involvement. Some comments were:

> *Active Learning involves participation from the students. It requires that the lecturer offers guidance but gives the learner room to discover knowledge for*

> *themselves. For me it is the only way that guarantees retention.* (Hope, Background questionnaire p.1).
>
> *To me Active Learning is when students are involved in the class activities, enough to even teach the lecturer a thing or two that he or she was not even aware that he or she didn't know. Having the students participate instead of talking them to sleep* (George, Background questionnaire p.1).
>
> *I believe Active Learning is the process whereby students are involved in learning and thus take an active role in their own education. Students get involved in the class room by having to do self-study and participate in the learning and teaching process* (Melissa, Background questionnaire p.1).

In an Active Learning environment students should participate or be involved. Active learners are self-motivated or self-directed (Roth, 1996) and when they express this they are proactive in class (attending class, taking good notes and actively participating in classes), proactive with other students (participate in student organizations, networking with other students and forming study groups), proactive outside of class (talking to professors to identify learning gaps and networking with people in the field), have good study habits (time management and building a routine to assess own learning) and understand their own learning styles (Douglass & Morris, 2014).

**Table 4.4: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme Active Learning definition**

| Pseudonyms | Guidance | Interaction | Self-discovery | Student-centred | Student participation and involvement | Using different activities/resources to accommodate different learning styles | Frequency of contribution per participant |
|---|---|---|---|---|---|---|---|
| Anne | 0 | 0 | 1 | 1 | 1 | 0 | 3 |
| Bo | 1 | 1 | 3 | 1 | 5 | 4 | 15 |
| Chrizelle | 0 | 0 | 0 | 1 | 1 | 3 | 5 |
| Daren | 3 | 2 | 2 | 1 | 0 | 2 | 10 |
| David | 5 | 1 | 7 | 1 | 1 | 0 | 15 |
| George | 1 | 0 | 2 | 1 | 2 | 0 | 6 |
| Heleen | 6 | 2 | 1 | 3 | 2 | 0 | 14 |
| Hope | 1 | 0 | 2 | 2 | 1 | 0 | 6 |
| Lisa | 3 | 0 | 1 | 1 | 1 | 1 | 7 |
| Lucy | 1 | 0 | 1 | 0 | 2 | 0 | 4 |
| Melissa | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| Frequency of codes per sub-theme | 21 | 6 | 20 | 12 | 20 | 10 | 89 |
| # Participants | 8 | 4 | 9 | 9 | 10 | 4 | |

- *Student-centered and Self-discovery*

Participants also placed emphasis on the concepts "student-centered" and "self-discovery".

> *Active Learning is me taking the back seat a bit and they are the ones, kind of, I do not want to say teaching but informing* (Heleen, Interview transcript p. 11).

> *To me it's still Active Learning that the student knows when to tell the lecturer I need help. It is part of him activating himself to want to work, absorb knowledge* (Hope, Interview transcript p. 13).

As Bo explained in her interview about what she does in class to promote Active Learning:

> *We told them that as designers the one thing is you must be very professional, you must set it up, we threw this document up there and said this is how you'll name it, boef, they did it, so they have become a lot more confident and a lot more mature without us actually doing a lot of work which is a shock but I think it makes sense when they are more responsible for their own learning, they tend to care a lot more and the briefs that they are doing are not boring, they are actually briefs that they can use for themselves* (p. 10).

Lisa wrote in her background questionnaire that Active Learning:

> *…moves away from students being told "what" they need to know, "when" and "why", and shifts the responsibility of learning to the student. The student now has to actively search for the answers, understand them, and offer solutions to problems with the lecturer taking the "back-seat" if it were…* (Background questionnaire p. 2).

The student-centered paradigm focuses on the students more than on the lecturers, more on learning instead of teaching, these classes are focused on critical thinking, Active Learning and real-world assignments (Wohlfarth et al., 2008). Inquiry-based learning underlines the role of students in taking responsibility to discover knowledge by themselves. Students should engage in the learning process as they seek to develop solutions to problems and tasks (Oliver, 2007).

- *Guidance*

The idea that lecturers should guide the student in the learning process and no longer "spoon-feed" a student was also well supported. Guidance was also interpreted as facilitation of learning.

> *The lecturer takes on the role of a facilitator by offering supervision, periodic guidance and hints to lead students to answers without giving answers. This leads students to grapple with information, and the grappling aids in self-discovery* (Lisa, Background questionnaire p.2).

Daren explained what he does in his classes:

> *When you come to the lecture the role that you now play, you now co-ordinate the activities that you're going to…that you're going to use, the activities that you're going to use for…for…for that day for Active Learning* (Interview transcript p.2 – 3).

Due to Lucy's background prior becoming a lecturer as facilitator in a private company where she had to train colleagues, she automatically started to incorporate facilitation in her classes:

> *Well, look, I've done a lot of facilitating, you've probably seen if you saw my CV, so the more I've done that, the more my role in class started to become more facilitating. So there will be aspects that are teaching and aspects that are facilitating. Meaning, trying to get them to think about something and to come up with solutions* (Interview transcript p. 3).

- *Using different activities/resources to accommodate different learning styles*

It was also interesting to see that at least four participants spoke about the different activities or resources that should be included in the curriculum for a class to be susceptible to Active Learning. It appears that students usually participate or engage in learning by participating in activities that they have to do. For example:

Chrizelle refers to Active Learning as:

> *I would define Active Learning as actively involving and encouraging the students in your teaching method by means of various activities such as individual and group activities, encouraging oral debates between the students and having the students presenting case studies to the other students. Basically teaching shouldn't involve a lecturer reading from a textbook to the students anymore* (Background questionnaire p. 2).

> *It is a process which involves helping students to acquire knowledge by themselves through practical assessments such as, open discussion in the classroom, positive feedback, role playing, written exercises and case studies to stimulate students to draw their own lessons from what is presented, rather than relying simply on textbooks to impart ideas* (David, Background questionnaire p. 2).

There is a strong element due to the student-centred approach of Active Learning that lecturers should create activities that enable students to learn according to their learning preference or learning style. This would be considered as an important consideration when defining Active Learning.

> *…the planning that you need to do Active Learning activities or plan Active Learning activities properly. You need to firstly know who your students are and what distribution of learning styles you're looking at. You need to have the ability to have, if I can call it a library of activities available, to be able to adapt every year the module that you're lecturing according to the students that you're looking at and that you're working with. Just to get the best experience for the*

> *student out of the module, so all very theoretical* (Lisa, Interview transcript p. 10).

According to Klement (2014) respect for students' individuality manifested by incorporating learning styles can significantly contribute to the increase in the efficiency in learning particularly as this awareness enables lecturers to create materials or activities within and outside the classroom that best fit the students. This is further supported by Keengwe et al. (2009) as mentioned before explaining that student learning is focused on three pedagogical areas: (a) Emphasis on a student's unique identity; (b) Fostering learning through Active Learning activities; and (c) Integrating technology into classroom instruction.

In catering for the unique identity of a student, learning preference inventories can be used to determine the best way for a student to learn (Prithishkumar & Michael, 2014). As pointed out in the previous section, one of the wel-known inventories used is the VARK inventory (Fleming, 1995) that categorise students as either visual, aural/auditory, read/write and kinaesthetic. Prithishkumar and Michael (2014) argue that awareness of these learning preferences necessitates a shift from the traditional large-group lecturer-centred teaching method to an interactive, small-group student-centred approach by incorporating various teaching-learning strategies.

- *Interaction*

The mentioning by four participants that Active Learning requires that students interact primarily with peers is also supported with what is seen as Active Learning. One of the three distinct dimensions of Active Learning as provided by Watkins et al. (2007) is that it is social and that it allows for active interaction with others on both a collaborative and resource driven basis.

Heleen told a story about one of her learning activities where she takes her students on a field trip:

> *This year we went on a Soweto tour, but yes, it is a fun day but also needs to be informative for the students so there is a questionnaire of certain questions I ask them so while we're on this field trip they need to find the answers to these questions so you will see that they will also work in groups together which for me is a form of interactive learning as well. So they actually do get the opportunity to learn a lot from each other*. (Interview transcript p. 10).

Daren spoke about how he believes Active Learning plays a part in his class:

> *You can actually divide a chapter into sub-chapters and then each group focuses on those sub-chapters and now they come back, they maybe they do presentations or they do some explanations that they have to do in front of the class. So by so doing now they are…they are all playing a role in…in…in their learning process* (Interview transcript p. 15).

It appears as if the participants in this study understood what Active Learning is. All the participants provided definitions that in part would explain Active Learning, showing also the fact that almost everyone knows that a student must participate or be involved in the process. Differences lie primarily in the detail of what or how Active Learning is seen whether the focus is on student-centred or on the guidance via the lecturer or what typically would be expected of a student-centred environment, which would include interaction, self-discovery and the use of different activities and resources.

#### 4.6.1.3 Sub-theme 3: Active learning motivation

According to the teaching and learning policy of Pearson Institute of Higher Education (PIHE), lecturers are advised to engage students and facilitate learning by acknowledging students as individuals with different learning styles (PIHE, 2014). One would thus assume that lecturers would be promoting Active Learning in their classes to adhere to this guideline. I did however ask lecturers to explain why they are using Active Learning in their classes and the results summarised in Table 4.5 clearly show that none of the lecturers are using Active Learning because they were told by the institution to use it.

##### *Students develop skills*

Six different groups of codes arose from the data with the groups of codes "students develop skills" and "supports learning of students" coded the most. Students according to ten of the participants develop skills that otherwise they would not have. The skills mentioned by participants include: Students develop self-confidence, they can apply knowledge, and they can solve problems and think critically. Students can work in a team and develop the necessary emotional intelligence to also communicate effectively.

Lisa expresses in her own words on the skills she believes are developed by Active Learning:

> *Teamwork is definitely one of them. Emotional intelligence is another one, understanding how to work with people, how to understand what people are telling you. Writing skills, communication skills, so a lot of soft skills that you don't think are necessary that you hope someone who's already second year level or third year level, undergraduate, would have mastered by now but I*

> *know from personal experience it's not there, and it's not possible and just getting that confidence to think independently I think* (Interview transcript p. 19).

Some of Lisa's sentiments are supported by a longitudinal study that explored the career pathways taken by undergraduates and their success in it. The skills identified as most useful were oral and written communication, team working, personal organization, self-motivation and subject knowledge. Areas recommended for curriculum development were subject-specific practical skills, information technology and additional support with careers advice and guidance (Shah, Pell & Brooke, 2004).

Melissa added the skills she believes is developed when using Active Learning*:*

> *Problem solving skills. Analysis skills. What is actually causing the problem? Being able to synthesize information in your head and put it into practical terms. So you have to have the theory. I mean there are reasons why we have the theory but you have to be able to put that over into market-related words and market-related plans and strategies* (Interview transcript p. 15b).

Heleen felt that her students could apply knowledge more effectively:

> *I definitely think with the Active Learning your application is much better. Skills for students to actually see, okay here is the theory I have learnt but you know that I can apply it which is very important, which sometimes if you just stand in front of the class and lecture you might find students are not really able to do that, okay, because they do not get the opportunity to maybe practice that as well* (Interview transcript p. 9).

Daren believes that students who actively learn also become more flexible in learning different learning skills:

> *But at the same time remember they say you are as strong as your weakest point. They might also develop their learning skills in those methods that they are not really comfortable with okay. So I think it's a good development process of learning* (Interview transcript p. 9).

**Table 4.5: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme Active Learning motivation**

| Pseudonyms | Inspired by a colleague | Own experience as student | Students are prepared for the workplace | Students develop skills | Students enjoy classes | Students engage during class | Supports learning of students | Frequency of contribution per participant |
|---|---|---|---|---|---|---|---|---|
| Anne | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 6 |
| Bo | 0 | 0 | 5 | 2 | 0 | 1 | 0 | 8 |
| Chrizelle | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 6 |
| Daren | 0 | 0 | 0 | 5 | 0 | 0 | 3 | 8 |
| David | 0 | 0 | 2 | 6 | 1 | 0 | 3 | 12 |
| George | 0 | 1 | 2 | 4 | 2 | 1 | 4 | 14 |
| Heleen | 2 | 6 | 8 | 4 | 3 | 2 | 10 | 35 |
| Hope | 0 | 2 | 2 | 1 | 2 | 0 | 9 | 16 |
| Lisa | 0 | 0 | 0 | 10 | 4 | 3 | 10 | 27 |
| Lucy | 0 | 0 | 2 | 8 | 3 | 1 | 3 | 17 |
| Melissa | 0 | 0 | 6 | 4 | 0 | 0 | 5 | 15 |
| Frequency of codes per sub-theme | 2 | 11 | 30 | 46 | 15 | 8 | 52 | 164 |
| # Participants | 1 | 4 | 9 | 10 | 6 | 5 | 10 | |

- *Supports learning of students*

Ten participants also contributed data that illustrate that active learning supports the learning of students. Figure 4.8 shows a schematic diagram showing the reasons provided by participants on why active learning supports the learning of students.

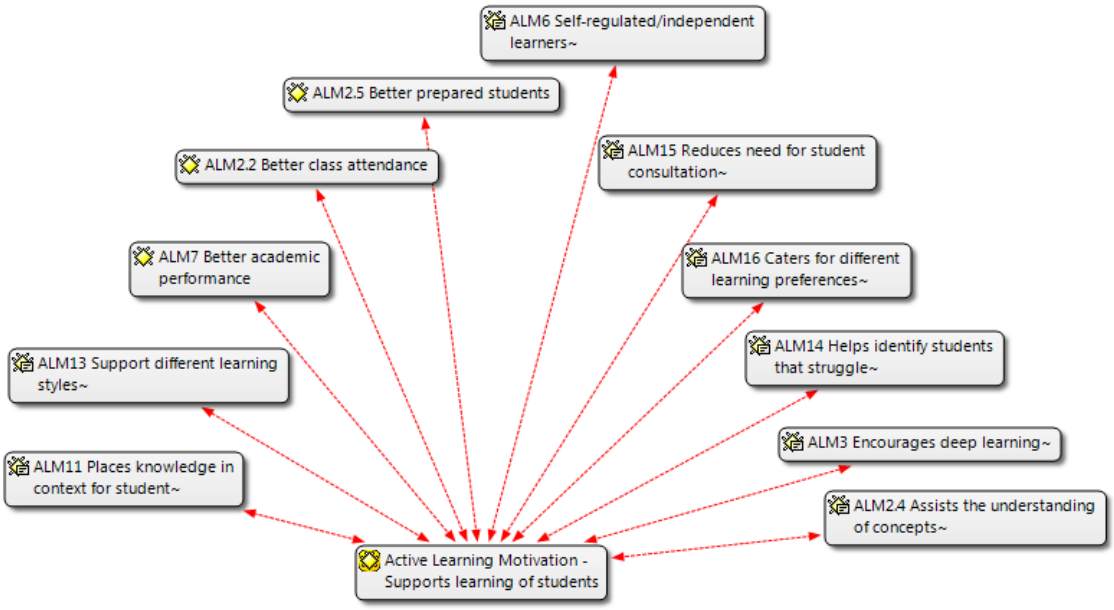


**Figure 4.8: Network view derived from Atlas Ti v.7 showing the reasons provided by participants on why they believe Active Learning supports the learning of students**

Six participants referred to Active Learning promoting deep learning.

> *Active learning cultivates a deeper level of understanding* (Heleen, Background questionnaire p. 2).

> *Active Learning is a mode to get to deeper learning* (Lisa, Interview transcript p. 8).

Hope explained what she perceives to be deep learning*:*

> *Retention for me is the ability to take what you have here and in the next two to three years you are still able to remember that which is important in the field you have found yourself and you* (Interview transcript p. 19).

It appears as if Hope wants to stimulate a deeper learning, she wants her students to remember in the long term so that they are better prepared for the real world. As explained by Cooperstein and Kocevar-Weidinger (2004) students need time to reflect on what they have discovered, moving information acquired from the working (short-

term) memory to the long-term memory where it will stay forever. You would not want your student to superficially retain material only for examinations; you would rather want to promote understanding and long-term retention. This is considered deep learning (Biggs, 1987; Entwisle, 1981; Sims, 2006). The implementation of Active Learning strategies such as group learning in an introductory undergraduate course, showed deep learning in students across topics. It allowed students to develop the ability to have discourse in a particular topic, which enabled them to score significantly higher in more demanding open-ended questions. The authors contributed this success to sufficient deep learning (Tsaushu, Tal, Sagy, Kali, Gepstein & Zilberstein, 2012).

Anne made it clear when she said:

> *They're going to learn the material better because they are making sense of it and they're not cramming it for a test, they are learning it for, for their careers and for themselves* (Interview transcript p. 19).

Interesting that Ip (2003) refers to deep learning as where the motivation for learning comes from. Does it come from the inside? Is the student self-motivated to learn? Clearly Anne said that Active Learning enhances deep learning where they can retain information and use it for their careers and for themselves. They are no longer doing it for someone else.

Five participants referred to Active Learning helping students to understand concepts.

What Heleen believes is that:

> *So it is more actively participating and I think when they do that the more they read, the more they research, the more examples they are exposed to, the more examples they discuss with their friends. Suddenly there the light goes on, ah ha okay now I understand it* (Interview transcript p. 8).

Heleen explained how she perceived students understanding concepts better because of using Active Learning in her classes:

> *It is good to see and when they start explaining no but that answer is not correct because of this, I can really see okay you have grasped the content* (Interview transcript p. 11).

Likewise George said*:*

> *I need them to have their own understanding of the topic because then I believe, they are not parrots you don't want them to produce the text book* (Interview transcript p. 4c).

As Hope puts it:

> *But it's not the marks I'm interested in, it is the fact that my students are able to decipher between what an ethical question is, what a self-absorbed question is, what a legal question is and that means they begin to understand the concepts of ethics* (Interview transcript p. 23).

Four participants referred to Active Learning encouraging better class attendance.

Heleen explained what she saw: "next class you will see you have more students in class. It really affects your class attendance" (Interview transcript p. 22).

Hope added that: "I've also picked up that my, how would I put it? My attendance for the passive learning is sometimes sitting between sixty and seventy percent but I have one hundred percent attendance for the Active Learning" (Interview transcript p. 14). Likewise Lucy felt that using Active Learning methodologies in her classes made students come to class. As she simply puts it: "They come" (Interview transcript p. 4).

Lisa ventured to try and explain why she had more students attending her classes that had Active Learning components:

> *A number of students who were absent for previous classes (in which I lecture and ask a number of spot questions) were now present in these classes. These students have a different learning style most likely- and prefer the relaxed environment created by this activity, and the opportunity to learn in this manner (Email correspondence).*

This is supported by Revell and Wainwright (2009, p. 1) who found based on lecturer and student perceptions that the following three factors make lectures 'unmissable': "(i) a high degree of participation and interactivity ('Active Learning')", (ii) "a clear structure which enables integrative links to be more easily made", and (iii) "a passionate, enthusiastic lecturer, who can bring a subject to life for students." Four participants explained how Active Learning promoted self-regulated learning. They felt that using Active Learning made students independent and thus more successful in their studies.

As it has been pointed out, Active Learning encourages students to take responsibility for what they learn (Kane, 2004). Effective self-regulation particularly depends on students performing assignments that enhance their self-efficacy and motivation (Schunk, 1996). This is furthermore underlined by Alderman and MacDonald (2015)

that found that when students participate in Active Learning it requires higher levels of self-direction and self-discipline on the student's behalf. It is especially this self-direction and self-discipline that is supported by some of the participants.

Lisa highlights this idea of students being self-directed or self-regulated:

> *Where you're forcing a student to be independent of you and to figure out a problem just with some guidance but not with answers. If you give someone an answer all they will know is the answer. It's like giving someone a fish, all they will know is I've got a fish, I can eat it now. What happens tomorrow? How am I going to get my fish tomorrow?* (Interview transcript p. 18).

Lisa furthermore added that using Active Learning in her classroom*:*

> *It also gave students the opportunity to take charge of their own learning. For independent learners this is optimal as they can learn and assist others, for others they could ask for assistance in turn where they could not complete a question on their own* (Email correspondence).

George explained that:

> *…they should be able to solve problems on their own they shouldn't be dependent on someone else to come and help them right….. I try my level best to make sure that they know that they have to find solutions on their own instead of expecting someone to come along and help them find a solution* (Interview transcript p. 4b).

Anne was adamant that it was not her problem if students did not want to do the work, but she explained to them that it is their choice in why they are studying towards a particular degree and they need to own up to it.

As Anne explained to me*:*

> *…I really require them to think about the choice that they've made and to hold on to that choice and to own that choice because I didn't make them come there… So first they have to acknowledge the choice in them being there. And then I say to them and I keep this throughout, if they didn't do the work that's really not my problem it's really their problem and it is their problem* (Interview transcript p. 9).

Anne does however admit that she wants the students to do the work so she engages them with activities: *"*So I try in every class to give them some sort of activity to do" (Interview transcript pp. 10 - 11).

David was the only participant that mentioned that he believed Active Learning reduced the need for student consultation. This could contribute to the finding already discussed that students take responsibility for his or her own learning which means

less dependence on the lecturer. Students now rather solve problems between themselves.

Heleen was also the only participant that mentioned that she believed that Active Learning prepared students better for the learning process while also enhancing their academic performance. This is typically indicative of how Heleen facilitates Active Learning as she requires her students from time to time to do research before class and complete quizzes on-line. This makes them better prepared for the class, which enriches the learning environment. This she believed also assisted in enhancing their academic performance:

> *They could complete the activities, we could download their scores so they could see their progress and through doing that even the examples they brought to class or they will start sharing, Ma'am did you hear about this it happened in the news. This fits in here with what we have discussed. So they made those links through the Active Learning and then just participating so there was definitely this year I could see the pass rate was much better than the previous year, but that also largely depends on your calibre of student. I realise that as well* (Interview transcript p. 8 – 9).

It seems that Heleen does not stand on her own as others have also reported that facilitating students to prepare before class by particularly doing activities on-line enhanced student performance. As mentioned before this is typical for what is considered as a flipped classroom (Bergmann & Sams, 2012). In one study student performance in the exam significantly improved with 12% in the flipped-format course (Gross, Pietri, Anderson, Moyano-Camihort & Graham, 2015). Furthermore Tune, Sturek and Basile (2013) showed that their students performed better in the sections in the exam that required students to watch pre-recorded lectures at home and complete worksheets during class that contributed to their year mark. There is however also evidence of the flipped classroom model increasing engagement and communication, improvement in the quality of instruction but no significant changes in terms of academic performance (Clark, 2015).

- *Students are prepared for the workplace*

Another well supported concept addressed by participants on why they believe Active Learning should be used in their classroom is the ability of active learners do be better prepared for the workplace. PIHE places emphasis on the fact that their aim is to

produce real-world ready students (PIHE, 2016a). It is important to note that I have already discussed skills that are developed by using Active Learning, but this was in context with skills that would make the student perform better. This section is about skills lecturers believe are developed by using Active Learning strategies that are required in the workplace. There was no specific skill that most of the participants recalled but four participants spoke about the workplace that would require students to apply knowledge to solve problems. They believe that using Active Learning in their classes would allow students to do this after they graduate.

> *If I sit in the workplace and I am in whatever meeting. I mean you are not going to start as the CEO of a company, but you sit in a meeting and you have to give a contribution as someone that has a degree to a strategic problem, marketing problem, whatever kind of problem you know how to take the theory you have learnt and apply it to this problem without having to give a theoretically-based answer which in my opinion is what Active Learning does. Whereas if you are lecture-based it is okay this is four pieces of marking now you have to go and sit and…you cannot end up in a meeting and say okay the four pieces of marketing set is now this. People will laugh at you. So you need to know how to have that knowledge in your head but use it effectively in the workplace without regurgitating theory* (Melissa, Interview transcript p. 9).

Hope referred to a discussion she had with one of her students:

> *Well the bottom line is a student was telling me, I was expecting questions that you would ask us to list the names of the colourants, I said why would I ask you such a stupid question, why would I ask you to list colourants, if you are working in a factory they will give you a book containing all the colours, who needs that? First the manager of the factory would want to know do you know the difference between an artificial colour and a colour that is natural. Do you know how to tell the difference apart? I said so that's the kind of question I would ask* (Interview transcript p. 18).

Hope further elaborated on how she explains to her students about why she assesses them the way she does*:*

> *I'm not teaching you theory, I'm teaching you the application so I would not ask you to draw a cycle, I would ask you if I need this enzyme within the cycle how do I obtain it? And I have seen that my students actually understand that and that's the retention because that's what they need in the real world* (Interview transcript p. 19).

As has been pointed out employers need skills which include learning, reasoning, communicating, general problem-solving skills and behavioural skills (Carnevale & Smith, 2013). This is further supported by the well-known partnership for 21st century skills (Trilling & Fadel, 2009). This was developed to define and illustrate the skills and knowledge students would need to succeed in work, life and citizenship, including the support systems necessary for 21st century outcomes . In particular when it comes

to the skills required for life and career, the following skills are mentioned by the partnership: Flexibility and adaptability, initiative and self direction, social and cross-cultural skills, productivity and accountability, leadership and responsibility. It seems that students should be able to apply knowledge obtained during their studies when they enter employment. According to Peters and Beeson (2010) the gap between skills sought by employers and skills developed by education can be reduced by Active Learning strategies in the classroom.

Three participants referred to Active Learning strategies making students more confident. They are simply better equipped also to cope with the work-load and work stress.

> I *think it (using Active Learning) makes them more confident individuals and those are important characteristics when you start working* (Heleen, Interview transcript p. 16).

Bo explained why she is using Active Learning*:*

> *In reality they cannot learn how to be their own designer from emulating us – they need to find their inner designer and embrace it to become confident and successful in their chosen career* (Interview transcript p.10).

With regards to enabling students to cope better Melissa stated*:*

> *Are you going to put up hand and say I'm sorry Mr Boss man this is too much work for me. No, so I think there is a lot of extra things that come with Active Learning Coping mechanisms* (Interview transcript p.15b).

Bo also reinforced this idea by explaining:

> *That is what I like about Active Learning is that it sort of emulates the real world, you are put into situations where you work in groups, you are put with people that you don't necessarily like, you have to do tasks that you are uncomfortable with, you will at any given point not just do one thing but you will have to do fifteen things at the same time and you manage to do that because you are currently doing it as well, so yes, I like the idea of these types of learning abilities* (Interview transcript p.21).

It is not strange that two participants also referred to students being more independent, while another two referred to that they are creative and innovative, that they can do the work that is required from them. None of these are new ideas and it appears that lecturers understand what the workplace requires and that they need Active Learning as a strategy to get students prepared.

- *Students enjoy classes and students become engaged in class*

Two other factors that contributed to why lecturers would want to use Active Learning strategies in their classroom include that students enjoy these classes and they become more engaged. Six participants referred to students enjoying their classes as motivation to use Active Learning strategies. As referred to in Chapter 2, the use of active learning strategies to improve the public face of the sociology discipline was reported by Killian and Bastas (2015). This made students want to continue with the subsequent year of study. Five participants referred to Active Learning engaging students in the class room. Heleen responded when asked why she uses Active Learning in the classroom: "Students find Active Learning engaging…" (Background questionnaire, p. 1).

Lisa shared why she believed she has seen improvement in student engagement:

> *…the more you engage with something the more you're interested in something, the more likely you are to do better, or remember things, and that's already been enough of a drive for me to not move away from Active Learning (Interview transcript, p. 16).*

It has been reported that students do become more engaged in the classroom and their personal learning excels when active learning strategies are used (Weasel & Finkel, 2016). The use of study periods and discussion groups (Active Learning strategies) instead of lecture classes had a positive impact on the motivation of students in a Biochemistry course. It became more important to learn than to simply obtain high grades (Cicuto & Torres, 2016).

- *Own experience as student*

The impact of experience as a student is also evident in that four participants referred to their own experience when they were still students where they were influenced by a lecturer to teach the way they do – the Active Learning way. There is not much known with regards to the role of past experiences in lecturers in using Active Learning, thus seeing that Hope, Anne, George and Heleen refer to their experiences as students when they studied, is interesting.

> *This seems the most natural way to lecture as it is the way I personally learn* (Anne, Background questionnaire p. 2).

This is why Anne supports Active Learning in her classes because it worked for her. She elaborated on why it worked:

> *And I had such a different approach when I started University to what I had in school and with that approach I suddenly started getting distinctions for everything which is like, was unheard of for me, I was happy when I got fifty, huge celebration. So I realised how much of a role I took and I realised how, when in the school system it wasn't expected of me… I was, it wasn't expected of me to participate.* (Interview transcript p. 7)

Heleen shared about what about her lecturer made her feel that using Active Learning is beneficial for student learning*:*

> *…her approach was totally different. She got you involved right from the start. You know, she was interested in what did you have to say. What is your opinion? You have to go and do research and give feedback on that and I enjoyed that because I learnt more from that. It was more valuable for me and I do believe definitely 100 percent that is why I am doing it today in my class* (Interview transcript p. 4).

Dolan, Waldron, Pike and Greenwood (2014) describe the role of past experiences for lecturers as students. They explain that even though lecturers as students might only have had negative experiences of textbook-based teaching and rote learning, it prompted them to consider practices as lecturers that promoted deep learning and facilitated the integration of the personal and professional dimensions of teaching. This happened as they realised that which did not work. It was however made clear that positive learning experiences or positive lecturer experiences had a significant impact on the students' well-being. This was also previously supported by Nespor (1987) as referenced by Addy et al. (2015) who noted that what lecturers believe are important in driving their teaching practice.

The positive impact of Active Learning in enhancing performance in students have already been mentioned, but here participants were referring to "I am doing it, because I believe in it, because it worked for me." I will discuss later that when it comes to evidence showing that Active Learning works, most participants did not have evidence, but they still used it because they believed in it.

As Anne eloquently answered when she was challenged with evidence that using Active Learning is working*:*

> *So I'm not, I'm not so sure and I, I, I think I'm continually searching for that and it's quite an interesting journey for me. But I think the thing that gives me, it keeps me going on this part is for me, I think this is a real philosophy on life for me…(*Interview transcript p. 14).

To conclude, the participants did not use Active Learning in their classes because they were told to do so by the institution, they were using it because they saw the positive impact it had on the learning of the students, in enhancing learning performance in the class but also preparing them for the workplace. Some participants also felt that they used Active Learning because it worked for them when they were still students – thus they believe that as it worked for them it should work for others too.

#### 4.6.1.4 Sub-theme 4: Factors that influence the use of Active Learning

Throughout the interviews it came apparent without having to specifically ask participants that there are factors that play a role on whether they decide to use Active Learning strategies in a particular class or with a particular student group also depending on the content taught. One would have thought that using active strategies in modules that are taught at other campuses would have a much bigger impact on these lecturers, but it does not seem to be the case. The Midrand campus of PIHE is considered as the main campus unofficially. This is because curriculum design is done by the lecturers teaching at this campus and content and assessments created by these lecturers are then shared with lecturers responsible for the same module at the other remote campuses. All the degrees are presented on remote campus sites (eleven campuses around South Africa) except degrees in the Science faculty.

- *Impact of remote sites on the use of Active learning in the classroom*

Only two lecturers both from the Law faculty mentioned that using Active Learning in their classes are influenced by the fact that the same class is presented on eleven other remote campus sites. PIHE has twelve campuses across South Africa of which the majority of curriculum and assessment development happens on the Midrand campus. The other eleven campuses that use the information from the Midrand campus is known as the remote campuses. The way in which Chrizelle explained it:

> *I think in a way it limits you almost because obviously when I was doing something with my class the rest of the campuses need to do it with them* (Interview transcript p. 26).

She elaborated how she shared the flash cards with the remote sites but that she did not receive any feedback from anyone using them, only at the end of the semester when it was too late.

When I asked Chrizelle whether this limitation would influence her decision on for argument sake whether she wanted to do a group discussion in a particular class she answered*:*

> *I do with my students – it does not sound good when I say this – but I do with them what I want. If I want to today just sit in class and debate with you over: Do you think this Act is fair or not? Then I do that* (Interview transcript p. 27)

It became clear that the challenge is not whether having a module taught on remote sites influencing what Chrizelle is doing in her class, but I rather detected the frustration of her having to work with other lecturers who seem not to be interested in the promotion of Active Learning strategies in the classes.

Chrizelle would like to include them and build a community that work together:

> *These are my ideas about maybe helping them to understand the work better. What are your ideas? You do not get responses from them. You do not get inputs about anything so it does not help to tell them I am having a group discussion because they are not going to do the same in most cases* (Interview transcript p. 27)

Lucy is in the same boat as she also shares all her content with the remote sites as well as activities that she does, but she does not explain to the lecturers how they should do the activity although she also would want to be able to collaborate more:

> *I cannot say anything to my students that I do not also share with the remotes. So I've literally been putting everything in PowerPoints and things like that and sending it to the lecturers and putting it on e-portal. Because, but I do sometimes, I get still slip-ups probably and, you know, forget this or that. But yes, it has an influence because what they get here, they have to get there… We've never talked about how they should facilitate* (Interview transcript p. 20).

As Lucy stated the concern really is ensuring that all students on all campuses receive the same quality of content and teaching. It looks like everyone is receiving the same content, but not the same quality of teaching. Just like Chrizelle it does not influence Lucy in deciding which Active Learning strategies she would want to use, but she is concerned about students on the other campuses not receiving the same quality of teaching.

This brings up the question whether different lecturers can reproduce Active Learning across different campuses in the same module and at the moment the answer to this is negative. Active Learning as already been pointed out is all about the lecturer facilitating the students to achieve the outcomes (Paris & Combs, 2000) – to do this the lecturer needs to adapt all the time to include the unique identity of the student (Keengwe et al., 2009) and it is because of this unique combination of students that

each class could be different. This flexibility by default which is given as a strength could become a problem when the use of Active Learning strategies needs to be rolled out in the same module across different campuses. Here I believe focus should rather be given on whether outcomes are achieved and students have developed the necessary skills rather than on exactly which Active Learning strategy was used.

Five other participants did not feel that their own ability to use active learning was jeopardized due to their modules being presented on remote sites. As has already been clarified, the teaching of the same content across different campuses does not influence the decision a lecturer can make to use Active Learning strategies, but rather it is the assurance of the same quality of education that is questioned which would manifest itself in inadequate skill development and not being ready for the workplace. This problem of reproducing Active Learning strategies was addressed by Estévez-Ayres, Alario-Hoyos, Pérez-Sanagustín, Pardo, Crespo-García, Leony, Parada and Delgado-Kloos (2015) where they wanted to use Active Learning in engineering courses that had at least nine different lecturers involved. They reported that feedback from students and lecturers and decision-making processes at selected milestones was implemented. This solution is dependent on timeous communication to detect problems to react. When considered with the findings of this study the lack of communication or unwillingness of lecturers to participate poses a huge stumbling block when it comes to enabling Active Learning strategies being used by various lecturers teaching the same module.

There is however a gap in knowledge when it comes to how successful achievement of outcomes and development of skills facilitated by Active Learning strategies can be reproduced or duplicated effectively in different lecturers.

- *Impact of year taught*

According to Table 4.6 seven participants referred to their Active Learning strategies differing due to the year of student taught. There is a general consensus that the quantity of Active Learning per year gradually increases between first to second year and from second to third year of study. This gradual increase goes hand in hand with the perception that the ability of students to apply their knowledge should also develop.

> *In my opinion third year students, next year they can go into a company and they are going to sit in a strategic marketing meeting and they need to come up with a proper "I do not want to sound like an idiot" idea. So they must be able to take information that I give them, market the information and provide something workable from that. You know if we see this is the brand, these are the competitors, this is what is happening in the market, what is your strategy going forward? So from a third year I expect, make your company work. First years I kind of try and make it more…be able to identify elements from theory within real-life situations* (Melissa, Interview transcript p. 5b).

Hope provided the following analysis:

> *I can still categorise the students after a year into first years, second years and third years. Now with the first years as much as possible I carry out still the old fashioned passive learning wherein I impart the knowledge and the only way I actually want to see if they actively understand is by giving them a lot of assessments wherein I want to see, do you understand what I have just said. With the second years I believe that it should be a balance between Active Learning and Passive Learning so how do I do this with my second year students…with my third years I literally become the mother who is preparing to let her children go* (Interview transcript p. 9)

Daren suggested: "I think it's best to use it more as you advance like third year you use it more compared to second year and the same applies to second years and first years" (Interview transcript p. 20).

- *Impact of module taught*

It was made clear that the use of Active Learning was dependent on the type of module taught. Some modules are more prone to naturally facilitate Active Learning, especially the modules that are application based versus the modules that are typically more theory based.

> *What I have realised with research methodology because it is such a practical module is that it is also easier to do Active Learning because it is very practical and the work is based on case studies all the time so it is easy to employ that kind of a strategy* (Melissa, Interview transcript p. 6b).

> *I mean you can get them to actually be the lawyers to get a judge to do a whole I do not know what the English word for…mock court I think. Moot court, mock court something like that. You can get them to do that so I think there are*

*Modules that can easily or more easily adapt to Active Learning but then there are Modules that can…you can be worse off. I mean the kind of stuff like foundations of South African law, those kind of things. There is not a way almost to incorporate Active Learning in it* (Chrizelle, Interview transcript p. 14).

David provided examples from his classes:

*So you use different (strategies), different, so in communications we do maybe, it depends on the topic. We could do a group discussion, maybe we just gonna analyse case studies, to make sure that it matches the theoretical stuff that we've taught, which is in the book. But in journalism it's not about just showing, they have to write. And they keep writing from the one, until when this class is over* (Interview transcript p. 19).

**Table 4.6: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme factors that influence the use of Active Learning**

| Pseudo-nyms | Active Learning strategies differ between levels taught | Active Learning strategies differ between modules | Active Learning strategies do not differ between modules | Class size does influence use of Active Learning strategies | Class size does not influence use of Active Learning strategies | Modules presented at remote sites do not influence the use of Active Learning strategies | Modules presented at remote sites influence use of Active Learning strategies | Student feedback would direct use of Active Learning | Work-load | Frequency of contribution per participant |
|---|---|---|---|---|---|---|---|---|---|---|
| Anne | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 6 |
| Bo | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Chrizelle | 0 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 6 |
| Daren | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 4 |
| David | 1 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 6 |
| George | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Heleen | 3 | 2 | 0 | 7 | 0 | 1 | 0 | 7 | 4 | 24 |
| Hope | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| Lisa | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 6 |
| Lucy | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 |
| Melissa | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| Frequency of codes per sub-theme | 14 | 12 | 2 | 17 | 1 | 5 | 2 | 8 | 5 | 65 |
| # Participants | 7 | 6 | 2 | 7 | 1 | 5 | 2 | 2 | 2 | |

- *Impact of class size*

With regards to class size, seven participants agreed that a larger class makes implementation of Active Learning more challenging, although they were sure that it still can be done if different Active Learning strategies are used.

> *I think the smaller the class it makes it easier okay but you can still make use of Active Learning for large groups. Maybe just in a different way* (Heleen, Interview transcript p. 19).

Smaller classes are preferred as Heleen explained*:*

> *I also let them do activities where they, you know, do the activity on the tablets and they email it directly to me as well so then I can actually see the individuals' participation. It works well in smaller groups I must honestly tell you with the first years because they were about 50 students, so that is maybe easier to manage than your second years which are 200* (Interview transcript p. 12).

One of the ways Heleen adapted to larger groups was the way in which she received feedback, so she used the same kind of activity but monitored student learning differently:

> *I did similar stuff, yes, and I would still walk in between the groups listening to what they have to say and what is their feedback. I think maybe just the feedback that they will provide will be different. It will not be necessarily in the form of a presentation because that can take up a lot of time* (Interview transcript p. 19).

Melissa supported this idea by saying: "So if you have a huge class there is a different strategy that you can use for if you have a class of five" (Interview transcript p. 12b).

Hope supported the idea that even though bigger classes are more challenging when using Active Learning strategies it is still achievable:

> *I think I've been blessed in the sense that my size, my class size is quite small, for food tech I have thirty, an average of forty students and for what… is it called… for industrial I have an average class size of also forty. But this year I attempted Active Learning with my first years and we were successful. It takes longer but it worked…(*Interview transcript p. 21).

Daren explained the dynamics of class size when planning group presentations by students: "The difference I think is...if you put them in…in…in groups to present, if it's a larger class it takes more time "(Interview transcript p. 20).

Anne shared how group discussion can get out of control in large classes*:*

> *…when I give them a group activity and there's a hundred and twenty students it's just not happening. Its chaos and they, especially when they all get kind of passionate about it and they all want to have their say and you have sort of forty students that want to talk at the same time and I find that quite challenging* (Interview transcript p. 12).

Anne has however embraced these larger groups even if she thinks it is not ideal:

> *I think it's less ideal and I think more students will be lost because they can, they can hide if that makes sense…but I think as much learning happens when students discuss things in a small group as when we're discussing them in a class, sometimes more* (Interview transcript p. 23).

According to Kirstein and Kunz (2015) it was found that student-centred teaching practices can be implemented successfully and that active student involvement, even in large classes, can be achieved and are therefore recommended. The two approaches used were presentations by the students and the simulation of a real-life audit environment.

Interestingly Lucy was the only participant quite outspoken about the bigger the class the better for her:

> *I don't care. Actually the bigger the better…I don't mind any class size. What I actually find, small is worse because if there's only a few students in class and you have an activity that involves groups, then you have a problem. Then you have to work in pairs or have to work individually and then the whole dynamic often is missing* (Interview transcript p. 16).

Once again it appears that module content or type of module would impact whether larger classes would be better or worse. In Lucy's case the more students the better. The best advice would be to adopt strategies that require a large group of students (Winstone & Millward, 2012) instead of focusing on having too many students. Here the use of research modelling, role-plays and problem-based learning required the whole class to participate as they played the role of research participants. This was then followed by formative assessments to allow students to measure their learning success. According to Goodman (2016) aspects of Active Learning or student-centered learning can be incorporated in both large and small classes even if the classroom design does not allow the flexibility to have students participate in groups.

One must however concede that the largest venue capacity at the PIHE Midrand campus is 120 students, thus what is considered maybe as large groups at this private institute would be considered as small classes in comparison to other main-stream public higher education institutes. This smaller class setup is marketed as an advantage to students studying at this institute (PIHE, 2016b).

The last two factors that were mentioned were two participants who mentioned that how their students responded did impact their decision making with regards to using Active Learning while two participants referred to their current work-load that would make them revert back to as perceived effortless lecturer based teaching or traditional teaching methodologies.

- *Impact of student response*

Heleen referred to a situation where she had first year students that wanted to participate more during classes which surprised her*:*

> *Sometimes the first years will surprise you and they will actually be Ma'am no but we want to do these presentations and I give them the opportunity to do that, they are comfortable with that. So yes, once again it depends really on the type of students that I have (Interview transcript p. 12).*

Lisa shared that students' body language in her classes would direct her:

> *If the students are overall bored, I would prefer you just to close my computer off and then have a discussion. What's happening, where are we, what's our problem, this is the information we still need to cover, can we cover it differently* (Interview transcript p. 20).

Indeed as already mentioned students do find activities of value that engage them (Lumpkin et al., 2015). It also allows both vocal and silent students to participate in the learning process (Obenland et al., 2012).

- *Lecturer work-load*

With regards to the concept of work-load more will be discussed under the sub-theme 4: Challenges using Active Learning but it is however pertinent to mention that when it comes to a lecturer deciding whether they will be using Active Learning strategies in their class two participants referred to time limitations in either not having time to plan activities i.e. their work-load is too much or having too much content to cover i.e. not having enough class time to use Active Learning strategies.

To conclude module content and year of students studying impact some lecturers in deciding whether Active Learning strategies will be used or not. The consensus is to have more Active Learning opportunities as students progress. Classes typically also become smaller as students move from first to second year and from second to third year which we have seen also enables lecturers to rather use Active Learning strategies

as it is easier to implement. Besides having smaller classes at third year level, the focus also moves from theory to more application based content. As seen from participant's comments, modules that are more application based tend to engage students easier thus promoting Active Learning. Only two participants from the law faculty referred to the problem of having their modules presented at other campuses but on further analysis it was concluded that it does not hinder Active Learning in classes as the Midrand campus although successful duplication at other campuses in South Africa is not happening. Finally, student feedback guides some lecturers in when to use Active Learning as well as time available to implement strategies.

#### 4.6.1.5 Sub-theme 5: Challenges in using Active Learning

Inadvertently the participants shared the challenges that they faced in using Active Learning. This sub-theme would also sit well with the theme staff support that will be addressed later in this chapter. No doubt that the findings here would pave the way in understanding the support that would be required from the institution in assisting lecturers to use Active Learning strategies in their classes.

The data describing the challenges faced by lecturers were grouped into five groups of codes as shown in Table 4.7. These challenges include (i) the difficulty to administrate and facilitate Active Learning, (Iii) higher cost in creating facilitation aids, (iii) inadequate or non-dependable infrastructure especially when technology is used, (iv) lecturers lacking knowledge in how to implement Active Learning strategies, as well as (v) the students' attitude towards Active Learning strategies.

These challenges are well aligned to what has already been pointed out with regards to the barriers identified in doing Active Learning (Michael, 2010) including students unwillingness to engage in Active Learning. Active Learning requires too much preparation time, not enough learning resources being available, classrooms in which lecturers teach not lending themselves to Active Learning and lecturers simply not knowing how to do it. A further study done in Bangladesh showed that lack of lecturer development, large class sizes and excessive curriculum loads were factors that hindered implementation of Active Learning at a HEI although the Active Learning strategies used were cost effective and improved the quality of teaching (Chowdhury, 2016).

**Table 4.7: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme challenges in using Active Learning**

| Pseudo-nyms | Difficult to admini-strate and facilitate Active Learning | Higher cost | Infrastructure | Lack of knowledge | Student attitude | Frequency of contribution per participant |
|---|---|---|---|---|---|---|
| Anne | 0 | 0 | 0 | 1 | 0 | 1 |
| Bo | 2 | 1 | 0 | 0 | 0 | 3 |
| Chrizelle | 4 | 0 | 0 | 0 | 4 | 8 |
| Daren | 1 | 1 | 2 | 1 | 2 | 7 |
| David | 2 | 0 | 0 | 0 | 2 | 4 |
| George | 0 | 0 | 0 | 0 | 0 | 0 |
| Heleen | 2 | 0 | 1 | 7 | 2 | 12 |
| Hope | 2 | 0 | 0 | 1 | 2 | 5 |
| Lisa | 9 | 0 | 0 | 3 | 4 | 16 |
| Lucy | 0 | 0 | 3 | 3 | 1 | 7 |
| Melissa | 6 | 0 | 0 | 1 | 3 | 10 |
| Frequency of codes per sub-theme | 28 | 2 | 6 | 17 | 20 | 73 |
| # Participants | 8 | 2 | 3 | 7 | 8 | |

- *Difficulty to administrate and facilitate Active Learning*

To understand why lecturers feel that Active Learning is difficult to administrate and facilitate consider Table 4.8. To repeat what was already discussed under sub-theme factors influencing the use of Active Learning in the classroom is work-load. Three participants shared how because of either having too many modules primarily due to lack of staff or being kept busy with administration impacts their ability to focus on developing classes that facilitate Active Learning:

> *…at MGI we have a lot of administrative responsibilities, additional portfolios which can take away time from preparing an absolutely fabulous lecture* (Heleen, interview transcript p. 21).

> *I am currently teaching six modules and that seriously affects the quality of my teaching and We were all informed that your work-load is going to be increased*

*because we are going to get rid of certain staff and it is not…they are not…the positions are not going to be filled* (Melissa, background questionnaire p. 2).

*I don't feel that any person can perform at his/her best when inundated with all the tasks we HAVE TO do because there is no budget for extra staff members. I feel that remote moderation for 11 campuses is a full-time job, never mind having to build curricula that are well-constructed and in line with what we wish our students to succeed in. Add that to marking and consultations and actual class time and I find myself pulling all-nighters far too often* (Bo, background questionnaire p. 4).

**Table 4.8: Factors that make it difficult for lecturers to administrate and facilitate Active Learning in classes**

| Factors | Frequency of contribution per participant |
|---|---|
| Work-load | 3 |
| Requires more lesson preparation time | 3 |
| Active Learning requires more time in class | 5 |
| Proof not present to show impact of Active Learning strategies | 1 |
| Changing of modules given to lecturers to teach every year | 1 |
| Lack of experience/knowledge in module | 1 |
| Requires first name knowledge of students | 1 |
| To facilitate successfully you need to know your module content | 1 |
| Difficult to implement different strategies to facilitate different learning preferences | 1 |
| Some modules are almost impossible to incorporate Active Learning | 1 |
| Difficult to include assessment for Due Performance (DP) purposes on Active Learning strategies | 1 |

Besides having participants sharing about their work-load, three participants added that Active Learning requires more preparation time, thus if a lecturer already has a busy schedule and have to find additional time to plan for Active Learning strategies, they tend not to find the extra time so quality of learning drops or they work after hours to try and cope like Bo.

*When you bring in Active Learning it is something that needs to be planned, okay, because it needs to be linked to the outcomes. It does not help just to do something and think it is going to work. You really need to sit and analyse the outfield beforehand. What is it that I want to do? What do I want to achieve? How is this Active Learning going to add value? And I just feel that I do not have enough time to really do that* (Heleen, Interview transcript p. 21).

> *…you need a lot of time to prepare for Active Learning. If you want to come up with lesson plans and proper Active Learning exercises for class it takes a lot of time and research* (Melissa, Interview transcript p. 1b).

> *I want to have more Active Learning, I actually want to have flipped classrooms but the amount of time that it takes to prepare that kind of learning material properly and ensure that students are learning and they're learning the right outcomes and at the right level and everyone has the same level of understanding required of them to be able to excel in semester tests and in assignments, that takes a lot of prepping…* (Lisa, Interview transcript p. 7).

Five participants referred to not having enough time in class to use Active Learning strategies and to work through all of the content that must be covered for assessment purposes. Besides Michael (2010) elaborating on this, Naithani (2008) referred to loss of teaching time as substantial classroom time is spent on activities especially while handling large groups of students resulting in lesser content coverage in the classroom.

> *I would be able to tell you categorically that yes I think that it is possible for me to be able to do Active Learning in first years, however I will still say that the constraint is time. I've worked it into my module outline but I know that it may be a problem for all the lecturers to be able to kind of work it into their module outline…* (Hope, Interview transcript p. 25).

> *I am having them do the work and then getting their neighbours to mark their work but, I thought that it takes too much time and we don't really have that much time in class* (George, Interview transcript p. 1b).

> *So it was very difficult so then I tried to…when I employ Active Learning to do a very well thought out…you know show that I am not lazy. I did do this whole thing which works but then eventually time runs out and I just, it is not something I could maintain because it was…yes there was not time* (Melissa, Interview transcript p. 10 – 11b).

Daren thought about a way to deal with the problem of not having enough time in class:

> *And also the time factor. You won't be actually having enough time for them to do all those practical…practical aspects. So for now maybe I think maybe that is the best approach whereby they do more of the theory part then the practical part they maybe they just research on it* (Interview transcript p. 21).

Naithani (2008) refers to Russell et al. (1984) who conducted a research on 123 medical students and divided them into three groups with no significant difference in their cumulative grade point averages. The first group was exposed to high density lectures with 90% new content, a second group was exposed to medium density lectures with 70% new content and third to the low density lectures with 50% new content. In each lecture the remaining time was spent on reinforcing the core ideas by actively involving the students and by relating the content to prior experience. Tests after the lectures confirmed that learning and retention were higher with low density content. Fedler &

Brent (1996) as referenced by Naithani (2008) also suggest that lecturers should only discuss the core, critical and difficult topics in class, give brief writing assignments to the students in the self-covered topics and then test the students on those topics.

Clearly the answer to not having enough class time starts with rather focusing on the difficult concepts and allowing students to take responsibility for their own learning of concepts not necessarily discussed in class. However, activities out of the classroom can be used to facilitate learning of these such as online videos, articles, animations or discussions. As mentioned before this is also known as blended learning, combining face-to-face learning with online learning. It can also be referred to as the flipped classroom model (Bergmann & Sams, 2012). As Heinerichs et al. (2016) explained, online learning before class followed by face-to-face application of content followed by assessment after class helped students master the content.

All of the other challenges were mentioned by single participants only, not at all suggesting that it is isolated but rather that due to the flexibility that comes with a teaching strategy as Active Learning, various factors can arise in this case to make the administration and facilitation of Active Learning difficult. Melissa referred to her master plan to implement Active Learning strategies that according to her failed:

> *…then I had a master plan…let the students write a test on the things we did Active Learning wise and the things we did blah, blah, blah you know point by point. Blah, blah, blah is not going to help, and then it did not work my way because I thought okay you're going to see now. You can see that the Active Learning stuff you remember wonderfully and the other stuff not so much but they just did not remember anything* (Interview transcript p. 11b).

Melissa is yearning to see the positive impact of Active Learning strategies – she knows from her post graduate certificate in higher education experience it should, but remains frustrated in her unsuccessful attempts.

The problem of not teaching the same module every year would contribute to a lecturer being thrown into the deep end every time, first having to make sense of the content before immersing themselves in becoming comfortable in Active Learning strategies. Lisa explained: "I cannot use Active Learning as much as I would like to because of the constant changing of the modules" (Background questionnaire p. 3).

As David clearly explained at the hand of an example: "You need to have experience of it (module content) and know it yourself…I don't know how you can do Active Learning or facilitate it if you don't know the content yourself "(Interview transcript p. 19).
This shows that lecturers need the stability of knowing that they will teach a specific module for longer periods of time as it then provides them the confidence to engage students as they themselves are more confident with the content.

- *Lack of knowledge*

Factors such as difficulty in implementing active leaning to facilitate different learning preferences and modules not being able to be transformed to more Active Learning speaks about the lack of knowledge these lecturers have. Seven participants highlighted that they lack they believe sufficient knowledge to facilitate Active Learning.

> *I think maybe it is because of my lack of knowledge on the Active Learning that if I do that course or I explore it more, I will know okay you know what these are actually additional tools you can use to assess which I do not know about at the moment* (Heleen, Interview transcript p. 16).

Heleen also shared: "I think that a lot of our lecturers, we do not have an educational background" (Interview transcript p. 18).
She added:

> *What I have learnt of Active Learning is actually what my colleagues that have done the PGCHE have shared with me or what I have read about it as well. But I have not had like I feel proper training with regards to it so that is something that I would enjoy* (Interview transcript p. 20*).*

When questioning Lisa whether Active Learning facilitates deeper learning, she answered: "I don't know it for a fact but I believe it has the potential to be, if it's done appropriately "(Interview transcript p. 8).
Anne also does not have any formal training in Active Learning:

> *I googled Active Learning cause it was like, you know I've heard this thing but I don' really know and then I stopped because then you were going to interview me so I didn't want to get to everything…yes, but, but I can't say ya, can't say I'm formally am aware of it (Interview transcript p. 6).*

When Lucy was questioned about how she had heard about Active Learning she answered: "I did not officially hear about it. This is simply how my own teaching has evolved over the years. I keep on adapting what I do to see if it has a positive impact" (Background questionnaire p. 2).

Participants showed that they knew that they did not know everything that they most probably need to know to facilitate Active Learning successfully. As will be discussed in the sub-theme support requirements, most participants, based on admission of their knowledge shortage asked for workshops and training in using Active Learning. Not being equipped to use Active Learning strategies would lead to unsuccessful learning on behalf of the students.

- *Student attitude*

Eight participants referred to the challenge of students' attitudes. The perceptions of students with regards to Active Learning have been well documented. As already mentioned students tend to find it valuable (Lumpkin et al., 2015) and preferred the Active Learning above passive learning in helping them to understand content (Detlor et al., 2012) but more so when the lecturer explains the motivation behind using the Active Learning approach (Welsh, 2012). The following quotations from the interviews explain the challenge in indifferent student attitudes:

> *I have been trying to incorporate this more and more in the classroom, however, it has been met with significant push back from the students* (Melissa p. 10b).

> *…sometimes it proves a little bit difficult for students, for some students, in other words they, they kind of become very rebellious and aggressive about* it (Hope p. 25).

> *For me and then the other challenge the…the students playing a part. You find some classes some students they don't want to play a part so it sort of pulls you back on implementing your approach. So I think that is another challenge that I've actually got* (Daren p. 22).

Here Lucy shares how she dealt with a student not wanting to participate:

> *…there are students who don't like it, it's definitely true. I had a student a few years ago, after group work in the beginning came to me and said, "Are we going to do this or not?" I said, 'Yes, why?" She said, "Because it just doesn't work for me". I said, "Oh well, you know what? This is how life looks. Life is in teams, unfortunately. So it's going to make you grow as a person. So I don't really, you know, the fact that it doesn't work for you is not relevant here." And truthfully, when I sit in training, I hate it when people put me in a group. I don't like playing with other people. But I understand the benefit of that* (Interview transcript p. 12 – 13).

Lucy motivated the student to participate by showing the student the benefits of Active Learning in this case developing a career skill.

Petersen and Gorman (2014) support the resistance of students that ask them to take more responsibility for learning, but they recommend as well that the lecturers communicate their teaching philosophy and the role of lecturer and student up front. By managing students' expectations they are better prepared. It also helps to share the advantages with the students of the strategy that is used. Participants also contributed to possible solutions to obtain students that become susceptible to Active Learning strategies in the class room, this will be discussed in the sub-theme solutions to problems identified. David spoke about the attitude of the students:

> *Because it's the attitude they believe its difficult man, when I go I'm not going to be doing this stuff, why, I'm starting PR and then they ask me to writing stuff. I'm not gonna need it, but that's when they made a mistake… you're gonna write a lot of reports and reports and reports* (Interview transcript p. 27).

David here is referring to some of his students not wanting to write because they believe they will not use it. This highlights a possible problem of some students enrolling for degrees in which they are misinformed of what they really would be doing with it after graduation.

- *Higher cost*

With regards to higher costs participants referred to transport/entrance fees for field trips and equipment that is required to enable student engagement.

> *…budget's always a killer. But for instance in our department learning by seeing as well you know, there's a difference between seeing art pieces online and going to a gallery and sort of engaging with the real artwork. But there's no budget to do these things. There's no transport to do these things* (Bo, Interview transcript p. 5b).

Daren shared the need for equipment:

> *…for example information of systems, the information systems if you are to get into the practical stuff you need a lot of resources and they are expensive.. You need your routers, you need your firewalls. There's a lot of hardware that you…you actually have to…to…to set up and expose students to* (Interview transcript p. 21).

Halan (2005) promotes blended learning as a way to minimize cost. Kapp, Slater, Slater, Lyons, Manhart, Wehunt and Richardson (2011) explained how redesigning a course serving 600 students per semester by introducing mandatory bread-out sessions facilitated by undergraduate peer mentors and lectures with a large portion of time allocated to Active Learning in small groups followed by on-line quizzes made the learning experience for students of more value and reduced departmental cost of the

class offering per student by more than 50 per cent. Using technology to engage students in Active Learning is a cost saving strategy but unfortunately does not replace physical experiences in physical sciences such as biological science or computer laboratories neither does it take away the need for students to express themselves in creative arts.

- *Lack of infrastructure*

Two participants also referred to lack of infrastructure especially when using technology based learning activities. Daren shared about the problems some of his students face:

> *I will speak on behalf of the students that I've had because as I said some…sometime you want them to go and research on…on a video or whatever, they have to download. So sometimes now their plan is they have to use their own money to buy the data bundles to…to download or maybe there are restrictions on the campus, some of the works that upload. Yes so those are some of the issues that I had* (Interview transcript p. 22).

> *So where I built the class around a PowerPoint thing and then nothing wants to work and I have to phone IT and all of that. So that's getting better but still. The tablets, for example, didn't work for me at all 'cause there's never enough Wi-Fi to do anything interactive with the tablets* (Lucy, Interview transcript p. 15).

In conclusion, lecturers are facing challenges in using Active Learning, but nothing I believe that cannot be overcome. These challenges have been around for some time with Bonwell and Eison (1991) referring to obstacles such as: the difficulty in adequately covering the assigned course content in the limited class time, the possible increase in the amount of preparation time, the difficulty of using Active Learning in large classes and the lack of needed materials, equipment or resources. The biggest obstacle being the risk of students that do not want to participate. The next section will discuss possible solutions to some of these challenges. However, as previously mentioned, a research-intensive educational institute transformed their conventional passive lecturer based classes to more Active Learning. Nevertheless, it was mentioned that future efforts should ensure that all lecturers have the time, skills and pedagogical understanding to implement Active Learning strategies in their classrooms (White et al., 2016). These are the same future efforts needed for lecturers working at this private institution.

#### 4.6.1.6 Sub-theme 6: Solutions to problems identified

Besides having participants share about the challenges they face as discussed in the previous section, without intention they also provided solutions to some of these

challenges from their own experience. It was positive to see that lecturers who believe in Active Learning truly want to make it work thus they troubleshoot and innovate to overcome problems. The solutions were grouped into three groups of codes that addressed the challenges from the previous sub-theme as shown in Figure 4.9. Table 4.9 shows the code group frequency table derived from Atlas ti v. 7 per participant for sub-theme solutions to problems identified.

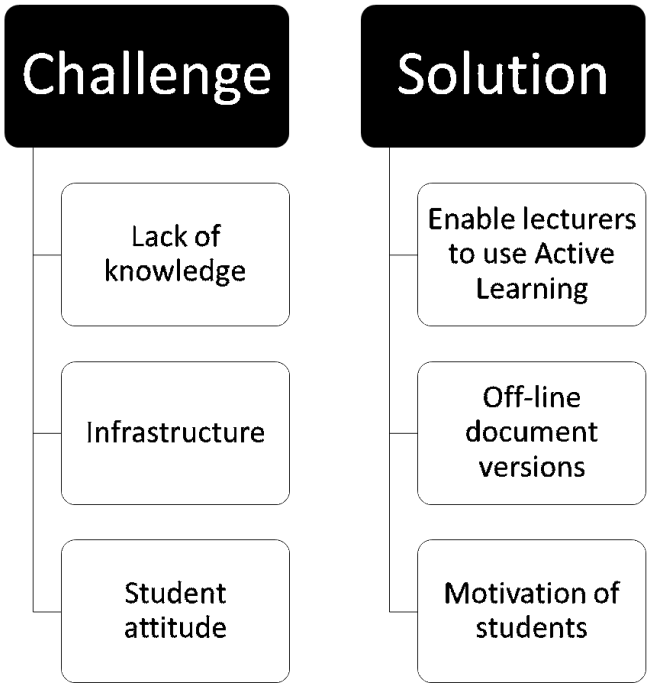


**Figure 4.9: Diagram showing the relationship between the challenges identified by lecturers and the possible solutions presented**

- *Enable lecturers to use active learning*

To address the lack of knowledge in lecturers, it was suggested by two participants that changing the mind-set of all lecturers would make it easier for everyone to implement active learning in the classes I believe, especially if the institution drives it. White et al. (2016) explained how after implementation of Active Learning in a phase-like fashion in a faculty more staff started to agree that they understood what makes an effective Active Learning activity by the end of implementation. The success was attributed to the development of a common approach that had explicit vision and principles, evaluating and refining Active Learning as effective elements in their transformational change management strategy.

> *I mean I know that Active Learning works and students really learn from that so I feel that it would be great if every single lecturer can start incorporating that*

*because then we going to totally change that mind-set* (Heleen, Interview transcript p. 18).

*…what I think could be helpful is if it is a holistic approach so if every…or not holistic a homogeneous approach. So everybody tries to do that* (Melissa, Interview transcript p.12)

Heleen also mentioned that class visits could help lecturers to learn more about active learning, she shared an experience:

*We did class visits where we had to evaluate each other and my one colleague that came to sit in she completed the PGCHE and I said to her specifically look at what I have done for this lecture and tell me am I on track, am I doing it right, what else can I do to better it, so I am looking forward to that feedback session and because that will also, you know, basically tell me what do I need to do to better these lectures* (Interview transcript p. 21).

**Table 4.9: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme solutions to problems identified**

| Pseudonyms | Enable lecturers to use Active Learning | Off-line document versions | Motivation of students | Frequency of contribution per participant |
|---|---|---|---|---|
| Anne | 1 | 0 | 0 | 1 |
| Bo | 0 | 0 | 3 | 3 |
| Chrizelle | 0 | 0 | 5 | 5 |
| Daren | 0 | 0 | 0 | 0 |
| David | 0 | 0 | 2 | 2 |
| George | 0 | 0 | 0 | 0 |
| Heleen | 2 | 1 | 7 | 10 |
| Hope | 0 | 0 | 2 | 2 |
| Lisa | 1 | 0 | 2 | 3 |
| Lucy | 0 | 0 | 2 | 2 |
| Melissa | 1 | 0 | 0 | 1 |
| Frequency of codes per sub-theme | 5 | 1 | 23 | 29 |
| # Participants | 4 | 1 | 7 | |

The idea of lecturers attending each other's classes was also supported by Moran, Deans, Reda, Ryan, Totaro, Dulac, Southwood, Stavchansky, Teig and Wood (1996)

who showed that apprentice teachers attending each other's classes had value for both parties supporting reflection and direct learning. Valuable experience by engaging with peers or co-workers in education can help a lecturer to learn new techniques while developing their own teaching style (Carr, 2006).

- *Off-line document versions*

The intermittent internet access or Wi-Fi access as a challenge previously discussed showed how Heleen has already thought about how to save a lecture when technology lets her down, she plans to show students live on the internet but have created backup slides just in case technology lets her down:

> *I have divided it into they have obviously online access to the links and everything where they will access information…but then also I have created pdf slides as well which is now not live so as they go onto the links they are not going to be able to access it but at least they can still download that information for them and then I also provided them with notes as well. It was basically because of the Wi-Fi issues that we have. I had to have a backup because if I cannot go live I still need to continue with the work so then we will move onto the pdf slides for example* (Heleen, Interview transcript p. 14).

- *Motivation of students*

Seven participants had advice or suggestions with regards to changing the attitude of students to buy into Active Learning strategies. Figure 4.10 provides a network view derived from Atlas Ti v.7 showing the advice given by participants.

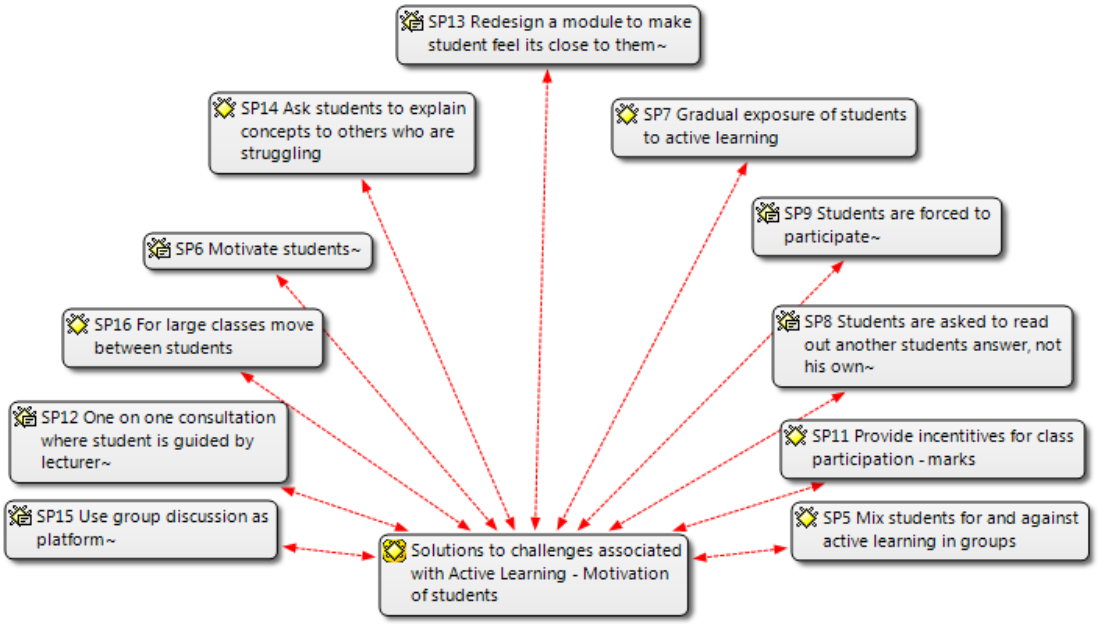


**Figure 4.10: Network view derived from Atlas Ti v.7 showing the solutions provided by participants on how to change the negative attitude of students towards Active Learning**

To motivate students, participants shared during their interviews:

> *I would definitely tell them about the benefits and to some extent I think the other students really help me as well because when they do the group work I will try to group them with some of those that are not as keen on doing it with those that are keen and you can actually see they will influence each other…* (Heleen p. 22).

> *I first talk to you, we have some chat, a normal chats, what is the problem and most of the time they would tell you* (David p. 26).

> *So when they not speaking they not coming out it becomes a problem so that's where you try to move closer to them and engage with them and try to encourage them to actually speak up about it* (George p. 5b).

> *What else do I do? I build my relationship with them, all the time…So, you know, they each feel that they have a very personal relationship with me and that also causes them to have more respect and try to participate even when I'm having a bad day…*(Lucy p. 7).

The role perceived by lecturers in another study likewise confirms the beliefs of the lecturers in this study. Those lecturers believed that a lecturer should engage and motivate students and create a safe participative environment (McCabe & O'Connor, 2014). Individuals who share a good interaction with their lecturer report higher levels of emotional engagement which mediated better student learning (Sagayadevan & Jeyaraj, 2012).

Participants elaborated on how they ensured that students engaged by mixing students for and against Active Learning in groups or asking students to read out another student's answer taking away the possible embarrassment of an incorrect answer.

> *So I do ask and I've noticed it's easier when you're doing the peer review. If you're not sitting with your own information in front of you, if you're sitting with someone else's answer in front of you they're more willing to share because then they don't feel like they've been put on the spot and their intelligence is being questioned* (Lisa, Interview transcript p. 22).

Some participants shared that they forced their students to participate:

> *I think the best way is you just have to force them to do it. I know it sounds horrible to say it in that way but they need to do this stuff… So what I just did one day then I told them okay whatever you wrote down send it to the front I want to see your answers and then after then it started to work* (Chrizelle, Interview transcript p. 9).

Another suggestion from Hope was to provide incentives for students to participate:

> *Says but there has to be an incentive, there has to be something that moves your student that motivates them to go and read. What do students like, they don't want your money, they don't want sweets, and they want marks. So let marks become the incentive but you must par the marks in such a way that it's fair distribution of the marks* (Interview transcript p. 27).

Heleen also commented on allowing students to gradually use Active Learning strategies more:

> *So no, I really do feel that you have to bring in Active Learning even if the students do not necessarily like it. Maybe to a lesser extent but they need to experience it as well. You might even find some students the more they exposed to it the more they might start liking it as well. Which is important* (Interview transcript p. 17).

This is supported by Petersen and Gorman (2014) who also suggested that changes to a course should be done incrementally; referring to doing some sections in the class by using Active Learning and slowing increasing the quantity as lecturer and students grow in confidence. As has been pointed out, by simply explaining to students the motivation of the lecturer in using Active Learning can do much in developing a positive relationship between lecturer and student that enhances learning (Petersen & Gorman, 2014; Welsh, 2012). Lecturers need to build a relationship that shows that they care, that they believe in what they are doing. This passion would translate in lecturers doing whatever it takes to get their students to participate in class.

To conclude, the first theme that has been described was Facilitation. I started to describe based on the interview transcripts, screening questionnaires and background questionnaires how lecturers at PIHE are using Active Learning strategies (4.6.1.1) in their classes. It also emerged from the data that the decision made by lecturers on how they use Active Learning weighs heavily on their understanding on what Active Learning is (4.6.1.2) and their motivations in using it (4.6.1.3). Participants also elaborated on factors that would influence how they use Active Learning (4.6.1.4) and they highlighted the obstacles (4.6.1.5) they face when using these strategies as well as possible solutions (4.6.1.6).

## Theme 2: Student performance

### 4.6.2.1 Measurement of Active Learning success

Secondary research question number two set out to understand how lecturers assess student performance in the context of active learning. Here I especially wanted to find out how lecturers know that Active Learning works, that what they are doing have a positive impact on not just the learning efficacy of students but in their ability to be ready to do work in the real world. Table 4.10 summarises the findings for this sub-theme.

- *Use of assessments*

Seven participants referred to assessments as the method used to measure the success of active learning. According to these participants their students performed better in tests and exams. This would be a formal way to measure the success of Active Learning strategies. This improved performance was evidenced by either students understanding concepts better, their ability to answer higher-order thinking questions or students referring to Active Learning during assessments.

> *…like the exam students would refer back to whatever this group did. So the one group was a game show so they would refer back to the game show in their answer so it is also you create opportunities for students to remember work in a different way* (Melissa, Interview transcript p.13b).

> *I like to get them talking in class because it feels for me and I can see it in their tests most of the time the things we talked about easily and when we do not have text books in front of us or etcetera, they do better in tests because I think it is…they remember it easily* (Chrizelle, Interview transcript pp. 10 - 11).

> *They made it a point on their own that every week they brought calculation-based questions and they told me Ma'am. step aside, … this was my third year*

> *students,… Ma'am, step aside we will solve this.. they had to understand how to be able to calculate ferment in fermentation using the Monod equations, And then I found that in the exams they did brilliantly in that component* (Hope, Interview transcript p. 20).

> *I have got a small group but looking at test scores from the first content that we did where they were not involved with any games for instance and then at the second semester that next test, they had just played a game to get ready for the test and the marks went up significantly* (Bo, Interview transcript p. 20a).

These findings are supported by others such as Lewis and Harrison (2012) who showed that students participating in technology enabled Active Learning performed significantly better in multiple choice questions and short quizzes that were given throughout the semester in comparison to a control group of students that had lecturer centred classes.

**Table 4.10: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme measurement of Active Learning success**

| Pseudonym | Feedback from students | Observation and Reflection | Using assessments | Frequency of contribution per participant |
|---|---|---|---|---|
| Anne | 2 | 0 | 0 | 2 |
| Bo | 0 | 0 | 2 | 2 |
| Chrizelle | 2 | 0 | 3 | 5 |
| Daren | 1 | 0 | 2 | 3 |
| David | 0 | 0 | 2 | 2 |
| George | 1 | 0 | 1 | 2 |
| Heleen | 3 | 3 | 4 | 10 |
| Hope | 0 | 0 | 3 | 3 |
| Lisa | 2 | 0 | 0 | 2 |
| Lucy | 0 | 0 | 1 | 1 |
| Melissa | 0 | 0 | 4 | 4 |
| Frequency of codes per sub-theme | 11 | 3 | 22 | 36 |
| # Participants | 6 | 1 | 9 | |

In a study done in an undergraduate psychology of a women class at a large, public university, they tested the hypothesis that students would perform better on materials covered by multiple-choice exams when presented with active learning versus lecture, autonomous readings, and video presentations alone. It was found that students performed better on items testing material that was covered with Active Learning strategies compared to other formats (Yoder & Hochevar, 2005).

In a recent study in an undergraduate human anatomy and physiology course that investigated the effect of a flipped classroom and Active Learning activities (experimental group) versus flipped classroom and minimal class room discussion (control group) found, that exam performance among the students in flipped-classroom and active learning activities improved significantly relative to that of the control group. Students also reported that the flipped classroom together with Active Learning activities helped them learn better and to connect the materials to the goals of their future careers (Entezari & Javdan, 2016).

The effect of students working in cooperative groups performing Active Learning activities versus students doing these activities on their own show that performance on lower order thinking multiple choice questions had no significant difference however, students that worked in cooperative groups during in-class activities significantly outperformed students that completed the activities on their own on the higher order thinking extended response questions (Linton, Farmer & Peterson, 2014a). David shared how his students could now do what was expected of them. He explained how students' compiling the campus newsletter was evidence that they have learnt through doing:

> *Like in my case, this evidence here, this newsletter that we produce. You can never, never just sat in a class for the whole one year, listening to the theoretical stuff and be able to produce that. It's impossible… So my newsletter is evidence for me I can see. So when I see, I say yeah, this thing is actually working* (Interview transcript p. 22).

This shows that students could now do what would be expected of them in the workplace, which according to David shows that facilitating learning through Active Learning strategies is successful in not just knowledge but also skill acquisition.

From the data analysis it became apparent that there were differences in the type of assessment used to validate the strategy of Active Learning as successful referring to informal assessments that did not contribute to a module's year mark (four participants), formative assessments that did contribute to the year mark (two participants) and summative assessments in the form of a final project or exam (two participants). As mentioned previously the use of marks is used as a strategy to motivate students to participate in activities, although some participants felt that they did not get the necessary support from the institution to enable them to use marks as part of the year mark of a module. This would explain why some participants opted for the informal assessment strategies.

The use of assessments to verify the efficacy of Active Learning as a teaching strategy is well known, especially when one distinguished between content that was delivered via Active Learning and content delivered the traditional lecturer centred way. It appeared that students not only can perform better in some simple multiple choice questions but they develop the skills to think critically (Pundak, Herscovitz, Shacham & Wiser-Biton, 2009) enabling them to answer higher order thinking questions.

- *Feedback from students*

Six participants referred to feedback that they received from their students as evidence that Active Learning is effective. Many lecturers will use course evaluations, but only a few would use it to change their teaching. The exact reason why lecturers would use this feedback is also not always clear (Golding & Adam, 2016). Evidence suggests that students can make valid and reliable judgments about classroom teaching performance if they are asked the right questions (Yew, Narayansany, Fauziah, Dawood, Palaniappa Manickam, Kamala, Jen & Hoay, 2015).

It has been reported in South Africa at a public HEI where classes transformed into Active Learning were assessed by considering student performance and student feedback. This data were found as an effective source of information to describe the success of Active Learning (Downs & Wilson, 2015).

For the participants in this study feedback from graduate students in the workplace as well as feedback from current students provided them the necessary evidence that their

method of teaching is effective. All of this feedback was informal without using any formal survey or questionnaires. Students simply shared their views out of their own.

> *I am still in contact with old graduates who are working in the industry and they will say for example you know what Ma'am, my internship or the field trips or the practical side really helped me because there is a difference between the theory and the practical and active learning for me is more practical and I do feel that those are the students that do succeed* (Heleen, Interview transcript p. 16).

> *…they say they feel better about the work. They say they can remember hearing my voice or they can remember a specific activity where they were taught the information* (Lisa, Interview transcript p. 15).

Daren was confident when he shared: "…the best way that I can say it has worked is the…the feedback that I'm getting from the students and how they are now performing" (Interview transcript p. 17).

Feedback obtained and used in the right way can not only validate a specific teaching strategy (Downs & Wilson, 2015) but can be used to enhance the efficacy of learning (Ahea, Ahea & Rahman, 2016). Student perceptions on Active Learning have been well documented and facilitated by primarily using formal student feedback. The use however of feedback that originates from the student and not elicited by the lecturer would be a new addition to possible tools that can be used by a lecturer to measure the efficacy of Active Learning in the classroom.

- *Observation and reflection*

Only one participant shared that by observing how students respond to Active Learning supported her in continuing to use it as a teaching strategy. Where in the previous section students provided feedback out of their own account, here the lecturer simply looked at body language and enthusiasm.

> *It is through observation. You know what I see but I kind of feel there needs to be something a little bit more set in stone* (Heleen, Interview transcript p. 16).

She hinted that she would like to use a formal rubric to provide more credibility to what she is seeing.

Heleen also shared how she would reflect:

> *I always evaluate myself after the lecture, okay. Did the students understand? Did I explain it correctly? You know, and some days you feel like whew no vast improvement okay, in this lecture but then sometimes you can see afterwards students will say thank you Ma'am I enjoyed this lecture. I have actually learnt*

> *something or you know you can see they enjoy it with the active learning* (Interview transcript p. 22).

Reflection can be used to allow a lecturer to professionally develop their teaching practice to especially support their efforts to improve underachievement of students (Hoffman-Kipp, Artiles & Lopez-Torres, 2003). The definition of reflect according to the online MacMillan dictionary is: "to think about something carefully" . According to Liu (2015) lecturers should engage in critical reflection to allow for transformative learning. Lecturers should not only focus on how they reflect but also on why they reflect and how their thinking will influence their teaching practice (transformative learning) to ultimately enhance student learning.

To conclude, participants used examples from their own experience to provide evidence for the success of Active Learning. Participants referred to seeing positive results in assessments due to Active Learning strategies used in class, positive feedback from students or own personal observation and reflection. None of the participants could provide empirical evidence such as pass rates and it seemed that success was based primarily on single isolated events.

## Theme 3: Staff support

The last secondary research question focused on how support is given to lecturers in implementing active learning in their modules. During data analysis two sub-themes emerged namely Active Learning support that currently is available and Active Learning support that would be required by participants.

### 4.6.3.1 Sub-theme 1: Active learning support

Table 4.11 represents the six different sources of support that are currently used by participants with their community being the most referred to source.

- *Community*

This community specifically include colleagues at work (5 participants) and a friend outside the institute sharing the same career (1 participant). The following quotes explain how this community helped participants to learn and do Active Learning:

> *What I have learnt of active learning is actually what my colleagues that have done the PGCHE have shared with me* (Heleen, Interview transcript p. 20).

> *Well I reached out to colleagues of mine to speak to them to see what I can do to maybe then see what I can employ next year so that is what I am going to do* (Melissa, Interview transcript pp. 11-12b).

> *Elizabeth* has also been a big role model when it comes to Active Learning* (Lisa, Interview transcript p. 26).

> *…we've got a buddy system everyone has to have a buddy so now my buddy has been here for about 15 years now they'd been lecturing for 15 years so I believe that he's really good at what he does and she knows what she's doing. So at the beginning of the year I would ask her if I could come and attend some of her classes and then I would go and sit into her classes then I would see what she does* (George, Interview transcript p. 6b).

Hope shared about her friend who is a psychologist and with whom she brainstorms, especially with regards to group dynamics:

> *So I think, when I come to her and I explain what my group dynamic is, she tends to tell me: This I think will be the best strategy to be able to... I think she was also the one that told me that for group dynamics you have to have an incentive* (Interview transcript p. 27).

The influence of a community in practice has been discussed in Chapter 2. Lecturers can develop their practice through a variety of activities such as problem solving, requests for information, seeking experience, reusing assets, coordination and synergy, discussing developments, documentation projects, visits, knowledge mapping and identification of gaps (Wenger, 2012). This is supported by Pulford, Ruzycki, Finelli, Hahn and Thorsen (2015) who reported how within a faculty learning community, a group of lecturers who themselves by participating in Active Learning developed professionally as lecturers promoting deep learning and faculty cohesion.

*Pseudonym used to protect identity of person mentioned

**Table 4.11: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme Active Learning support**

| Pseudo-nyms | Commu-nity | Experi-ence as student | Personal research | Policies and Proce-dures from Institute | Support from managers | Work-shop/ training | Frequency of contribution per participant |
|---|---|---|---|---|---|---|---|
| Anne | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| Bo | 1 | 0 | 0 | 0 | 1 | 0 | 2 |
| Chrizelle | 1 | 0 | 1 | 0 | 0 | 1 | 3 |
| Daren | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| David | 0 | 0 | 0 | 0 | 2 | 1 | 3 |
| George | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| Heleen | 1 | 1 | 1 | 0 | 0 | 0 | 3 |
| Hope | 3 | 0 | 1 | 0 | 0 | 0 | 4 |
| Lisa | 2 | 0 | 1 | 0 | 0 | 1 | 4 |
| Lucy | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| Melissa | 3 | 1 | 0 | 0 | 0 | 0 | 4 |
| Frequency of codes per sub-theme | 11 | 2 | 5 | 1 | 7 | 4 | 30 |
| # Participants | 6 | 2 | 5 | 1 | 5 | 4 | |

- *Personal research*

Five participants referred to their own personal research as a support basis that enabled them to teach the way they do. This self-driven inquisitiveness kindled by their inherent passion for teaching and learning. It was because they themselves are interested to help their students that they ventured on the path of deciding upon Active Learning strategies as the way forward.

> *I've had to get quite a few supplementary information's what's relevant for my modules. I don't think it necessarily a problem, me reading up because I believe*

> *in self-study, that's the best way you can learn things and adopt things* (Lisa, Interview transcript p.28).

Daren was confident as he explained:

> *I think just because now I know where to get the resources because there are a lot of videos which explain it…which explain active learning and how you go about it. So I think I haven't really gotten any issues concerning that* (Daren, Interview transcript p.22).

> *Once I learned that there were various learning and teaching methods I started to read up more about the different strategies (*Chrizelle, Background questionnaire p. 1).

Today in the 21st century a good lecturer should engage, enthuse, motivate and facilitate by also using a range of new technologies (Upton, 2008). A lecturer thus needs to develop the necessary skills to deliver and this is done best when its aligned to a lecturer having confidence in their discipline as well as the willingness to address the different learning styles and abilities of a student group (Attard et al., 2010 as referenced by McCabe & O'Connor, 2014). The use of on-line resources by lecturers to develop their own repertoire of tools to use in the classroom is not new (Pundak et al., 2009).

- *Institution support*

It has already been highlighted previously that the role of the institution in driving the change in teaching and learning methodology especially to encourage the use of Active Learning is vital (Casale, 2010; Riley, 2013; White et al., 2016). Participants did not report very enthusiastically on the view of the institute when it comes to teaching and learning best practices. According to this study only one participant referred to having access or knowing about the policies and procedure document or also known as the "lecturer handbook" provided by the institution that explains the role of facilitation and the use of Active Learning strategies to promote learning.

The following is an excerpt from this document that clearly shows the strong commitment the institution has for Active Learning:

> *At MGI (PIHE) we believe that both the lecturer and student have their respective responsibilities in the facilitation of learning. The lecturer has to ensure that the curriculum and accompanying study material are relevant, innovative and of high academic quality – in line with MGI's (PIHEs) vision. The lecturer must also ensure that she/ he competently facilitates student learning by using a variety of applicable methods, e.g. lecturing, discussions, group work, tutoring, practical, self-study, and field trips. Lecturers should motivate students to attend class by making the study material relevant and applicable to real-life situations. Their*

> *classes should testify to their own interest and experience in the subject area and should never be a mere "covering of the material", passive learning, or regurgitation of what is in the textbook. Lecturers have to guide their students through the information in such a way that the students become critical, skilled and competent lifelong students who can think for themselves and apply what they have learnt in such a way as to solve real world problems in a constantly changing context (PIHE, 2014, p. 5).*

Five participants referred to their managers at the institution that have provided them with support in using Active Learning in their classrooms. In one of the cases the manager assisted by dividing a larger student group into smaller groups to make it easier for the participant to use Active Learning.

> *So now we like to split classes so that you have anything between fifteen to twenty per class, the only reason for that is, and I think Kim* (Bo's manager) as well having done the PGCHE, you still want a little bit of that one-on-one interaction and there is only so many hours in a day so, especially if you are learning something like software* (Bo, Interview transcript p. 21).

Lucy explained how her manager who taught the same subject before her helped her to learn how to teach the subject that would make students not want to miss a class. George's manager showed him where to find the teaching and learning policy of the institution (referred to earlier) which helped him.

Four participants could recall workshops or new staff induction programmes that had been presented within the institution, but not necessarily directly linked to Active Learning.

> *There was a Facilitating for Results interactive workshop that I attended in May 2015, which helped me to use questioning as a means of enabling others to learn and buy into learning or completing activities. It was hosted by an independent consulting group* (Lisa, Interview transcript pp. 25 - 26).

When Anne was asked what support she has received in learning how to use Active Learning she answered:

> *I mean, a little like I think, when I started here and we did induction, there was some useful things, like a baseline assessment, I'd near formalised mine as much as we do here and I found that really useful to incorporate. But I don't think much more than that, ya, no* (Interview transcript p. 22).

It appears that although opportunities are presented within the institution, lecturers either are not familiar with them or attending the sessions did not make any significant impact.

*Pseudonym used to protect identity of person mentioned

- *Prior experience*

Two participants referred to their own experience when they were students themselves as helping them to use Active Learning as a strategy in their classrooms. As I have pointed out, the intrinsic belief and motivation of a lecturer will influence their teaching practice, many will teach like they have been taught to. I have already discussed how experience as a student was a driver for some participants to adapt Active Learning, i.e. becoming a motivational force but in this section I am referring to what participants answered when asked: "What support have you received in using Active Learning strategies?"

Heleen referred to the lecturer that also influenced her to become a lecturer as the same person who revealed Active Learning as a teaching strategy. Melissa shared how during her completion of her PGCHE made her come into contact with her peers who also helped her to form her understanding and conviction in using Active Learning.

To conclude, participants did not enthusiastically answer when asked to discuss the support that they were receiving. The community in which these participants work including their direct peers at work and their managers have been seen as the largest contributors that provide support in Active Learning. It soon became apparent that the need for support (55 codes) superseded the support provided (30 codes).

#### 4.6.3.2 Sub-theme 2: Active learning support requirements

Many of the support requirements emerged from what participants already addressed including the challenges that they face when using Active Learning (4.6.1.5) and the support that was mentioned in (4.6.3.1). It became clear after further emersion and reflection on the data that participants provided input on what they believed would help them overcome these challenges in the form of support that they require as well as explaining why the support as discussed in section 4.6.3.1 was inadequate and what more would be needed. Table 4.12 provides a summary of the seven groups of codes that were derived from the data to explain the support requirements in using Active Learning.

##### 4.6.3.2.1 Support requirements from the institution

It became apparent that participants felt that the institution needs to do more when it comes to supporting them in using Active Learning. Five of the groups of codes identified link to the intuition that needs to provide more support and participants without holding back explained exactly the type of support that would be required. The interesting part is that some of these requirements have already been met and are available from the institution but the lack of communication or drive to make it accessible seems to be a big problem. Overall participants feel that they do not have enough knowledge in using Active Learning in the classroom and they need more help to grow as expert Active Learning facilitators.

- *Workshops or training opportunities*

Nine participants mentioned that they need more workshops or training opportunities. Even though the institution is providing workshops and training opportunities from time to time as discussed in section 4.6.3.1, one participant said it was not specific to the context of the faculty in which they worked which made it difficult to take that which is shared and implement in their context.

> *I think it would have been easier if we had workshops that were maybe aligned to the sciences... so having workshops that are tailored to us, would have been also every relevant and just tailored to how to do Active Learning, obstacles of Active Learning, how do you make it work in a tertiary context because a lot of the resources that we're getting it's not necessary tertiary, it's high school, secondary education, and to extrapolate that and then try and make it relevant here, to get student buy-in, I think that's also a gap* (Lisa, Interview transcript p. 28).

Also there is a need to have the workshop specific on the context of Active Learning:

> *I would appreciate is when we have the staff development and training sessions is actually to have somebody to come and speak to us about active learning and what it is and how it works and different examples how you can use it in class* (Interview transcript Heleen p. 20).

> *…more vibrant seminars focussing solely on trying retrain the teacher, re-orientate the lecturer into active participation. Because some lecturers want to do it but they can't think how do I get to it* (Hope, Interview transcript p. 28).

George suggested:

> *They should have workshop for active learning active studying like a dedicated workshop just for that not just as part of the topic but, then just strictly for that that way I think we'll all benefit from it* (Interview transcript p. 7b).

It seems from Lucy's comments that the training offered is too formal or theoretical*:*

> *It would have been nice to get some actual training on how to do it because, I mean, nothing in terms of education that I do, I've learnt formally* (Interview transcript p. 19).

Chrizelle elaborated on how the induction programme for new lecturers could be made better:

> *I think it would be nice, for instance like with the induction to do stuff with all the different teaching almost strategies so I think that will help as well and there is not really other support. I am not the kind of person that likes to go sit in a group and learn something* (Interview transcript p. 24).

The need for training on the proper use of the institution's learning management system also were mentioned by three participants. They understand it is a tool that can be used to facilitate Active Learning but lack the skill or confidence to use it.

> *I just think that no one knows how to use it, and therefore haven't shown everyone else how to use it. And therefore we're sitting with something that has all this potential and power, but that it's sitting as this sort of dead, thing that no one really utilises* (Bo, Interview transcript pp. 4-5b).

> *There is not much support to do e-learning in the Faculty always which I completely understand. We do not have the resources to do it always* (Chrizelle, Interview transcript p. 25).

Workshop or training opportunities at the institution should be focused on Active Learning, it should consider the different faculty contexts and it should be practical considering how a lecturer should implement it, not just theoretically but providing tools that can be implemented in the classroom.

**Table 4.12: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme Active Learning support requirements**

| Pseudonyms | Community | Evidence that support Active Learning | Repository of Active Learning resources | Support from managers | Preparation of students for Active Learning methodology | Support with use of technology | Workshop/ training | Frequency of contribution per participant |
|---|---|---|---|---|---|---|---|---|
| Anne | 0 | 4 | 0 | 1 | 2 | 0 | 1 | 8 |
| Bo | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 5 |
| Chrizelle | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 5 |
| Daren | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| David | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 3 |
| George | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Heleen | 2 | 1 | 0 | 2 | 0 | 0 | 2 | 7 |
| Hope | 0 | 1 | 0 | 2 | 2 | 0 | 1 | 6 |
| Lisa | 0 | 5 | 0 | 4 | 1 | 0 | 1 | 11 |
| Lucy | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 3 |
| Melissa | 1 | 2 | 0 | 2 | 0 | 0 | 1 | 6 |
| Frequency of codes per sub-theme | 6 | 14 | 2 | 13 | 6 | 3 | 12 | 56 |
| # Participants | 3 | 6 | 2 | 7 | 4 | 3 | 9 | |

- *Support from managers or administrators/decision makers*

Even though five participants referred to their managers providing support, seven participants said that they either needed more support from their managers or the administrators/decision makers. The concerns raised included one participant referring to her manager in not being supportive and the institution not taking a definitive stance for Active Learning by creating working conditions that would support Active Learning as reflected by lecturers not having enough time to prepare (two participants), different subjects given to a lecturer every year (one participant), Active Learning participation marks not being captured for the year mark (one participant) and Active Learning strategies not being enforced to be used in all the classes (three participants). It looks like participants are not feeling that using Active Learning is a priority for the institution and that when it comes to decision making that creating platforms to facilitate and help lecturers using Active Learning is not prioritised.

- *Support to students*

The possible lack of support to equip students to embrace Active Learning strategies in the classroom was also highlighted. Four participants explained how either motivated students should be recruited or students should be prepared for Active Learning when enrolled and that decisions should be made that allow for students to take responsibility for their own learning which would be one of the fundamental properties of Active Learning implementation.

> *We're pressured so much to cater for the students that we do them damage because we're not teaching them to take accountability for themselves* (Anne, Interview transcript p. 16).

A student that takes responsibility for their learning would also be a motivated student. Lisa is clear when she explains that students should be given a realistic picture of what to expect from a proposed degree so that students that are motivated to learn that subject field enter the classrooms and not students that just want to study any degree.

> *I would say to get students more motivated to be here and to already not have that obstacle of buy-in being a problem would be the kind of students that we recruit* (Lisa, Interview transcript p. 27).

> *An issue of an individual not wanting to do things on their own, having things done for them but now we are projecting it into the passive and the learning environment and the active learning and the passive... and that person shouldn't be an academic person...* (Hope, Interview transcript p. 26)

- *Sources of knowledge*

Two participants referred to support in the form of having access to resources that enable Active Learning activities or text online resources on teaching methods.

Daren explained the resource support he would require:

> *For example if you want…if you want to play a card game or any of the resources that you might want to involve in some of your games for your active or activities. Then that might be an issue because some of the resources might not be part of this tertiary list that you have…that you've…that you've got access to. So now you might need to convince people actually have provision for you to get some of that stuff* (Interview transcript p. 23).

Chrizelle refers to online resources that would help her find the best strategy for a particular class:

> *Okay I want to…for instance recently I have become very interested in the Harvard case study method so I want to have a place where I can go okay here are the resources, here is how it works blah, blah, blah and here is how some lecturers have incorporated it in their studies. So I think almost a resource place to go to actually read these things* (Interview transcript p. 24).

- *Support in using technology*

Three participants mentioned that the institute did not provide sufficient support for them using technology in the classroom. Internet connectivity and bandwith being the biggest stumbling block. As mentioned before, the Institute is outspoken with regards to its view on using technology in the classroom. According to the PIHE website: "At Pearson Institute we place technology at the centre of all our interactions with you because we believe that technology can enhance the learning environment and prepare you for the workplace of the twenty first century. We provide you with a tablet device on our degree programs and digital content so that you can immerse yourself in technology from day one. You can use the device to do your assignments, to film lectures, to read digital content, to conduct research and to communicate with lecturers and peers." (www.pihe.ac.za). With this in mind it is quite worrisome to have lecturers not feeling adequately supported having to use technology in the classrooms and this would have to be addressed urgently.

#### 4.3.6.2.2 Evidence for Active Learning

This section is riddled with feedback provided by students and that which is observed by the lecturers themselves that make lecturers doubt the success of Active Learning in the classroom. Six participants made it known how they needed evidence to support their teaching strategies which primarily is based on Active Learnng. They want to

believe it and they do as most of them explained (section 4.6.1.2) but they are concerned about what in some cases they see.

Melissa shared how after implementing an Active Learning activity it did not help students perform better*:*

> *…then I had a master plan…let the students write a test on the things we did active learning wise and the things we did blah, blah, blah you know point by point. Blah, blah, blah is not going to help, and then it did not work my way because I thought okay you going to see now. You can see that the active learning stuff you remember wonderfully and the other stuff not so much but they just did not remember anything* (Interview transcript p.11b).

As Melissa explained:

> *Testing what the benefits (of using Active Learning) are actually so that we can prove afterwards. It would be nice if there is support from the institution if it is a project, you know, we can launch and I have issues, this kind of issues now with my students. You can go to someone and speak about it and from other points of view see how can we handle this. A more formalised approach instead of just having to speak to your friends, I suppose* (Interview transcript p.12b).

Lisa stated: "Marks have been, semester test marks have been very poor, so I can't in that way say that the strategies that I've been using have been effective" (Interview transcript p.15).

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Hope had repeatedly students tell her how they wanted her to still continue using Active Learning strategies but identified their inability to retain knowledge long enough to transfer it during the assessment period. This would show that students are not deep learners and simply keep knowledge in their short-term memory.

Anne wants to obtain evidence to support her teaching philosophy:

> *Just so I can get a better sense of whether my approach is working or not because last year I just couldn't get a sense of when they would read and when they wouldn't. So this is my, this is my future evidence (Interview transcript p.17).*

The "lack of evidence" that is evident in what some of the participants shared above could rather be a reflection of the "lack of skills to facilitate Active Learning effectively". As has been pointed out in Chapter 2, Active Learning strategies do impact the success of students only when lecturers have the necessary skills to facilitate it, otherwise it only resembles Active Learning without any impact (Andrews et al., 2011). In a higher education institute in Malaysia a study that investigated the view of lecturers and students on student-centred learning found that a shortcoming in the successful

implementation of student-centered learning was lecturers not having enough experience in implementing it and that more training and workshops would be required (Osman, Jamaludin & Iranmanesh, 2015). This furthermore underlines the need for the professional development of lecturers at this institution in using Active Learning effectively.

#### 4.3.6.2.3 Community

For a study that has its conceptual framework situated in part in the community of practice theory it was interesting to find three participants who felt they needed more support in the form of a community. It has been shown in section 4.6.3.1 that six participants have found support from their colleagues previously, but these were all unstructured informal relationships that found their way to provide some support.

> But, I saw the benefit of doing these things with people, and specifically with Michelle* *who wasn't in my department...and to sort of … the cross-pollination of what you can use in one class, in one module and bring it across to an entire different faculty and how it would work. I think it's beneficial to everyone (Bo, Interview transcript 3b).

Heleen felt that she could benefit from some form of mentorship program:

> If somebody can actually explain to me, you know what, this is how it can work or this is how you can assess so I would really enjoy that if somebody can actually, I do not know, step by step explain it to me or say okay Heleen what are you doing? This is what you can actually do as well (Interview transcript p. 20).

Melissa referred to making it more formal:

> *You can go to someone and speak about it and from other points of view see how can we handle this. A more formalised approach instead of just having to speak to your friends, I suppose* (Interview transcript p. 12b).

A need identified by this study is that lecturers could benefit from formal more structured peer support sessions. When lecturers can learn the same way their students are supposed to learn it can be effective as has been pointed out in a study that showed lecturers that experienced successful peer interaction guided by literature on reflection and cooperative learning enabled them to become better facilitators of cooperative learning themselves (Farrell & Jacobs, 2016). Professional learning communities (PLC) have also been found in higher education institutes, these

*Pseudonym used to protect identity of person mentioned

communities are “composed of team members who regularly collaborate toward continued improvement in meeting students’ academic, social and cultural needs through a shared vision” (Hilliard, 2012, p. 71). The more formalised structured nature of PLC is evident in the very important role of the PLC facilitator who needs to coordinate the group’s activities, encourage and support community building, support individual lecturers and promote group leadership to ensure sustainability of the PLC (Margalef & Pareja Roblin, 2016).

To conclude, the participants have acknowledged some form of support from the institution but clearly participants do not feel that it is adequate and primarily highlighted their lack of knowledge in using Active Learning strategies. This could be rectified with better training and workshop sessions that are focused on Active Learning. Participants require better support from the institution to allow them without inhibition to facilitate Active Learning in the classroom.

## 4.7 CLASSROOM OBSERVATION DATA

This section presents and discusses the results obtained in this study from the classroom observation data. The Practical Observation Rubric To Assess Active Learning (PORTAAL) (Eddy et al., 2015) (see Appendix E) was used as the observation tool to identify Active Learning activities. This rubric was specifically designed to measure Active Learning in Science classrooms (Biology) in Higher Education at the University of Washington, USA. In their case lecturers knew on what basis they were assessed and thus had a clear guideline to what was expected of them and designed their lectures accordingly. In contrast the participants in this study did not know that I was using a specific Active Learning Assessment tool. Thus I could not use the tool exactly as described by the authors of the PORTAAL tool. I did however use their tool as a guideline to identify possible Active Learning activities in the classroom. I also had participants from various subject specific backgrounds, which would differ from the science orientation of the PORTAAL tool.

According to Eddy et al. (2015) they found four best practices for implementing Active Learning which include the following four domains: Practice, Logic development, Accountability and Apprehension reduction. These four domains are captured within

the PORTAAL tool. The dimension Practice measures the total time spent in the class on Active Learning which relates to the time students spent in talking or practicing course material. Activities should also stimulate higher order thinking skills, thus the Logic development domain. Here the frequency when lecturers ask students to explain their reasoning behind answers is documented. The third domain, Accountability, captures if the instructor provides incentives for students to participate in the classroom which could include whether points or marks are rewarded for assigned activities. The last domain, Apprehension reduction, sets out to document the quantity of positive feedback responses from the lecturer that are directed to the class as a whole.

The PORTAAL tool manual which I received electronically by communicating with authors defines an activity as: “Any opportunity for students to use class time to engage actively with course materials” (Converse, Eddy & Wenderoth, 2014, p. 3). This could include clicker questions, any questions posed to the class by the lecturer where a student responds and worksheets handed out in class. Student questions could be considered as Active Learning if the lecturer asks the class to answer the questions. Questions asked by students answered by the lecturer or questions asked by the lecturer answered by lecturer is not seen as Active learning opportunities (Converse et al., 2014). The way in which activities were done was also recorded which include how the question posed by the lecturer was answered: individually, small groups, student volunteers, random call or cold call. The difference between random and cold call is that a lecturer who simply calls on any specific student to answer would be cold call versus random call where the lecturer would use a list from which a student name is randomly selected. In all cases observed lecturers depended on volunteers to answer or resorted to cold calling when no one volunteered. No one used random calling. Interestingly a study done in an undergraduate management accounting course required for a Business Administration degree at North Eastern University, Boston, USA. showed that significantly more students will answer questions voluntarily in classes with high cold calling and that the number of students voluntarily answering questions in classes with high cold calling increased over time. They also found that students in high cold calling classes would answer more voluntary questions than those in low cold calling classes (Dallimore, Hertenstein & Platt, 2013). From this study it seems that students can become more engaged in the classroom

by using cold calling initially as this will prime students to want to answer questions more on a voluntarily basis. I wanted participants to show me how they facilitate Active Learning in the classroom, thus each participant was free to choose which class I would attend.

### 4.7.1 Theme 1: Facilitation

With the principles of the PORTAAL tool as my basis of understanding I set out to observe the classes of the 11 participants in this study. When analysing the video recorded observations I coded it according to the six groups of codes that had been identified from the interview data (see Table 4.3): Different questioning techniques, Engagement via reading, Engagement via students doing hands on activities, Engagement via technology, Engagement via writing and Interaction with peers. The PORTAAL tool provided primarily guidelines with regards to the different questioning techniques that lecturers used. Table 4.13 contrasts the different strategies as coded from classroom observation data and interview data. It appears that lecturers were using different questioning techniques the most , although other forms of activities not necessarily captured by the PORTAAL tool were also observed such as engagement via hands on activities. PIHE lecturers also do not have access to clickers thus that could not be assessed as required by the PORTAAL tool.

**Table 4.13: Code frequency table derived from Atlas ti v. 7 per participant for sub-theme strategies observed during class visits vs that retrieved from interview data**

| Pseudo-nyms | Different questioning techniques | | Engagement via reading | | Engagement via students doing hands-on activities | | Engagement via technology | | Engagement via writing | | Interaction with peers | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Interview | Observa-tion | Interview | Observa-tion | Interview | Observa-tion | Interview | Observa-tion | Interview | Observa-tion | Interview | Observa-tion | |
| Anne | 0 | 21 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 26 |
| Bo | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 7 |
| Chrizelle | 0 | 16 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 1 | 25 |
| Daren | 0 | 17 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 4 | 1 | 26 |
| David | 0 | 13 | 0 | 1 | 7 | 0 | 0 | 1 | 0 | 0 | 5 | 1 | 28 |
| George | 1 | 2 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 12 |
| Heleen | 2 | 7 | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 4 | 3 | 21 |
| Hope | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 5 |
| Lisa | 1 | 36 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 2 | 1 | 48 |
| Lucy | 1 | 13 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 21 |
| Melissa | 0 | 15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 21 |
| Frequenc y of codes per sub-theme | 6 | 141 | 2 | 1 | 17 | 9 | 2 | 3 | 3 | 8 | 38 | 10 | 240 |
| # Partici-pants | 5 | 10 | 2 | 1 | 8 | 4 | 2 | 3 | 1 | 4 | 11 | 8 | |

From Table 4.13 it can be seen that in most cases the frequency of codes identified from interview data does not necessarily align with that which was observed in the classroom. Only five participants mentioned questioning techniques in their interviews although ten participants were actually using questioning techniques in their classrooms. Also all the participants mentioned that they would use peer learning (i.e small group interactions) in their classes although I only observed this happening in eight of the classes. Another difference was seen in the use of hands on activities, eight participants referred to hands on activities during their interviews although I only observed four classes in which it happened. One needs to bear in mind that I only attended one class and that strategies used as already established in 4.6.1.4 would differ based on several factors including class size, year taught and module taught.
In the next sections I will discuss each of the classes facilitated by the participants by providing a visual timeline that summarises all the codes that were captured for that particular class.

## A. Faculty of Commerce and Law

### 4.7.1.1 Melissa's class

I attended Melissa's Research methodology (CORM211) class on 9 October 2015, which started 15:38 for 1 hour and 7 minutes. This was a late afternoon class on a Friday and she only had 16 second year students in her class. Melissa's whole class was based on work that has been done and students were expected to work through a case study and answer questions as homework before the class. This covered different research methods that could be used. She started off to establish whether students did their homework and upon realisation that many did not do it she provided opportunity in class for them to complete it. The homework assignment became an Active Learning assignment in class with Melissa questioning them and engaging them through small group interaction constantly engaging students. It is important to note that everyone heard questions and answers asked by Melissa. According to the PORTAAL tool, it is important for questions and answers to be heard by everyone, which would be a characteristic of Active Learning. Melissa would repeat answers provided by students if everyone did not hear them.

Figure 4.11 shows a timeline of Melissa's class highlighting all the activities that were coded. During Melissa's interview she referred to students working in groups as well as hands-on activities as examples of Active Learning strategies that she used, however in her class by far she heavily relied on questioning as a way to engage students. Once again it has to be noted that the strategy or strategies used would differ between modules taught as well as the number of students in the class and even the year of students taught. Only one of Melissa's classes was attended which would afford a limited view. By considering the timeline it becomes apparent that students were continually engaged throughout the class, not much time elapsed between each activity coded on the timeline. Melissa typically had sections that were lecturer-centred where she did some explaining but then frequently alternated it with student - centred activities to keep students engaged as seen by the numerous codes assigned.

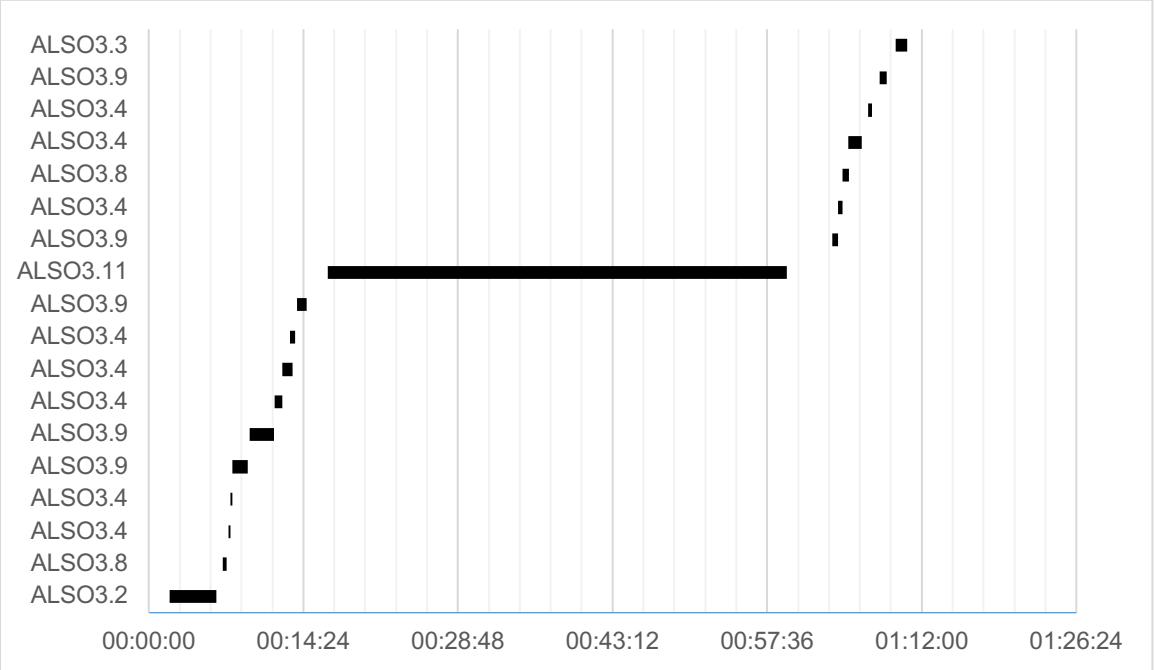


**Figure 4.11: A timeline indicating each activity that was coded in Melissa's class observation**

| | |
|---|---|
| ALSO3.2 | Review of homework, not done by students |
| ALSO3.3 | Homework given for students to further check understanding |
| ALSO3.4 | Revision: Question answered voluntarily, heard by everyone |
| ALSO3.8 | Revision: Question answered via cold calling, heard by everyone |
| ALSO3.9 | Revision: Question not answered, lecturer guides students to find the answer |
| ALSO3.11 | Revision: In small groups each group gets a question or questions to answer, feedback given to class |

#### 4.7.1.2 Heleen's class

I attended Heleen's Marketing (COMK221) class on 9 October 2015, which started 09:54 for 1 hour and 22 minutes. The topic of the class was Introducing new market offerings. She had 16 second year marketing students in her class. Figure 4.12 shows a timeline of Heleen's class highlighting all the activities that were coded.

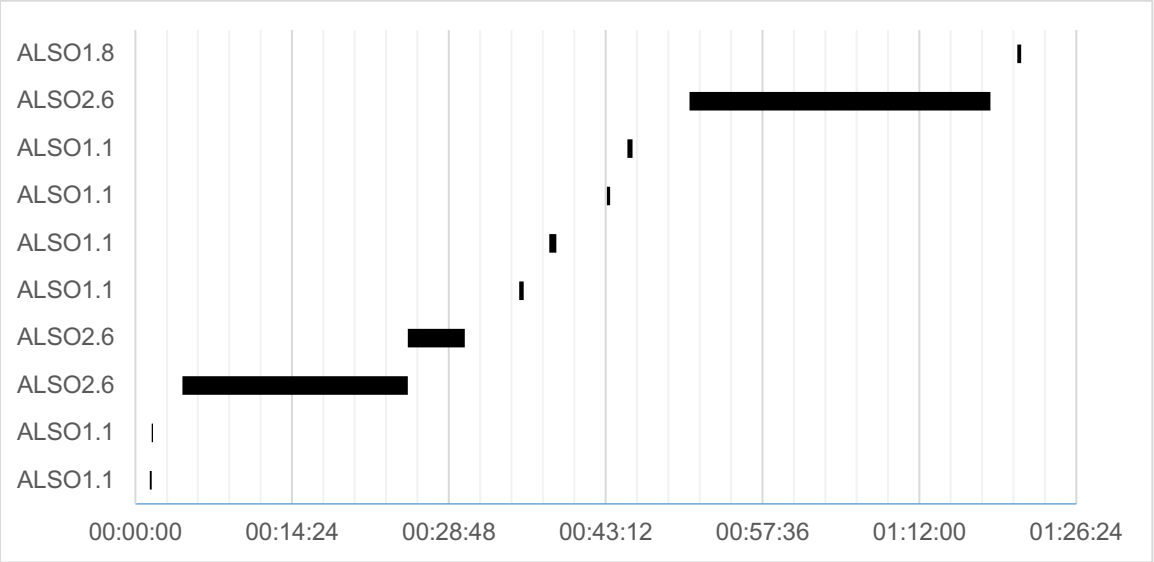


**Figure 4.12: A timeline indicating each activity that was coded in Heleen's class observation**

| | |
|---|---|
| ALSO1.1 | Lecturer asks, answered by volunteer, heard by everyone |
| ALSO1.8 | Lecturer asks, answered by volunteer, not correct, lecturer provides guidance for that student to come to answer |
| ALSO2.6 | In groups each group gets a question, each group provides feedback to class |

Heleen particularly used questioning as well as small group interaction as a way to engage her students throughout the class. She had larger sections of time that were lecturer-centred where she used PowerPoint slides to explain concepts or reinforce concepts already identified by the students. Heleen primarily facilitated learning by rather having the students first complete an activity in a small group and then by using their answers, she would build it into the principles or rules or characteristics of a particular concept. She allowed students to first create knowledge themselves in consultation with peers, which she then reviewed and either applauded or rejected with proper justification. This would be characteristic of the typical constructivist learning philosophy whereas already mentioned, people learn best through personally meaningful experiences that enable them to connect new knowledge to that which they already believe or understand (Killen, 2007).

In comparison to Heleen's interview engagement via reading, hands on activities and engagement via technology were not observed in this specific class. However, one could argue that students were engaged to read using technology as some students out of their own accord did use their smart devices to look up information to support their findings.

#### 4.7.1.3 Chrizelle's class

I attended Chrizelle's Law for Psychology (LWLP321) class on 16 September 2015, which started 09:53 for 1 hour and 21 minutes. The topic of the class was the Constitution and human rights. She had approximately 35 third year psychology students in her class. Figure 4.13 shows a timeline of Chrizelle's class highlighting all the activities that were coded. Chrizelle refers to her teaching style as being "chunked". She would first present a section to the students following the traditional lecturer centred approach by using PowerPoint slides following it with a quick activity that would either entail a question or an exercise where they need to apply that which should have been learnt. She started her class by providing a scenario to set the stage for students as to what to expect from the class. Chrizelle asked questions frequently as seen on the timeline but it has to be mentioned that in some cases answers provided by students were not heard by everyone (Code ALSO1.2), this hampered the learning process and not everyone could benefit from hearing the answer to the question. According to the PORTAAL tool these type of question/answer activities would not be considered as Active Learning.

During Chrizelle's interview she primarily spoke about engaging students in Active Learning by using small group discussions, she however showed during her class observation that she also depends heavily on questioning and that by using a case study engaged students to apply that which they should have learnt providing an example of engagement via hands-on activities. Case studies have been reported as an Active Learning methodology that facilitates the development of critical thinking that particulary would be of relevance to students needing to compose, interpret and respond to literature (Johannessen, 2000).

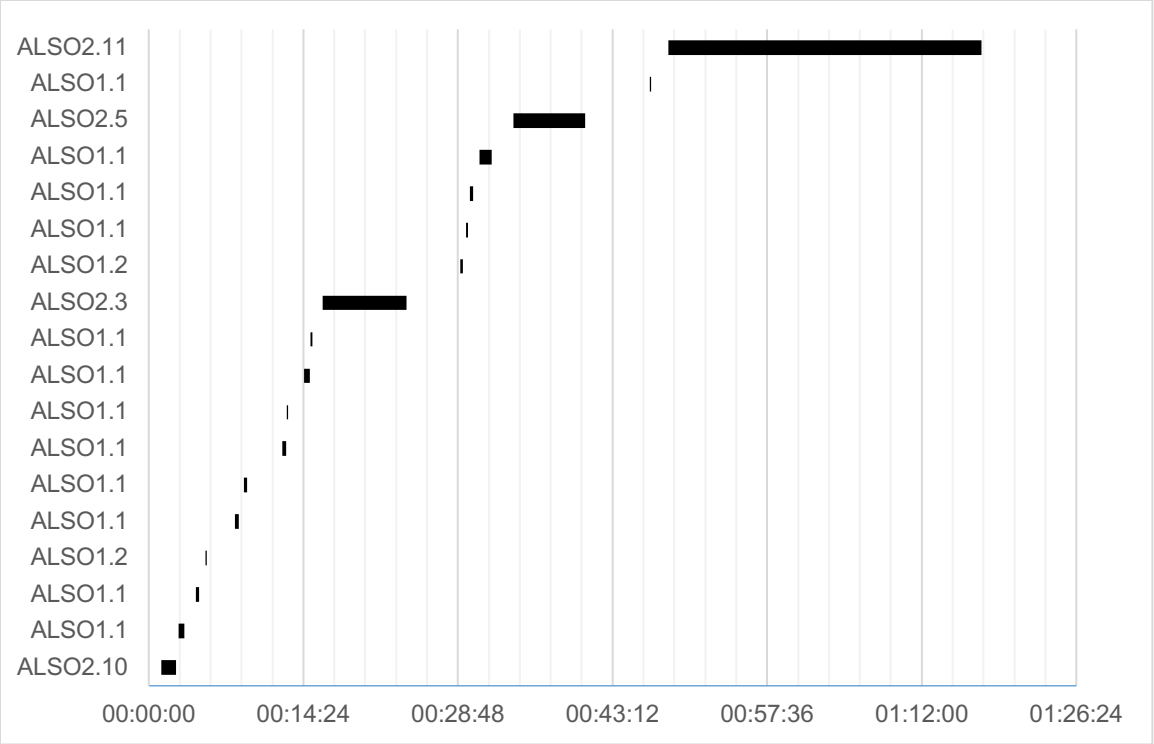


**Figure 4.13: A timeline indicating each activity that was coded in Chrizelle's class observation**

| | |
|---|---|
| ALSO1.1 | Lecturer asks, answered by volunteer, heard by everyone |
| ALSO1.2 | Lecturer asks, answered by volunteer, not heard by everyone |
| ALSO2.3 | Students perform an exercise in pairs to reinforce what was learnt theoretically |
| ALSO2.5 | Students perform an exercise individually to reinforce what was learnt |
| ALSO2.10 | Lecturer provides scenario for students and asks if they think it is possible |
| ALSO2.11 | Lecturer gives students a case study and guides them through it |

#### 4.7.1.4 Lucy's class

I attended Lucy's Law of person's (LWPL111) class on 11 April 2016, which started 12:07 for 58 minutes. She covered the topic Domicile with first year law students. She had approximately 65 first year students in her class. Figure 4.14 shows a timeline of Lucy's class highlighting all the activities that were coded. Lucy started her class by first offering an activity where she reviewed concepts students should have learnt from the previous class. The students had homework which in most cases was not done thus she used an activity where she asked students to sit in pairs and give each one either a number one or a number two. She would ask a question which in the first instance had to be answered by the student numbered one but then this student had to explain it to the student numbered two which Lucy then cold called to provide the answer. With each question she would alternate between whether student numbered one would answer and explain or if student numbered two would answer and explain.

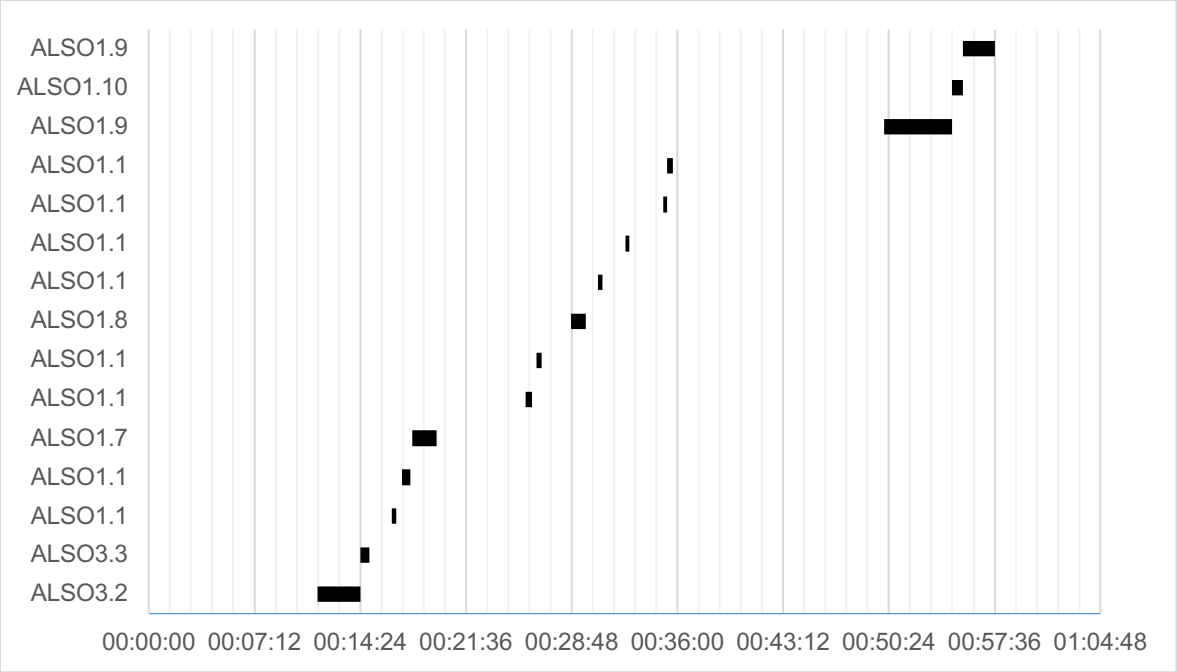


**Figure 4.14: A timeline indicating each activity that was coded in Lucy's class observation**

| | |
|---|---|
| ALSO1.1 | Lecturer asks, answered by volunteer, heard by everyone |
| ALSO1.7 | Lecturer asks, answered by volunteer, not correct, provides opportunity for other volunteers |
| ALSO1.8 | Lecturer asks, answered by volunteer, not correct, lecturer provides guidance for that student to come to answer |
| ALSO1.9 | Lecturer asks if students have any questions |
| ALSO1.10 | Student initiated question given back to class to answer based on volunteers or cold calling |
| ALSO3.2 | Review of homework, not done by students |
| ALSO3.3 | Homework given for students to further check understanding |

Lucy also did not use PowerPoint slides like most participants but created mind maps on a white board adding concepts section by section as explained by her. Lucy interjected the drawing of the mind map or concept map by asking the class questions (ASLO1.1, 1.9 and 1.10). Lucy did not provide answers immediately if a student had it incorrect but rather provided an opportunity for others to answer (Code ALSO1.7) or she guided the student to arrive to the answer him/ herself (Code ALSO1.8). This is typical of a teaching style, which facilitates learning by guiding a student to find the answer himself or herself instead of spoon feeding a student where an answer is simply given by the lecturer. Lucy like other participants in the study, alternated between lecturer-centred provision of knowledge and student-centred engagement via questioning. As already mentioned, students creating concept maps is considered an Active Learning strategy (Zayapragassarazan & Kumar, 2012), although in Lucy's case she creates the concept map which in most cases is simply copied by the

students. This leads to the suggestion that Lucy could engage her students even more by having them draw their own concept maps. She ended her class by opening the floor for questions. According to the PORTAAL tool questions originating from a student is not considered Active Learning unless it is given back to the class to answer. Lucy did this in some cases (Code ALSO1.9) but not all. I believe that time constraints could limit a lecturer to engage students in Active Learning questioning, having a lecturer rather opt to answer questions posed by students themselves instead of asking the class to respond.

In comparison with Lucy's interview she reflected questioning and the use of small group learning. She however had evidence of students engaged by writing as they had homework, which required them to write out answers although not well supported. She did not have evidence of engagement via hands on activities in her observed class as referred to by her in her interview.

## B. Faculty of Social Sciences

#### 4.7.1.5 David's class

I attended David's Journalism writing 2 (ACJW201) class on 15 April 2016 which started 09:05 for 1 hour and 21 minutes. The topic of the class was writing personality stories. He had 32 second year journalism and public relation students in his class. Figure 4.15 shows a timeline of David's class highlighting all the activities that were coded.

David started his class by first revising that which the students should have learnt from the previous class. Interestingly it seemed like the students were divided in two groups sitting on opposite sides of the aisle, which is in the middle of the classroom. The reason for this became apparent as David provided different examples that would resonate with the different groups during his teaching sections of the class. He had both journalism and public relation students in his class and he provided them more qualification specific learning opportunities. He used PowerPoint slides to facilitate his class by being at the centre of knowledge transfer; this however was interspersed with frequent questioning (codes ALSO1.1 and 1.7). It was clear that David wanted the

students to answer the questions and would direct questions back to the class when required (ALSO1.10).

It happened as seen with code ALSO2.1 that students did not know a certain definition, David did not provide them the definition but asked the students to use their tablet devices to search the Internet for the definition. He then randomly asked students to read what they found. Together the class then concluded what the correct definition would be.

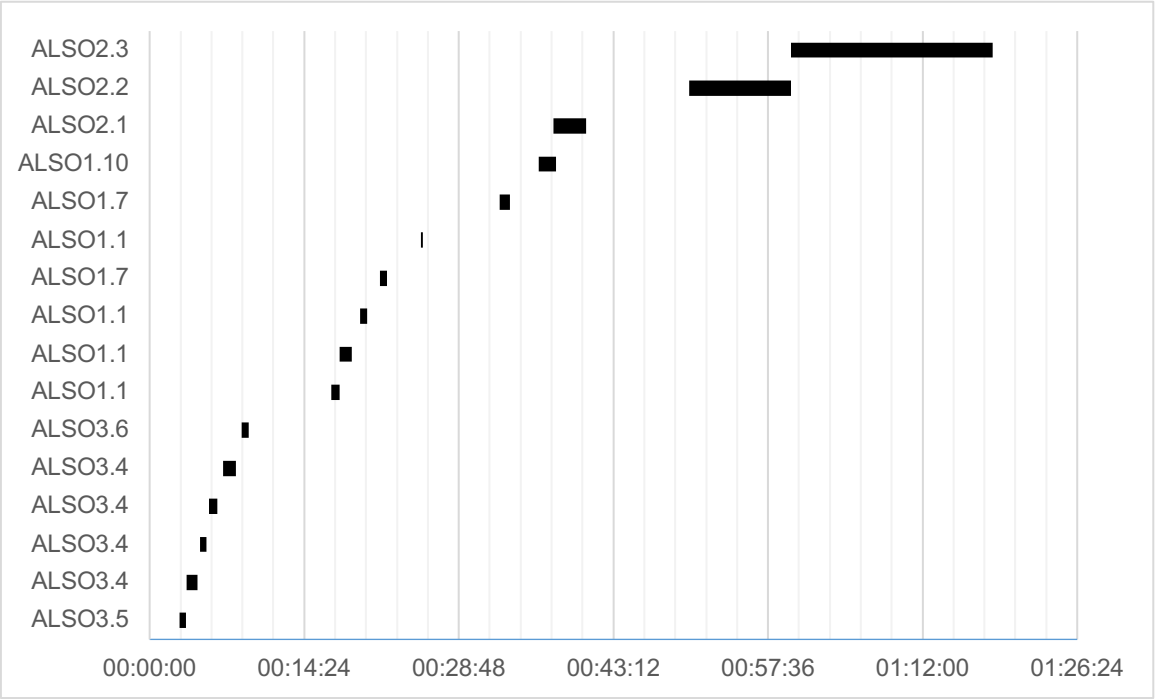


**Figure 4.15: A timeline indicating each activity that was coded in David's class observation**

| | |
|---|---|
| ALSO1.1 | Lecturer asks, answered by volunteer, heard by everyone |
| ALSO1.7 | Lecturer asks, answered by volunteer, not correct, provides opportunity for other volunteers |
| ALSO1.10 | Student initiated question given back to class to answer based on volunteers or cold calling |
| ALSO2.1 | Search for definition on the internet using tablets |
| ALSO2.2 | Pairs read section discussed in textbook |
| ALSO2.3 | Students perform an exercise in pairs to reinforce what was learnt theoretically |
| ALSO3.4 | Revision: Question answered voluntarily, heard by everyone |
| ALSO3.5 | Revision: Question answered voluntarily, not heard by everyone |
| ALSO3.6 | Ask question, answered voluntarily, other students asked to comment if correct |

David ended his class by engaging the students in a reading exercise, after which students in pairs had to discuss what they have read (ALSO 2.2). David facilitated this exercise by putting students together in pairs where students were sitting on their own.

He also spent time with the different groups to hear what they were talking about. This was followed by an exercise where the students had to use that which they read and spoke about to write a personality story.

When comparing David's classroom observation with his interview data one can see that David elaborated extensively in his interview about how he engages his students in the classroom by "hands on activities" as well as peer learning. Both of these were observed in his classroom (ALSO2.3) and even more active learning strategies were seen including questioning (ALSO1.1, 1.7 and 1.10), engaging students by reading (ALSO2.2) and technology (ALSO2.1).

#### 4.7.1.6 Bo's class

I attended Bo's Digital design (ACDD120) class on 30 September 2015, which started 11:40 for 1 hour and 8 minutes. She co-presented a class with a colleague where they used a past student who graduated to teach first year students how to bind a book. Bo had 12 students in her class. The students sat around a table each receiving their "book-binding kit". The student facilitator then demonstrated step by step how a book should be bound. The students then followed each of these steps. The facilitator together with Bo and the co-lecturer helped students that struggled. The purpose of this workshop was to teach the students a skill, which they then had to use on their own projects for this specific module that meant that they were enabled to do what would be assessed later as part of their project submission. Figure 4.16 shows a timeline of Bo's class.

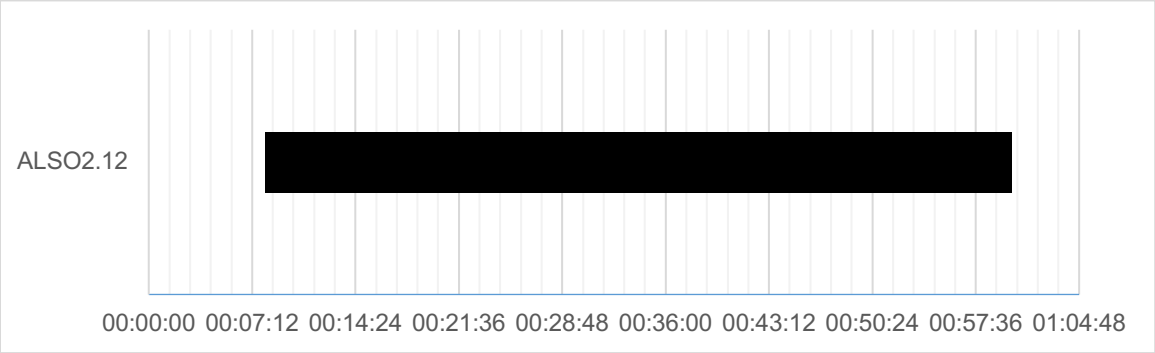


**Figure 4.16: A timeline indicating the activity that was coded in Bo's class observation**

ALSO2.12 Graduate student demonstration and workshop

In Bo's interview she shared about hands on activities and peer learning being her preferred Active Learning strategies. In this class observation I could see how students by participating in the book binding activity were engaged for the whole class period. By doing the activity they not just learnt the technique but alternatives and shortcuts were discussed too, which allowed the students to develop a holistic understanding.

#### 4.7.1.7 Anne's class

I attended Anne's Assessment and Evaluation (SSAE311) class on 7 March 2016, which started 12:40 for 1 hour and 20 minutes. She covered basic Measurement and scaling concepts with third year psychology students. She had approximately 80 students in her class. Figure 4.17 shows a timeline of Anne's class highlighting all the activities that were coded.

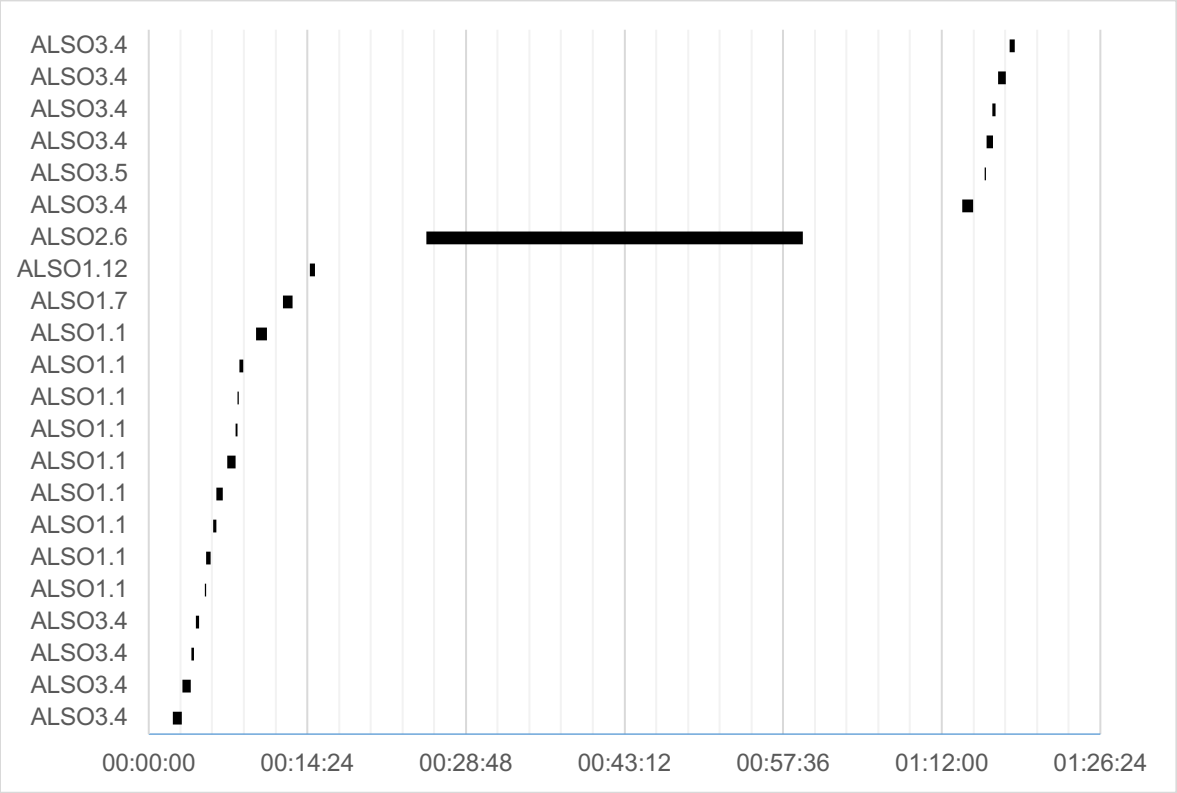


**Figure 4.17: A timeline indicating each activity that was coded in Anne's class observation**

| | |
|---|---|
| ALSO1.1 | Lecturer asks, answered by volunteer, heard by everyone |
| ALSO1.7 | Lecturer asks, answered by volunteer, not correct, provides opportunity for other volunteers |
| ALSO1.12 | Students do not understand, a student asked to explain how they understand it |
| ALSO2.6 | In groups each group gets a question, each group provides feedback to class |
| ALSO3.4 | Revision: Question answered voluntarily, heard by everyone |

ALSO3.5 Revision: Question answered voluntarily, not heard by everyone

Anne started her class by asking the class questions on content that were covered in the previous class; students voluntarily answered these questions (ALSO3.4). She also used PowerPoint slides to facilitate knowledge transfer to students frequently interjected by questions (ALSO1.1). Anne had an opportunity in the class where she used a student to explain their understanding of a concept to the rest of the class (ALSO1.12); this peer learning strategy helped the students of the class to successfully grasp the understanding of the concept.

Anne then engaged the students in constructing their own understanding by allocating the class into four groups of approximately twenty students per group, these groups however were quite large which hampered the successful engagement of every student. According to a study done at the Wolaita Sodo University in Ethiopia, second year students preferred to work in groups in a ratio of one to five (Gulfon & Obsa, 2015). It has also been argued by Crull and Collins (2004) that groups consisting of five students contribute to successful peer learning. They reported on three different projects they used to engage their class of between 70 and 105 students to learn about research methodologies keeping lecturer work-load in check. Each group had a question they had to solve which centred on a strategy, they also selected a representative that had to present their question and answer to the rest of the class. Students were motivated to participate and learn, as they had to write a short test during class to see if they successfully learnt not just their own question and answer but from the other groups too. The test questions were posed in such a way where students had to decide which of the strategies they learnt about in the group sessions would be best to use in a particular case. An interesting twist was that the group whose strategy was used correctly the most in the test were rewarded. Anne collected the tests to allocate that. This reflected on the group's ability to not just learn but also to transmit the information in such a way that students understood it clearly. Anne had the students peer assess their tests at which every answer was discussed. Anne ended the class by reinforcing that which the students should have learnt from the group activity and test by further engaging the students by questioning (ALSO3.4). It did happen in one instance where everyone did not hear the answer to the question, which hampered the learning opportunity for all students.

#### 4.7.1.8 George's class

I attended George's FPCS010 Computer skills class on 28 September 2015, which started 09:56 for 1 hour and 29 minutes. It occurred in a computer laboratory where each student was sitting at his or her own computer. He only had 18 first year students in his class. He used a textbook to teach students how to create databases in Access, which is part of the Microsoft Office suite. Students writing semester tests during the day in a test period contributed to the poor class attendance. Classes before the test period were usually not well attended. Figure 4.18 shows a timeline of George's class highlighting all the activities that were coded.

George started by explaining to the students what they would be doing during the class session, he also explained by using the study guide how they would have to do it. He used cold calling to ask two questions (ALSO1.3). He seemed to realise by student feedback and body language that he was going too fast and asked the students to redo an exercise that they would have done in the previous session (ALSO3.12). This successfully equipped them then to continue with various exercises (ALSO2.5) on the content that should have been learnt in the current class session. Before each of these exercises George would first explain to the students by sharing his computer screen with all the students on their personal screens to follow, students were then afforded the opportunity to try it themselves. George used this time to move between the students and provide assistance to students that struggled. George shared in his interview how he would question students and engage them with hands on activities and peer interaction. During his class George did engage the students by asking questions by primarily cold calling. He did not use peer learning in the class observed but did provide ample opportunity for students to learn and apply what they should have learnt by participating in exercises on the computers.

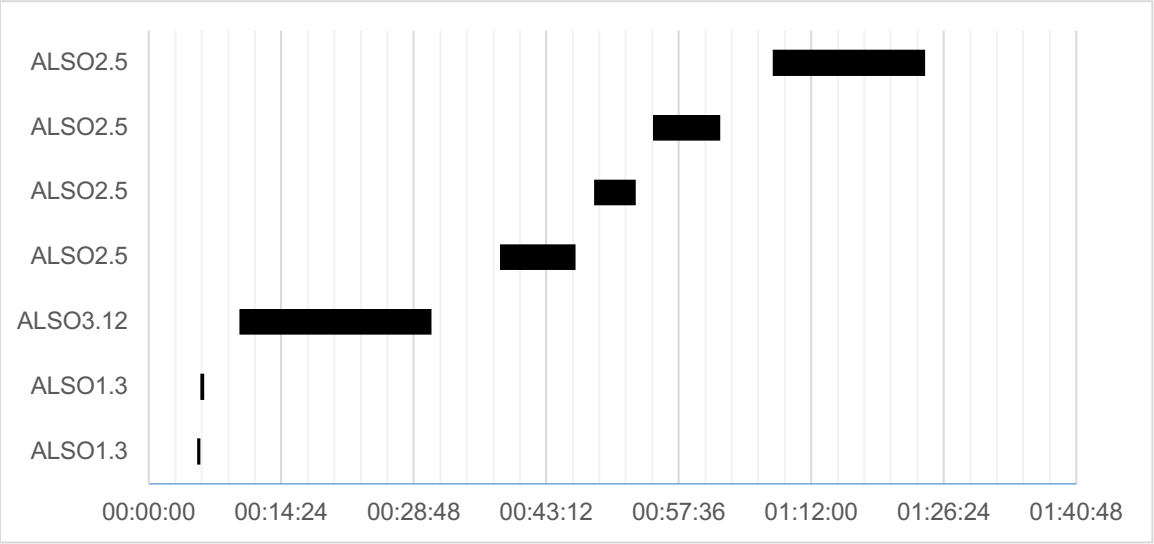


**Figure 4.18: A timeline indicating each activity that was coded in George's class observation**

| | |
|---|---|
| ALSO1.3 | Lecturer asks, answered cold call, heard by everyone |
| ALSO2.5 | Students perform an exercise individually to reinforce what was learnt |
| ALSO3.12 | Revision: Students do exercise they did previously to review what they should know |

#### 4.7.1.9 Daren's class

I attended Daren's Software development (ITSD301) class on 17 September 2015, which started 11:00 for 1 hour and 09 minutes. It also occurred in a computer laboratory where each student was sitting at his or her own computer. He covered the topic: Common Object Request Broker Architecture (CORBA) and Common Object module (COM). He had 16 third year students in his class. Figure 4.19 shows a timeline of Daren's class highlighting all the activities that were coded.

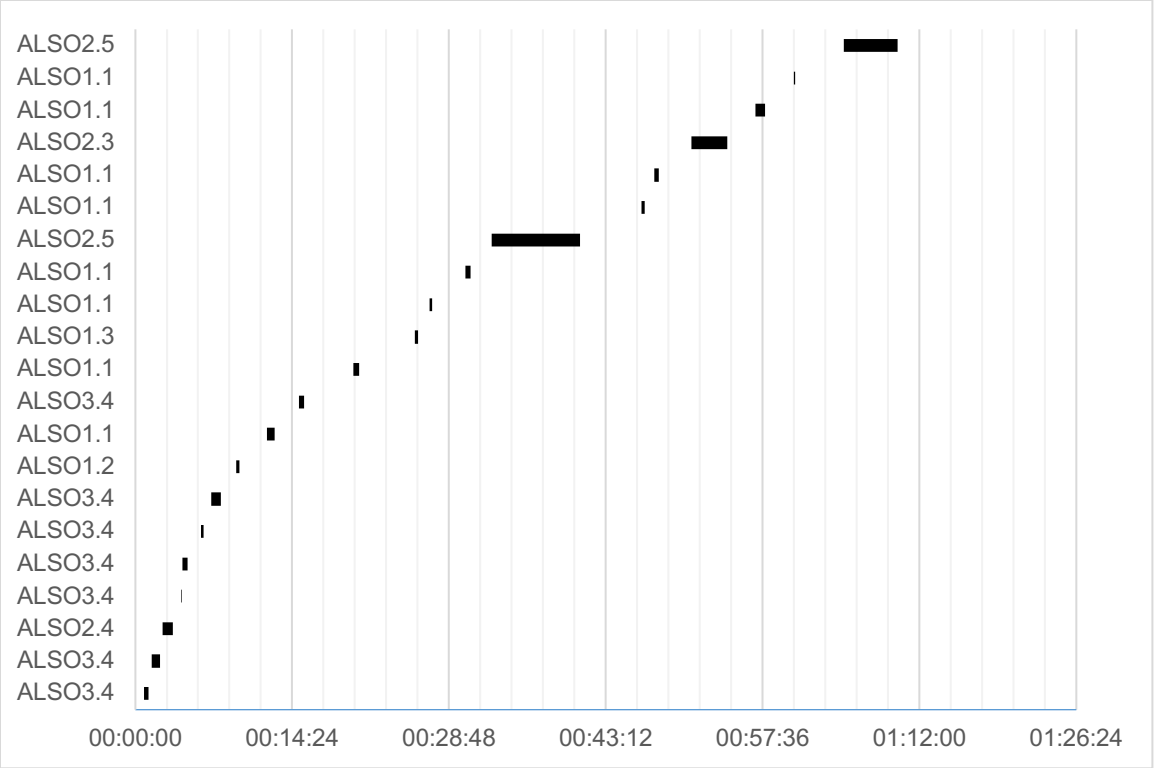


**Figure 4.19: A timeline indicating each activity that was coded in Daren's class observation**

| | |
|---|---|
| ALSO1.1 | Lecturer asks, answered by volunteer, heard by everyone |
| ALSO1.2 | Lecturer asks, answered by volunteer, not heard by everyone |
| ALSO1.3 | Lecturer asks, answered cold call, heard by everyone |
| ALSO2.3 | Students perform an exercise in pairs to reinforce what was learnt theoretically |
| ALSO2.4 | Students had to view video before class to help prepare for acquiring of new concepts |
| ALSO2.5 | Students perform an exercise individually to reinforce what was learnt |
| ALSO3.4 | Revision: Question answered voluntarily, heard by everyone |

His session started with revision of the previous class the students attended, he used questioning to verify their understanding (ALSO3.4). Daren also referred to a video that students had to view before class (ALSO2.4) in preparation for the new content. Daren presented new content by using a PowerPoint presentation. This transfer of knowledge was interspaced with activities that students had to do on the computer. Some of these activities were done individually (ALSO2.5) and others in pairs (ALSO2.3). He ended with the remainder of his session as a practical session where students had to solve practical problems. I did not capture the practical session as the scope of this study only included theory orientated classes.

Daren referred to engaging students via hands on activities and interaction with peers during his interview, both of which were observed in his class. He engaged students

further by frequent questioning (ALSO1.1, 1.2 and 1.3) and had an opportunity for further revision when during his class he referred to content that once again was learnt before, asking the students about it (ALSO3.4 just after 14 minutes into his lecture). This helped students to see how the new knowledge builds on that which has been learnt in the past.

#### 4.7.1.10 Lisa's class

I attended Lisa's Haematology and Cytology (SCHI221) class on 8 October 2015, which started 13:35 for 1 hour and 27 minutes. The topic of the class was the Respiration system. She had approximately 50 second year science students in her class. Figure 4.20 shows a timeline of Lisa's class highlighting all the activities that were coded.

Lisa used PowerPoint slides to transfer knowledge to students. Due to the visual nature of her content she could frequently ask students questions about what they were seeing, helping them in the sense making progress. She had different questioning opportunities where when a student could not answer, another student was asked (ALSO1.7) or she would guide the student who answered incorrectly to arrive to the correct answer themselves (ALSO1.8). It did happen once that due to cold calling a student could not answer a question, where Lisa then provided the answer (ALSO1.11). Effective Active Learning principles as provided by the PORTAAL tool highlights that any question asked by a lecturer answered by the lecturer is not considered as an Active Learning strategy. Lisa helped students to process that which they have learnt by providing them an opportunity in the classroom to write summaries (ALSO2.7). This strategy allows students time to process that which they are busy learning. Lisa also used peer learning as a strategy when she divided students into small groups and gave each one of them a question to answer. Groups then had to go to other groups to share their question and answer. This afforded students to first familiarise themselves with their question and answer and then allowed them to teach others that which they have just learnt. This activity was ended by Lisa asking each group to provide feedback to the whole class where answers were discussed and finalised. Lisa furthermore provided reinforcement by directing students to complete a crossword puzzle that was made available on the Learning Management System (LMS).

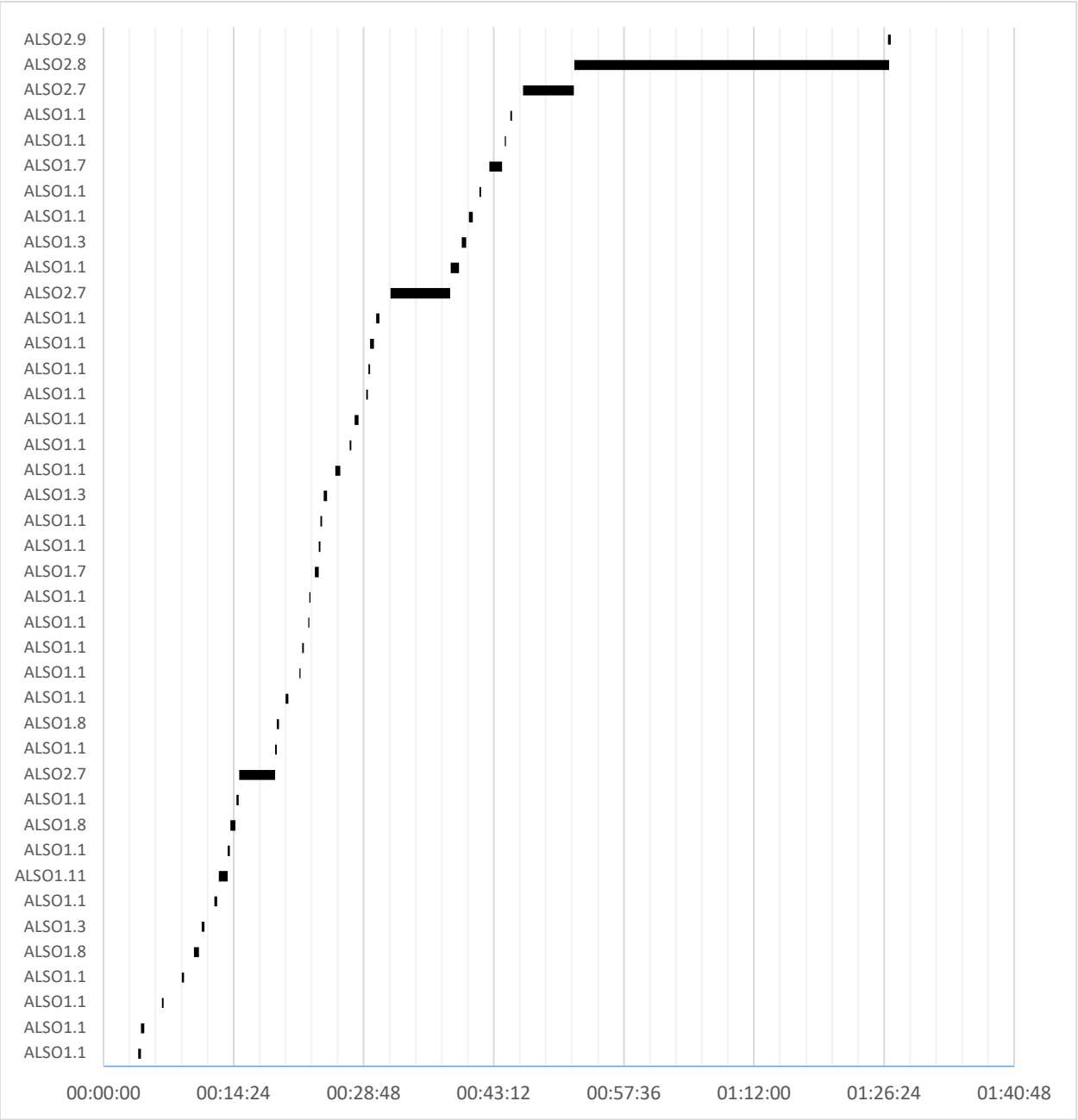


**Figure 4.20: A timeline indicating each activity that was coded in Lisa's class observation**

| | |
|---|---|
| ALSO1.1 | Lecturer asks, answered by volunteer, heard by everyone |
| ALSO1.3 | Lecturer asks, answered cold call, heard by everyone |
| ALSO1.7 | Lecturer asks, answered by volunteer, not correct, provides opportunity for other volunteers |
| ALSO1.8 | Lecturer asks, answered by volunteer, not correct, lecturer provides guidance for that student to come to answer |
| ALSO1.11 | Lecturer asks, answered cold call, can't answer |
| ALSO2.7 | Students get questions to help them write a summary of what was learnt (Summary writing) |
| ALSO2.8 | In groups each group gets a question, groups share answers between groups, then give feedback to whole class |
| ALSO2.9 | Students referred to doing crossword puzzle on LMS after class |

During Lisa's interview she referred to using questioning, technology, writing and interaction with peers as strategies to engage students in Active Learning. The class observation data shows that Lisa is a keen questioner with having 36 questions posed to the class during her session. She engaged students via writing by allowing them time to write summaries and had students engaging with each other, by answering questions in groups. Lisa did not use tablets per se directly in class but students had to use technology to complete a crossword puzzle that was used for reinforcement.

#### 4.7.1.11 Hope's class

I attended Hope's Food technology (SCFT221) class on 15 September 2015, which started 11:49 for 1 hour 22 minutes. She had a session where students submitted questions in a group. Groups then competed against each other for marks in answering the questions satisfactorily. The class covered basic milk and milk production concepts for second year science students. She had approximately 30 second-year students in her class. Figure 4.21 shows a timeline of Hope's class.

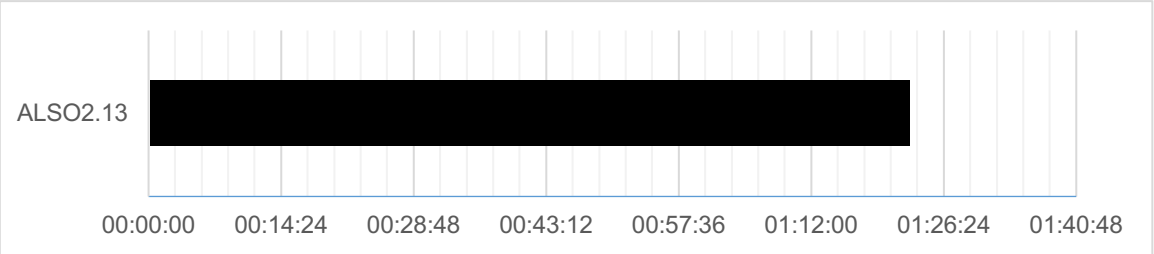


**Figure 4.21: A timeline indicating the activity that was coded in Hope's class observation**

ALSO2.13 Students submit questions that are answered by the class

Hope had an interesting teaching strategy where she had two sessions of 1 hour and 40 minutes each per week with her students. She used the first contact session to transfer knowledge to the students in a more passive learning class environment (this was not observed). The second contact session of the week was only facilitated in an Active Learning way (this was observed). Students were divided into small groups in which they participated each week. Students had names for their groups and in a highly competitive environment these groups competed against each other. Each group was expected to submit a few questions about the previous class (passive learning orientated). These questions were then graded by Hope as

easy, medium or difficult, which provided a guideline of how many marks students would be working for, easy questions contributing fewer marks than more difficult questions. Hope would then state the group name and read each of their questions out to the whole class. The group that had the answer first would raise their hands. They would then provide the answer, which was assessed by Hope and would receive the allocated marks if correct. There was also the possibility that students could “steal” marks from other groups when they provided evidence that an answer that was provided by a particular group was not sufficient. If a question could not be successfully answered by any group then the group that submitted the question could obtain the opportunity to answer their own question for the same marks. The marks for these sessions were recorded per group and contributed to the individual year mark of each student for the module.

This activity allowed students to critically think about the content learnt, as they had to come up with questions, they also were motivated to create difficult questions as they had the opportunity to find out the answer to the question before class. During the session students were not allowed to access the Internet or study notes on the topic. If any other group could not answer the question the group submitting the difficult question had an easy opportunity to score marks. This activity created much excitement in the class but I did perceive some students who were not always happy about how Hope decided who raised their hands first or how many marks were allocated per question. This reflects the subjective nature in which a single facilitator is responsible to determine who may answer first and the perception of how easy or difficult a question might be.

The interview data of Hope shows that she uses questioning, engagement via reading, and interaction with peers as her preferred Active Learning strategies. During this class observation Hope developed a very unique questioning strategy that enabled most students to reinforce the learning that should have taken place.
To conclude this section, participants chose a class that they wanted to be observed as part of this study, based on that which they would perceive as being the best example of Active Learning. It appears from the observation data that all the participants managed to use some of the strategies as identified in this study including: Different questioning techniques, engagement via reading, writing, hands

on activities, technology and interaction with peers. The success of these strategies could not be verified and this study simply provides an overview of that which lecturers are doing at PIHE. The quantity of Active Learning also varied with some participants only using Active Learning (Bo and Hope) in the session observed while others alternated between Passive and Active Learning activities. That which participants referred to in their interviews was in most cases observed in their classes, with a few exceptions. During interviews participants referred to all their classes and the different strategies used while the observation data only included a single class observed which would explain possible discrepancies seen. By far the most popular strategy is the use of different questioning strategies, although it should be mentioned that according to the PORTAAL tool not all questioning is seen as contributing to Active Learning and care should be taken that as many students as possible should be engaged even if cold calling or random calling must be used. Questions and answers must be heard by everyone and lecturers should repeat any questions and answers if they had not been heard by all. LecturerS should refrain from answering their own questions and should rather, as was seen from the observation data, direct the question to another student or guide the student to identify the answer himself or herself. It is however worrisome to see that the use of technology in the classes was limited with only three participants using it in or outside of the classroom. This indicates a gap in lecturer skill set in facilitating learning with the use of technology.

## 4.8 CONCLUSION

This chapter started by providing an ethnographic narrative description of the background of each participant including their teaching philosophy and motivation for being a lecturer in Higher Education. Participants are teaching because they care about students and the impact they possibly could make in their students' lives which afford their students a better opportunity in life. The freedom in curriculum development and delivery together with the expectation of having students that can take responsibility for their own learning were some of the reasons provided to why participants were lecturers specifically in Higher Education. Participants also commented on their first experience they had with Active Learning which was very diverse, ranging from experience as a student themselves, previous work

experience in industry or previous education institute, own professional development and insights from colleagues in the same faculty or department. The document and interview data sorted itself into three themes, which addressed the three secondary questions posed by this study. The three themes were Facilitation, Student performance and Staff support. In understanding how lecturers facilitate Active Learning, not only the strategies they use in the class were considered but also what they perceived to be Active Learning, their motivation for using Active Learning, the factors that influence the strategies they use, the challenges they have in using Active Learning as well as possible solutions to these challenges. This was followed by understanding how participants knew that Active Learning was a successful strategy. The results showed that participants only had limited evidence to substantiate their strong belief in Active Learning as a successful teaching strategy. With regards to staff support the data sorted into two sub-themes reflecting the current support for Active Learning available and then the support requirements to aid participants in using Active Learning as a teaching strategy. Although support seems to be available, participants felt that it offers limited support. Participants also in some way acknowledged their own personal knowledge gap in being effective facilitators of Active Learning and provided the lack of sufficient evidence that support the success of Active Learning strategies as a short coming. Finally, the class observation data contributed to further describe the strategies as identified in the interview data. This provided the necessary confirmation and depth in understanding the strategies participants used to facilitate Active Learning in their classrooms. In the next chapter the results will be discussed in relation to the conceptual framework as described in Chapter 2.

# CHAPTER 5: CONCLUSION, IMPLICATIONS AND RECOMMENDATION

## 5.1 INTRODUCTION

In Chapter 4 the results of the data analysis of this study were discussed by means of considering data retrieved from documents and interview transcripts as well as classroom observation data. In this chapter, I will discuss the conclusions and implications of the results based on the three secondary questions of this study. This will be followed by considering the contribution of this study with regards to the conceptual framework as provided in Chapter 2. The significance and limitations of this study will be discussed followed by a personal self-reflection on the research process followed. The chapter will end by considering future research that could be done based on this study and possible recommendations to interested parties. Within the conclusion of this chapter, reference is made to the major findings of this study.

## 5.2 DISCUSSION IN TERMS OF RESEARCH QUESTIONS

The three secondary questions will be used to guide the discussion in this section.

a. How do lecturers at PIHE facilitate Active Learning in their modules?
b. How do lecturers at PIHE assess student performance in the context of Active Learning?
c. How is support given to lecturers in implementing Active Learning in their modules?

### 5.2.1 Facilitation of Active learning

The following question needs to be addressed: How do lecturers facilitate Active Learning in their modules? Lecturers who participated in this study shared during their interviews what they would typically do in a classroom to facilitate Active Learning. The classes were also observed to see how they were facilitating Active Learning and whether that which was said during the interviews aligned with that which was observed in each class visit.

#### 5.2.1.1 Strategies

Considering the VARK (Visual, Aural, Read/write, and Kinaesthetic sensory modalities) inventory, strategies mentioned during interviews (Chapter 4, Section 4.6.1.1) and observed during the class visit (Chapter 4, Section 4.7.1.1) were grouped into six categories namely: Engagement via reading, writing, technology, questioning, interaction with peers and hands -on activities. The strategies provided by participants during their interviews were reflected during the class visits. Discrepancies seen can be attributed to the fact that only one class per lecturer had been observed, while the interview data reflected multiple classes taught.

It was, however, interesting to see holistically that during the interviews all participants focused primarily on group work (peer learning) as their major strategy used in class. The class observation data, however, showed the largest amount of class time was spent on questioning. I believe that questioning is the least time-consuming strategy available and once mastered, one of the easiest strategies to use. As was seen from the data with regards to the challenges in using Active Learning (Chapter 4, Section 4.6.1.5); the time-consuming nature of Active Learning strategies make it in most cases difficult to use. Also, as previously mentioned, not all group work can be considered to be effective in facilitating Active Learning (Chapter 2, Section 2.2.7). With this said, just because lecturers participating in this study were using group work, that did not mean it was effective. Some participants in this study also did admit to their lack of knowledge when using Active Learning strategies (Chapter 4, Section 4.6.1.5).

Two lecturers participating in this study showed that with planning, a whole class can be delivered via Active Learning. It just needs to be remembered that factors such as content to be covered (module taught) and the number of students influence the quantity of Active Learning per session (Chapter 4, Section 4.6.1.4). The use of strategies outside of the classroom was also identified from the interview data, including on-line activities and class visits. This, however, would not be seen during class observations.

The challenge of this study was that not only were data obtained to answer the question on how lecturers facilitate Active Learning in their modules. During the data analysis process, a wealth of additional information was obtained that helped to understand all the possible determinants that could possibly influence a lecturer to facilitate Active Learning. This started with first understanding what lecturers considered to be Active Learning i.e. its definition which will be discussed in the section below.

#### 5.2.1.2 Active Learning Definition

I came under the impression that lecturers had a fairly good understanding of what Active Learning was. They referred to Active Learning characteristics such as student participation or involvement, student-centred learning, student self-discovery or the lecturer simply providing guidance (Chapter 4, Section 4.6.1.2). All of these ideas provided by the lecturers in this study could be observed during the class observations (See Table 4.13). It came across how lecturers during their classes were putting effort in to enable student engagement, placing their students at the centre of learning and providing guidance instead of answers. This guidance was revealed in how questions were redirected to students to enable students to discover knowledge for themselves. The lecturers' understanding of what Active Learning is would impact their decision making in choosing how to facilitate their classes. This became apparent during this study when it appeared that lecturers were doing their best to showcase the characteristics of Active Learning identified by them in their classes.

#### 5.2.1.3 Motivation for using Active Learning

Lecturers had different reasons why they believed Active Learning should be used in their classes. The most prevalent reasons provided on why Active Learning should be used was its ability to develop skills in students and helping students to master learning of content. The importance of skill development also emerged when lecturers referred to Active Learning aiding students to be better prepared for the workplace.

The skills developed in students referred to in this study included: development of self-confidence, application of knowledge, problem-solving, critical thinking,

teamwork, communication skills and emotional intelligence. According to this study, some participants mentioned that students become deep learners, also that they understood concepts much better when they participated in Active Learning strategies. I discussed in Chapter 4, Section 4.6.1.3 that the workplace requires skills such as reasoning, communicating, general problem-solving and behavioral skills (Carnevale & Smith, 2013). This study provides evidence from what lecturers stated that Active Learning would be the right strategy to use to equip their students for the workplace as required.

It is however also important to note that as seen from the data that one lecturer was frustrated in not always seeing how the use of Active Learning helped the students to master the content successfully when assessed. She however still believed that Active Learning was the strategy of choice to use. Finally, not one of the lecturers who participated in the study said that they used Active Learning because of being motivated or supported by the Institute, PIHE.

#### 5.2.1.4 Factors that influence the use of Active Learning in the classroom

It appeared as if the lecturers participating in this study did not use the same Active Learning strategy in all their classes. Factors including classes being presented by different lecturers on different campuses, the module taught, year of student taught and class size, did influence the decision made by the lecturer on how to facilitate Active Learning. It seems that practical or applied modules enhanced the use of Active Learning strategies more than those who were only theoretically supported. A trend took shape from the interview data indicating that senior students (third-year) would have more Active Leaning opportunities than first-year students.

The visual representation data of the class observations (Chapter 4, Section 4.7.1.1) demonstrated interesting frequency distributions in the use of Active Learning during a class. Some of these distributions showed Passive Learning interspersed with aspects of Active Learning primarily in the form of questioning or an activity at the end of the session (beginner level). Other distributions showed some lecturers who made use of Passive Learning with larger chunks of Active Learning such as a group discussion interspersed throughout the session (intermediate level). Still other

distributions indicated sessions with a majority Active Learning component with minor or no sections of Passive Learning (advanced level).

The experience acknowledged by each participant in using Active Learning could not in all cases be associated with the quantity of Active Learning used in class. Both lecturers that had classes with majority Active Learning (Advanced level) have been teaching for more than five years, although another lecturer, even though teaching for more than five years, only showed beginner level use of Active Learning. It appears as if there is no consistency found between the level at which Active Learning is used and lecturer experience. It is, however, interesting to see that only two participants had a formal qualification that exposed them to Active Learning as a teaching strategy. The one lecturer could perform Active Learning for a whole session (Advanced level) while the other only at the intermediate level. Lecturers who were beginner level users all had no formal qualification that would enable them to use Active Learning effectively. Table 5.1 summarises the relationship between the level use of Active Learning and the lecturer's teaching experience.

**Table 5.1: The association between the level use of Active Learning and year's experience in teaching**

| Pseudonyms | Level use of Active Learning | Years' experience in teaching |
|---|---|---|
| Melissa | Intermediate | < 3 years |
| Heleen | Intermediate | > 3 years |
| Chrizelle | Intermediate | < 3 years |
| Lucy | Beginner | > 3 years |
| David | Beginner | < 3 years |
| Bo | Advanced | > 3 years |
| Anne | Intermediate | > 3 years |
| George | Intermediate | < 3 years |
| Daren | Intermediate | > 3 years |
| Lisa | Intermediate | < 3 years |
| Hope | Advanced | > 3 years |

#### 5.2.1.5 Challenges in using Active Learning

The challenges that were identified included the difficulty in administrating and facilitating Active Learning. This included time constraints as the largest contributor. A shift in what a lecturer needs to focus on in a class could possibly solve this problem. This would include taking away the expectation that the lecturer should be the single source of all knowledge and opening students to the idea that learning takes place before, during and after class. Student attitude was also identified as a key challenge, but I would venture that this could be explained by lecturers not explaining their teaching philosophy to their students. As referred to in Chapter 4, Section 4.6.1.6, lecturers should explain to their students the reasons behind using Active Learning, why they are expected to take more responsibility for learning and what it would mean to them in future endeavours.

The last challenge identified by at least seven participants was their lack of knowledge in Active Learning strategies. Just because a lecturer is using a strategy does not mean it is effective. Some lecturers who participated in this study also felt that they did not see enough evidence of the success of Active Learning as an effective teaching strategy.

#### 5.2.1.6 Solutions to challenges

In Chapter 4, Figure 4.9 showcased the relationship between the challenges identified in the use of Active Learning in the classroom and possible solutions. These solutions were provided by participants out of their own accord and they were not asked for it. Lecturers felt that the institution should be more prescriptive when it comes to the use of the preferred teaching strategy. When it becomes well communicated and supported it would encourage its use in all classes. PIHE however already has a strong policy for the use of Active Learning strategies, but it seems that this is not well communicated or understood by lecturers. With regards to dealing with the challenge of unwilling students that do not participate, lecturers who participated in this study shared that by using strategies such as unwilling students mixed with those participating could help. The data also revealed that the provision of incentives or simply making their presence felt by moving between students could go a long way to encourage students to participate in the learning process.

### 5.2.2 Success of Active Learning as a teaching strategy

To address the second secondary question: How do lecturers at PIHE assess student performance in the context of active learning? Lecturers who participated in this study were asked to elaborate on how they knew that Active Learning was effective. Three sources of evidence were identified namely the use of assessments, observation and reflection and student feedback. Within assessments, lecturers referred to formative assessment that either contributed to the year mark or not, or summative assessments. Evidence from assessments included: students understanding concepts better, their ability to answer higher order thinking questions, their ability to create or make that which would be expected in the workplace and students referring to Active Learning experiences during assessments. Only one lecturer referred to observation and reflection as a way to see the impact of Active Learning strategies. Six lecturers did, however, share how feedback from their students (not asked for) confirmed to them that what they were doing worked. One has to, however, consider that not one of the participants in this study had quantifiable results to substantiate the success they were referring to. Furhtermore as mentioned before under 'Challenges', the success of Active Learning strategies was questioned by way of admitting the lack of evidence in especially enhancing student performance.

### 5.2.3 Support available to lecturers to implement Active Learning in their classrooms.

To address the final secondary question: How is support given to lecturers in implementing Active Learning in their modules?, lecturers were interviewed about the support they perceived was provided to them. It became apparent during data analysis that participants not only communicated about which support was available but provided much more information on the support they would require. Interestingly the support mostly available for using Active Learning strategies came from the immediate community of the lecturer, which included colleagues at work, direct line managers or even a friend. The role of self-study became apparent with participants referring to their own personal research that has helped them to become facilitators of Active Learning. Workshops provided by the institute or elsewhere were referred to, although it appeared that participants did not feel that it was adequate. Although

PIHE has a teaching and learning policy in which the use of Active Learning strategies are discussed, it is concerning that only one of the participants referred to it with reference from the manager.

With regards to support requirements, the biggest needs are workshops and training especially aimed to develop facilitation skills which are important when using Active Learning in the classroom. Even though five of the lecturers who participated in the study acknowledged the role of their managers, seven participants admitted that they needed more support from their managers and the institution especially understanding the time constraints and work-load that go with Active Learning strategies. Although as mentioned before communities do play a big supportive role, those found in this study are primarily unstructured, thus a need arose for a more structured community of practice to provide support to lecturers. Finally, the problem of not having sufficient evidence to show that Active Learning works as already discussed before was identified as a further support requirement.

### 5.2.4 Summary

In this study, all the lecturers who participated indicated that they knew what Active Learning was, believed in it although admitting that in some instances they were challenged in using it. They all used different strategies in different frequency and quantity depending on their own personal teaching style. It appeared as if they wanted to encourage students to engage in the learning process and break away from the more traditional lecturer-centred approach. This was further confirmed by their views on what the definition of Active Learning was, showcasing how students were encouraged to participate and engage during their classes. Questioning was by far the most popular strategy used followed by group work (peer learning). Although the use of technology enhanced learning is promoted by the Institution, the observed use of it during class visits where negligible. With regards to evidence for the success of Active Learning as a teaching strategy, lecturers could only provide subjective evidence based on what they saw from assessments, observation/reflection and feedback from students, and it also became apparent that evidence in some cases was lacking as strategies used in class did not necessarily aid students to perform better in assessments. This study confirmed the important role of engagement between members in a community when it comes to supporting

Active Learning in the classroom, but more support was in the end required than what was thought to be already in place. Particularly referring to workshops and training aimed to develop facilitation skills.

## 5.3 CONTRIBUTIONS IN TERMS OF THE CONCEPTUAL FRAMEWORK

In Chapter 2, Section 2.5.3 it was explained how the Activity theory and Community of Practice can be used to describe the possible dynamics of lecturers using Active Learning at PIHE. According to Hasan and Kazlauskas (2014, p. 9): "Activity Theory is all about who is doing what, why and how" – it provides a lens with which to better understand human activity. This lens would thus be suitable to help to understand the activity of lecturers using Active Learning in their classrooms. We also know that based on the activity theory subjects do not work in isolation – one of the factors include the subject's community. The conceptual framework based on the Activity theory was thus extended to include the principles of the community of practice theory. Consider Figure 5.1 as provided in Chapter 2 that summarises the activity as studied in this study.

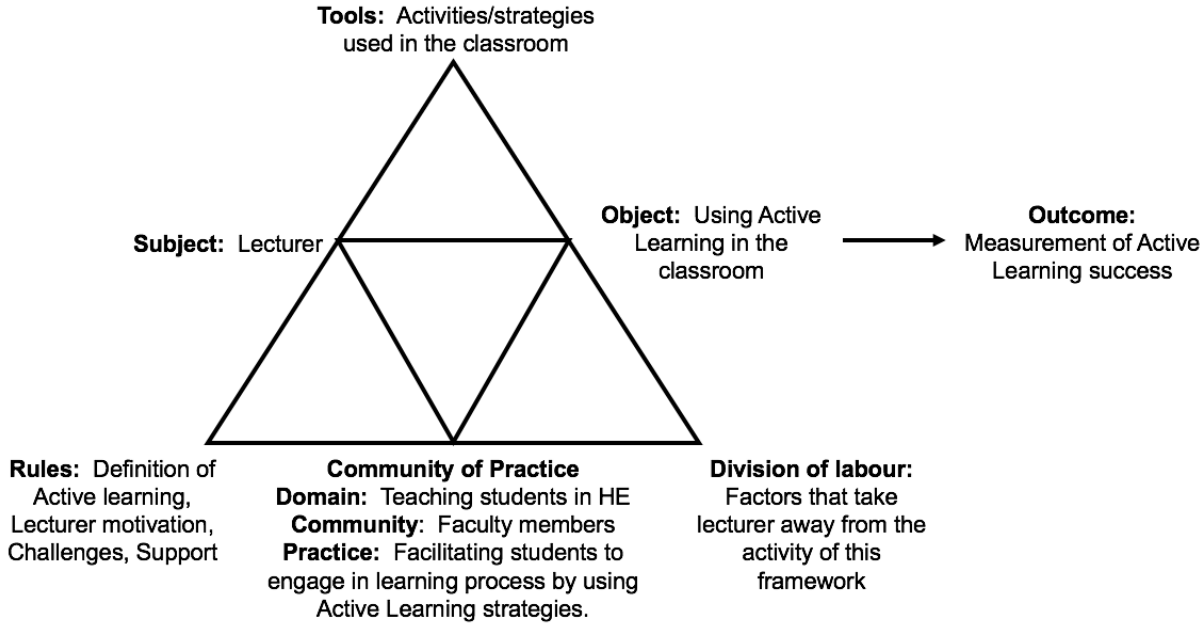


**Figure 5.1: The use of the combined framework in relation to Active Learning as a teaching strategy in higher education**

The framework provided above is well supported by the findings from this study. The lecturer (subject) uses the Active Learning in the classroom (object) to achieve the wanted outcome which would be effective Active Learning. The study has shown that the lecturers do use Active Learning in the classroom (object) although the success of it (outcome) is not well supported. Lecturers shared how using assessments, observation/reflection and feedback from students helped them to gauge the success of their strategies, although the evidence provided is subjective and not quantifiable.

This framework also provided the basis to understand that the lecturers (subjects) do not perform their activities in isolation. Their own motivation, their understanding of what Active Learning is, the challenges in using Active Learning and the support available, provide the rules that govern how the lecturers (subjects) use Active Learning in the classroom (object). As already discussed (Section 5.2.1.2) lecturers clearly understood the concept of Active Learning, its major characteristics being student-centeredness, engagement and participation. This understanding formed the basis of the lecturer's teaching philosophy, ensuring that when using Active Learning in the classroom (object) that it is student-centred, engaging students to participate. Challenges such as the lack of resources could limit the extent to which a lecturer can effectively use Active Learning, as well as the uncooperative attitude of the students. Unwillingness to participate on the student's behalf would cause frustration on the lecturer's behalf which could further limit the efficacy of Active Learning (Outcome) in the classroom.

What has also emerged from the study, is that the framework considered the fact that the lecturers (subjects) are not just participating in the activity of Active Learning in the classroom (object), but also perform other duties or have other responsibilities that could impact their ability to use Active Learning. As seen in the first section of Chapter 4, when reading through the ethnographic narratives of each participant, information provided from the background questionnaires highlighted the strain some of the lecturers were feeling with regards to additional responsibilities given to them which takes away their time to prepare Active Learning activities. Lecturers are not only facilitators of learning, but they administrate, develop curriculum and assessments, stay abreast within their field of expertise and professionally develop

their own teaching practice. It is worth mentioning that the dynamics of not only being responsible for teaching a module on one campus but coordinating the delivering of curriculum across eleven other campuses would also provide additional strain taking away the focus of some lecturers from passionately developing and delivering their content to coordinating everyone else.

The strategies (tools) used by the lecturers (subjects) to facilitate Active Learning in the classroom (object) has been well described. Lecturers use strategies that engage students via reading and writing, technology, hands on activities, interaction with peers, questioning and strategies outside of the classroom such as online activities or field trips. The efficacy of the use of each tool could not be determined in this study.

Finally, a very important finding from this study would include the role of the community in specifically supporting the lecturer (subject) to use Active Learning in the classroom (object). Within a community of practice, there are three characteristics that are used to define it as such: the domain, the community, and the practice. As described in Chapter 2 the domain with regards to this study would be teaching students in higher education, the community would be the faculty members interacting and learning together and the practice would be the facilitation of students to engage in the learning process by using Active Learning strategies. This study found that most lecturers rely on their immediate colleagues or managers to support them in using Active Learning, although these communities of interaction are informal and unstructured.

As already mentioned in Chapter 2, a community of practice can develop their practice through activities such as problem solving, requests of information, seeking experience, reusing assets, coordination and synergy, discussing developments, documenting projects, visits, mapping knowledge and identifying gaps (Wenger, 2012). Lecturers participating in this study did refer to seeking out other lecturers who are using Active Learning strategies to learn from them. In one case two lecturers were working together to plan a workshop to allow students to learn by hands on activities, but these interactions are few (Chapter 4, Section 4.7.1.1). There was indeed a need identified for more collaboration,

more interaction and opportunity to learn. The need for class visits to allow lecturers to learn from each other was given as a solution by one of the participants in this study to aid the lack of knowledge which was identified as a problem (Chapter 4, Section 4.6.1.6). From this case, it seems that participants know what they need to do, they need to learn together, they need to interact with one another but the momentum in doing this is lacking. To the contrary, we are seeing unrelated examples of lecturers trying to find their way by reaching out. Did community of practice help lecturers thus far? According to this study, it did, as lecturers admitted that their primary support to help them to facilitate Active Learning comes from their immediate community in their own practice. Is the community of practice effective? This is unclear, as while admitting that their communities are helping and supporting them, the lecturers in this study suggested that it was not adequate enough. It appeared that more support with regards to facilitating Active Learning in the classroom is required.

## 5.4 SIGNIFICANCE OF THE STUDY

To understand the value of this study one needs to consider the intended outcome(s) and the intended audience(s) for this study (Hamilton & Corbett-Whittier, 2013). This study aimed to describe and explain the current status of Active Learning as a teaching strategy at a private higher education institute. As I have discussed in the problem statement of Chapter 1, students graduating at higher education level need to have the right competencies to offer prospective employers. Lecturers thus have an obligation to set curricula and obtain teaching strategies to stimulate the competence development in order to provide them with those competencies. This study, therefore, considered one of these strategies, Active Learning as the tool used to develop the required competencies in students.

When considering the first secondary question that concerns itself with understanding how lecturers use Active Learning strategies in their classes, the significance of this study appeared that despite challenges such as lack of knowledge or support in using Active Learning (Chapter 4, Section 4.6.1.5), lecturers were committed to using Active Learning strategies to the best of their ability in their classes. This was substantiated by seeing that which the lecturer

believed about Active Learning, captured by its definition (Section 5.2.1.2) was reflected in their classrooms (Chapter 4, Section 4.7.1.1). One would have expected that this commitment might be due to the institution providing guidance or support or continuous professional development in the use of Active Learning, but none of this was the case. It appeared as if an intrinsic motivation and the passion for their students' success rather were the drivers (Chapter 4, Section 4.6.1.3).

Furthermore, lecturers defaulted most of the time to using different questioning techniques to engage students rather than strategies such as peer learning (group work). The interview data showed that peer learning was the most popular strategy, although the class observation data revealed that different questioning techniques took preference. This could be explained by the lack of knowledge in proper Active Learning facilitation skills or lack of time in the classroom due to the time-consuming nature of most Active Learning strategies.

The second secondary research question focused on how lecturers measured the success of Active Learning in their classrooms. This study shows that lecturers based their beliefs on subjective personal observations with no objective empirical evidence provided, unlike many other studies as discussed in Chapter 2, Section 2.3 that set out to substantiate the successful use of Active Learning. This was furthermore compounded by seven out of eleven participants admitting that they lacked sufficient knowledge in using Active Learning. As already mentioned this lack of evidence in the success of Active Learning could rather be a lack of skills in effectively using Active Learning. Active Learning strategies impact the success of students only when lecturers have the necessary skills to facilitate it, otherwise, it only resembles Active Learning without any impact (Andrews et al., 2011). Reference to a study done at a higher education institute in Malaysia in Chapter 4 showed that a shortcoming in the successful implementation of student-centered learning was lecturers not having enough experience in implementing it (Osman et al., 2015).

The last secondary research question focused on understanding the support available to lecturers in using Active learning. Participants from this study appeared to add more emphasis on support requirements instead of current support available

(Chapter 4, Section 4.6.3.1 and 4.6.3.2). The significance is found in that despite lecturers not finding sufficient support from the institution they do find support in the form of their immediate work community including colleagues and managers. They participate in informal unstructured communities of practice, engaging with others to strengthen their Active Learning knowledge base. This is self-driven and not stimulated by the institution itself. This is different from the notion found at other higher education institutes such as those in Australia where communities of practice are centrally coordinated and resourced by the institutions around topics or cohorts (Ryan, 2015).

This study has provided valuable insight on the current status of Active Learning as a teaching strategy in a private higher education institute. This is the first study of this nature within a South African context. The findings from this study would help to plan for better support for lecturers with regards to using Active Learning in their classrooms, showcasing the possible shortcomings that would influence the effectiveness of Active Learning as a teaching strategy.

The audiences for this study would include other practitioners of Active Learning at the institute, academics, colleagues not participating in Active Learning teaching methodologies, Deans of the three different Faculties, Executive committee and myself.

## 5.5 LIMITATIONS OF THE STUDY

The challenge with the interpretivist approach is the subjectivity of the approach and the fact that the findings are not generalizable beyond the situation being studied (Nieuwenhuis, 2012). This study only reflects the current status of Active Learning as a teaching strategy on a single campus of PIHE. It is however not my intention to generalise the findings of this study but to add to the body of knowledge with regards to the current status of Active Learning as a teaching strategy in a private higher education institute. This would generate new research questions and hypothesis that would be able to address further challenges within the higher education field.

Some limitations to this study included that only one class per participant were observed which limited the scope of identifying more Active Learning strategies possibly used. This could have provided the further understanding of how Active Learning strategies differ between year and module taught. The success of Active Learning was only described in relation to lecturer perceptions and not that of students.

The lack of Active Learning classrooms adds to the already complex problem of Active Learning facilitation. Most lecturers within this study faced the traditional classroom layout with fixed desks that would hamper interaction between students. Lecturers were also challenged with having at most 1 hour and 45 minutes at a time to facilitate learning, together with shortened semesters that compound the effect of covering all the content as required. Finding thus time in class to allow students to think for themselves becomes cumbersome and lecturers find themselves converting back to more lecturer orientated traditional teaching strategies.

## 5.6 SELF-REFLECTION OF THE STUDY

In starting with this study I moved from researching viruses to researching people; this has taken me on an incredible journey that allowed me to not just grow as a researcher but as a lecturer myself. With regards to this study, I enjoyed the process of making sense of the data, organising it and seeing what the data said for itself. Knowing that my own understanding might jeopardise the findings, I tried to look at it as objective as possible. The amount of additional data obtained in this study was overwhelming but at the same time exciting. I felt I could provide a true and accurate reflection based on what the participants of this study said and did. The use of a pre-screening questionnaire helped to identify eleven participants, twelve were initially planned for but with the criteria used only eleven could be chosen. The background questionnaire helped me to be a better-prepared interviewer. The curriculum vitae's and initial questions provided in the background questionnaire helped me to set the stage and get the participants to engage in the interview. I could make the questioning more personal to get behind the true reasoning of answers provided. The concept of Active Learning has come a long way, it is seen

as an effective tool to enhance teaching and learning. It was in understanding how and to what extent this tool is used that showed me the silver lining of this strategy in this private higher education institute. Active Learning is believed in, used and fought for by lecturers who care about their students and the impact they will have to make in the workplace.

It is, however, disconcerting when looking at my own teaching practice that despite efforts to use Active Learning strategies, students do not necessarily perform academically. The promise of Active Learning as a strategy to develop critical thinking and problem solving skills seem to work for a few in class. I do believe that student motivation plays a critical role. From own experience I have seen that students who participate enthusiastically in activities given and discuss the module content with peers do well. Student capabilities are divided as well, many being able to factually recall information but only a minority that can apply the information in solving problems related to the content. It is my hope that Active Learning would enable more students to reach the point of application, analysis, evaluation and synthesis. From studies done by others as referred to in Chapter 2, I do find my strength to continue on the road of facilitating Active Learning, knowing that it is the best way to prepare my students for the workplace. The few that do graduate, do well in the workplace – the stamp of success - but why only a few?

Despite these challenges, I would want to conclude this section to state that the findings of this study are not just of significance to others as it directly impacts how I facilitate classes to encourage Active Learning as a facilitator myself.

## 5.7 FUTURE RESEARCH

This study considered the current status of Active Learning as a teaching strategy in a private higher education institute. Based on the first secondary research question, various strategies were identified from the interview and class observation data, whether these strategies were effectively implemented would be another question to investigate. For instance, students were asked to perform activities in groups, and this was observed, but whether these group activities were effective would have to be considered in another study.

The impact of classroom lay out and the time given per session could provide insights on whether the current situation at the Institution is fostering deep learning. Looking at other classroom lay outs and contact times could provide more efficient and effective teaching and learning environments. This study only included participants from what is considered to be the “main” campus – the campus where the majority of curriculum and assessment development happens. It would be interesting to see how lecturers on other campuses of PIHE who need to implement the curriculum would respond to the concept of Active Learning. It did appear from the data that two lecturers from the "main" campus were concerned about using Active Learning strategies in modules that need to be reproduced across eleven other campuses. The change of traditional lecture based classes to more Active Learning environments within the South African context seems to be sporadic and isolated. As highlighted in Chapter 2, Section 2.3.2 only four studies show the use of Active Learning strategies in the public HEIs. It seems that these cases are specifically driven by the lecturers responsible for the modules and not happening due to managerial direction. It looks as if South Africa with regards to the use of Active Learning as the preferred teaching strategy still needs to go a long way.

With regards to evidence for Active Learning as a successful teaching strategy more will need to be done to substantiate Active Learning as an effective teaching strategy, especially in the South African context. This study also only focused on what the perceptions were of lecturers with regards to Active Learning as a teaching strategy; it would be insightful to understand how students in the South African context respond to the Active Learning strategies in the classroom of a private higher education institute.

## 5.8 RECOMMENDATIONS

The following recommendations are given to interested parties:

### 5.8.1 Students

Students should consider the role they have to play in making Active Learning an effective teaching and learning strategy. Although participating in class requires more effort on the student's behalf (Machemner & Crawford, 2007) it does positively impact on their learning (Lumpkin et al., 2015).

### 5.8.2 Lecturers

From the eleven lecturers who participated in this study, it was clear that they understood what Active Learning was and used that understanding to create classroom environments that would stimulate student participation and engagement. Lecturers should be willing to participate in more dialogue with regards to Active Learning within and between their faculties, sharing their experiences to develop their facilitation skills. Lecturers are also advised to share their teaching philosophy with their students to encourage their participation.

As already mentioned in chapter 4, it is also clear from another study (Estévez-Ayres et al., 2015) that when Active Learning strategies need to be reproduced feedback from students and lecturers is vital and specific milestones must be identified where proper decision-making processes must be followed. At the moment, there seems to be a lack of cooperation from all lecturers teaching the same module across all twelve campuses which would have a definite impact on not just the ability to use Active Learning strategies, but also the overall quality of the teaching and learning environment.

### 5.8.3 Faculty and institution management

The challenge of effective Active Learning classrooms and enough contact time to effectively facilitate Active Learning is another consideration. Faculties should

provide adequate resources as required by lecturers to enable Active Learning in the classroom. The traditional lecturing classroom lay out is not progressive for effective active learning environments and additional preparation time to facilitate Active Learning should provide preference above time required to deliver a traditional lecture.

It did appear from the data that lecturers felt they lack sufficient support from the Institution especially when it comes to the implementation of Active Learning strategies. They felt they had insufficient knowledge especially when it came to the effective implementation of Active Learning strategies. It was also indicated by two of the lecturers who participated in this study that the evidence to support Active Learning for them were missing, but they still continued to use the strategy as they believe in it. The lack of communication between the Institution and its lecturers became evident in the observation that lecturers did not refer to the Institution as being the source of their motivation in using Active Learning strategies, even though the Institution has clear policies to describe its view on Active Learning as the preferred teaching strategy. The Institute itself is outspoken about its support of technology enhanced learning, however, the use of technology per se in the classrooms was not convincing. The Institute might be supporting technology, but from this study, it became apparent that lecturers are not necessarily using technology to its full potential. Active learning is an effective teaching strategy but requires skilled lecturers, willing capable students and an Institution that fosters an environment that encourages both.

## 5.9 CONCLUSION

The dynamics of Active Learning in a private higher education institution were investigated in this study. To understand the dynamics three secondary research questions guided the sense-making process of the data obtained from pre-screening and background questionnaires, semi-structured interviews and classroom observations. The interplay between various factors such as lecturer understanding of Active Learning, motivation, institutional and curriculum requirements showed its effect on how lecturers decided to facilitate Active Learning in their classrooms. Six

major strategies were identified within the classroom including questioning, interaction with peers, engagement via reading, writing, technology and hands on activities. Lecturers did however also refer to activities outside of the classroom including on-line activities and field trips. This study found that lecturers had subjective evidence to showcase that more appropriate evidence would be needed to prove the success of Active Learning. This, however, did not discourage lecturers who participated in this study to continue to use Active Learning strategies. This study also found that the majority of support came from the immediate communities in which lecturers found them, but more emphasis was placed on the further support that would be required especially in the form of workshops or training opportunities. This study showed that despite shortcomings and challenges, the lecturers who participated in this study overcame the obstacles placed before them and encouraged students to participate in Active Learning activities to the best of their ability.

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# CHAPTER 7: ANNEXURES

## ANNEXURE A: PRE-SCREENING QUESTIONNAIRE


Faculty of Education

27 May 2015

### QUESTIONNAIRE TO ASSIST IN THE SELECTION OF PARTICIPANTS

### The dynamics of active learning as strategy in private higher education.

Dear Lecturer,

You are asked to answer the following questions to assist Mia Beyleveld, Prof. Rian de Villiers (study supervisor) and Prof. William Fraser (co-supervisor), from the Department Science, Mathematics and Technology Education department in the Faculty of Education at University of Pretoria to identify possible participants for the PhD study titled “The dynamics of active learning as strategy in private higher education”. This study is being conducted as part of my thesis as required for degree conferring purposes. Your participation in answering this questionnaire is entirely voluntary.

Please take note that even though your answers to these questions will be traced to you it will only be used to identify possible participants and any data will be destroyed afterwards. There is no right or wrong answer.

Question 1:

What is your teaching philosophy? (I.e. how do you believe teaching and learning should take place?)

Question 2:

What is your teaching strategy? (I.e. how do you implement that which you believe in question 1 in your classroom?)

Question 3:

How long have you been teaching this way?

Less than 3 years ☐

More than 3 years ☐

Question 4:

From which faculty are you?

Faculty of Commerce ☐ Faculty of Science & Engineering ☐

Faculty of Information Technology ☐ Faculty of Law ☐

Faculty of Social Sciences & Education ☐ Faculty of Graphic Design & Communication ☐

_____

Printed Name

_____ _____

Signature Date

_____ _____

Signature of Primary Investigator Date

_____ _____

Signature of Supervisor Date

## ANNEXURE B: BACKGROUND QUESTIONNAIRE

Research topic: The Dynamics of Active Learning as a Teaching Strategy in Private Higher Education.

Please complete the following table. The information provided here by you will assist me in writing your story. Remember that in all cases this data will be linked to a pseudonym.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | Age: | | Sex: | M/F | Preferred pseudonym to use in publishing your data: | |
| 2. | Job description: | | | | | |
| 3. | Modules taught at MGI (Please provide code and name of module/s) | | | | | |
| 4. | How many years/months have you been teaching in higher education? | | | | | |
| 5.1. | Why are you a lecturer? | | | | | |
| 5.2. | Why did you decide to teach in higher education? | | | | | |
| 5.3 | Have you taught at secondary or primary level? If so, when, which school(s) and which subjects? | | | | | |
| 5.4 | Why are you teaching at higher education? Why not at secondary or primary level? | | | | | |
| 5.5. | Who/what would you say had the most influence in your decision to become a lecturer? Explain your answer please. | | | | | |
| 5.6. | What other responsibilities besides lecturing do you have at MGI? | | | | | |
| 5.7. | How would you describe your feelings about your current work situation? | | | | | |

| | | |
|---|---|---|
| 6.1. | How would you define active learning (please use your own words) | |
| 6.2. | How did you hear or learn about it? | |
| 6.3. | Are you currently using it as a teaching strategy in your classes? | Yes/No |
| a) | If answered Yes above, why are you using it? | |
| b) | If answered No above, why are you not using it? | |

## ANNEXURE C: INTERVIEW SCHEDULE AND OBSERVATION SHEET

### Interview schedule and observation sheet

Name of participant: _____
Faculty: _____
Years of experience: _____
Date: _____
Comments: _____
Atmosphere in meeting place: _____

Introduce yourself and your project to the respondent

Ask the respondent for permission of taping

Ask the respondent to sign the consent form, explain to her/him if necessary

| | | |
|---|---|---|
| a. How do lecturers at MGI facilitate active learning in their modules? | 1. Please provide examples of how you are using active learning strategies. | |
| b. How do lecturers at MGI assess student performance in the context of active learning? | 2. How do you know that active learning is working for your students?<br>3. Could you provide evidence of where active learning helped student to learn better or prepared students better for challenges they had to face? | |
| c. How is support given to lecturers in implementing active learning in their modules? | 4. How did you handle the challenges/problems that you faced?<br>5. What support/help have you received in learning how to use active learning as a teaching strategy?<br>6. What other support would you require? | |

ANNEXURE D: STUDENT CONSENT LETTER

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

27 May 2015

# CONSENT TO PARTICIPATE IN RESEARCH

## The dynamics of active learning as strategy in private higher education.

Dear Student,

You are kindly asked to participate in a research study conducted by Mia Beyleveld, Prof. Rian de Villiers (study supervisor) and Prof. William Fraser (co-supervisor), from the Department of Science, Mathematics and Technology Education in the Faculty of Education at the University of Pretoria. This study is being conducted as part of my thesis as required for degree conferring purposes. Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate.

You have been asked to participate in this study because your lecturer has agreed to participate in this study as a participant to help me to understand the dynamics of active learning as a strategy at the Midrand Graduate Institute (MGI). Lecturers with less than three years and lecturers with more than three years of experience in using active learning techniques were selected. To obtain the necessary data to answer the research questions of this study I need to observe how your lecturer uses different techniques to facilitate active learning in the class room.

- PURPOSE OF THE STUDY

The purpose of this study is to find out how private higher education lecturers use the teaching strategy of active learning if at all in their modules. The study also aims to investigate the possible successes with regards to using active learning in developing the right competencies, which are required at graduate level. This would provide insight on how far Midrand Graduate Institute as a private higher education institute is in developing students with some of the required competencies mandated by the South African Qualifications Authority (SAQA), Pearson, MGI and employers. This would prove to be helpful in coming up with strategies from a teaching methodology point of view to deliver on this mandate given.

- PROCEDURES

If you volunteer to participate in this study, you will be asked to do the following:

- Allow myself to observe this lecture to see how your lecturer utilizes different active learning methodologies if any. The lecture will be video recorded to allow the data to be captured for analysis purposes.
- The class will only be observed, no questions from me will be asked to your or your lecturer at any time during the class.

- POTENTIAL RISKS AND DISCOMFORTS

There are no risks or discomfort associated in participating in this study.

- POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There is no direct benefit for you the student in participating in this study. However the data obtained in this study could provide important guidelines for lecturers in how to enhance the teaching and learning environment at any higher education institute.

- CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of using pseudonyms linked to password

protected documents which will only be seen by myself and my supervisor and co-supervisor.

Video recorded data will only be seen by myself, my supervisor and co-supervisor and will be safely stored at the University of Pretoria after the successful completion of the study.

- PARTICIPATION AND WITHDRAWAL

You can choose whether or not to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind or loss of benefits to which you are otherwise entitled. There is no penalty if you withdraw from the study and you will not lose any benefits to which you are otherwise entitled.

- IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about this research, please contact any of the research personnel:
Principal Investigator: Mia Beyleveld, miab@mgi.ac.za, 011 690 1840
Supervisor: Prof. Rian de Villiers, rian.devilliers@up.ac.za, 012 420 5529
Co-Supervisor: Prof. William Fraser, william.fraser@up.ac.za, 012 420 2207

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CONSENT
I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

_____
Printed Name of Subject

_____ _____
Signature of Subject Date

_____ _____
Signature of Primary Investigator Date

_____ _____
Signature of Supervisor Date

# ANNEXURE E: PORTAAL OBSERVATION RUBRIC

Observer _____ Date of Observation: _____ Page ___ of ____

School: _____ Course: _____ Instructor: _____ Session Date: _____

1. Start of Class (Min:Sec): _____ 2. End of Class (Min:Sec): _____

| | Observations: | Activity ___ | Activity ___ | Activity ___ | Activity ___ | Activity ___ |
|---|---|---|---|---|---|---|
| | 3. Start of introduction (min:sec): | | | | | |
| | 4. End of Introduction (min:sec): | | | | | |
| | 5. Explicitly encourages students to focus on logic: | Y N | Y N | Y N | Y N | Y N |
| | 6. Explicitly encourages students to use prior knowledge: | Y N | Y N | Y N | Y N | Y N |
| | 7. Explicitly reminds students that errors are natural and useful/educational | Y N | Y N | Y N | Y N | Y N |
| | 8. Bloom Level of Activity: Higher order, (H) Lower order (L), Course Logistics (C), Opinion Poll (O) | H L C O | H L C O | H L C O | H L C O | H L C O |
| | 9. Form of Activity: Clicker Q (C), Worksheet (W), etc. | | | | | |
| | 10. Instances of explicit positive feedback or encouragement: Directed towards entire class (C), Directed towards individual students (S) | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: |
| | 11. Instances of praise or encouragement referencing effort or improvement: | | | | | |
| | 12. Instances of explicit negative feedback: Directed towards entire class (C), Directed towards individuals (S) | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: |
| | 13. Explicitly encourages students to focus on logic: | Y N | Y N | Y N | Y N | Y N |
| | 14. Explicitly encourages students to use prior knowledge: | Y N | Y N | Y N | Y N | Y N |
| | 15. Explicitly reminds students that errors are natural and useful/educational | Y N | Y N | Y N | Y N | Y N |
| | 16. Total number of students heard: | V:<br>R:<br>C: | V:<br>R:<br>C: | V:<br>R:<br>C: | V:<br>R:<br>C: | V:<br>R:<br>C: |
| | 17. Number students who explain logic behind their response. | | | | | |
| SE: Iteration 1 | 18. Start (Min:Sec): | | | | | |
| | 19. End (min:sec): | | | | | |
| | 20. Question discussed: Individually (I), Small Groups (S), Student Volunteers (V), Random Call (R), Cold Call (C) | I S V R C | I S V R C | I S V R C | I S V R C | I S V R C |
| | 21. Start (min:sec): | | | | | |
| | 22. End (min:sec): | | | | | |
| | 23. Is the correct answer in anyway indicated between iterations? | Hint/Hist N | Hint/Hist N | Hint/Hist N | Hint/Hist N | Hint/Hist N |
| | 24. Question discussed: Individually (I), Small Groups (S), Student Volunteers (V), Random Call (R), Cold Call (C) | I S V R C | I S V R C | I S V R C | I S V R C | I S V R C |

Observer _____ Date of Observation: _____ Page ___ of ____

School: _____ Course: _____ Instructor: _____ Session Date: _____

| | Observations: | Activity ___ | Activity ___ | Activity ___ | Activity ___ | Activity ___ |
|---|---|---|---|---|---|---|
| SE: Iteration 3 | 25. Start (min:sec): | | | | | |
| | 26. End (min:sec): | | | | | |
| | 27. Is the correct answer in anyway indicated between iterations? | Hint/Hist N | Hint/Hist N | Hint/Hist N | Hint/Hist N | Hint/Hist N |
| | 28. Question discussed: Individually (I), Small Groups (S), Student Volunteers (V), Random Call (R), Cold Call (C) | I S V R C | I S V R C | I S V R C | I S V R C | I S V R C |
| | 29. Start of Activity Debrief (min:sec): | | | | | |
| | 30. End of Activity Debrief (min:sec): | | | | | |
| | 31. People involved in Debrief: Instructor only (I), Student Volunteers (V), Random Call (R), Cold Call (C) | I V R C | I V R C | I V R C | I V R C | I V R C |
| | 32. Total Number of students heard: | V:<br>R:<br>C: | V:<br>R:<br>C: | V:<br>R:<br>C: | V:<br>R:<br>C: | V:<br>R:<br>C: |
| | 33. Is correct answer explained? | Y N NA | Y N NA | Y N NA | Y N NA | Y N NA |
| | 34. Number of alternatives discussed: | | | | | |
| | 35. Number students who explain logic behind their response: | | | | | |
| | 36. Instances of explicit positive feedback or encouragement from instructor: Directed towards entire class (C), Directed towards individual students (S) | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: |
| | 37. Instances of praise or encouragement referencing effort or improvement: | | | | | |
| | 38. Instances of explicit negative feedback/responses from instructor: Directed towards entire class (C), Directed towards individual students (S) | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: | C:<br>S: |
| | 39. Explicitly reminds students that errors are natural and useful/educational | Y N | Y N | Y N | Y N | Y N |
| | 40. Is activity graded: For Correctness (C), For Participation (P), No Points for Participation (N) | C P N | C P N | C P N | C P N | C P N |
| ANY TIME | 41. General Comments: | | | | | |

ANNEXURE F: LECTURER CONSENT LETTER

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

27 May 2015

# CONSENT TO PARTICIPATE IN RESEARCH

## The dynamics of active learning as strategy in private higher education.

Dear Lecturer,

You are kindly asked to participate in a research study conducted by Mia Beyleveld, Prof. Rian de Villiers (study supervisor) and Prof. William Fraser (co-supervisor), from the Department of Science, Mathematics and Technology Education in the Faculty of Education at the University of Pretoria. This study is being conducted as part of my thesis as required for degree conferring purposes. Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate.

You have been asked to participate in this study because I need participants with either less than three years or more than three years' experience in using active learning as a teaching strategy in higher education. Your knowledge and experience acquired over time is invaluable for the success of this study. Due to the nature of this study that will require frequent interaction, only full-time staff members will be considered. Two staff members from each of the six faculties at the Midrand Graduate Institute (MGI) will be selected to participate.

- PURPOSE OF THE STUDY

The purpose of this study is to find out how private higher education lecturers use the teaching strategy of active learning if at all in their modules. The study also aims to investigate the possible successes with regards to using active learning in developing the right competencies, which are required at graduate level. This would provide insight on how far Midrand Graduate Institute as a private higher education institute is on developing students with some of the required competencies mandated by the South African Qualifications Authority (SAQA), Pearson, MGI and employers. This would prove to be helpful in coming up with strategies from a teaching methodology point of view to deliver on this mandate given.

If you volunteer to participate in this study, you will be asked to do the following:

- Participate in semi-structured interviews for 30 minute intervals or as convenient for you in a venue of your choice for at least three sessions. As this is a qualitative study, it means that interviews will be scheduled until data exhaustion has been reached and no new data is required. These interviews will be audio recorded to allow the data to be captured for analysis purposes.
- Provide permission for me to attend at least one class of your choice which will be video recorded to make observations with regards to active learning strategies used in the classroom.

- POTENTIAL RISKS AND DISCOMFORTS

There are no risks or discomfort associated in participating in this study.

- POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There is no direct benefit in participating in this study besides providing participants the opportunity to speak about how they feel about active learning as a teaching strategy in a safe non-judgemental setup. As feedback will be provided to them the idea would be that they might be able to learn something from the data collected as true to human nature one can learn much from self-reflection.

- CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of using pseudonyms linked to password protected documents which will only be seen by myself and my supervisor and co-supervisor.

Audio- or video recorded data will only be seen by myself, my supervisor and co-supervisor and will be safely stored at the University of Pretoria after the successful completion of the study.

.

- PARTICIPATION AND WITHDRAWAL

You can choose whether or not to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind or loss of benefits to which you are otherwise entitled. You may also refuse to answer any questions you do not want to answer. There is no penalty if you withdraw from the study and you will not lose any benefits to which you are otherwise entitled.

If you have any questions or concerns about this research, please contact any of the research personnel:

Principal Investigator: Mia Beyleveld, miab@mgi.ac.za, 011 690 1840

Supervisor: Prof. Rian de Villiers, rian.devilliers@up.ac.za, 012 420 5529

Co-Supervisor: Prof. William Fraser, william.fraser@up.ac.za, 012 420 2207

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CONSENT

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

_____

Printed Name of Subject

_____ _____

Signature of Subject Date

_____ _____

Signature of Primary Investigator Date

_____ _____

Signature of Supervisor Date