Exploring the application of knowledge management within a South African human resource development context

P Smith

orcid.org/0000-0002-5260-4573

Dissertation accepted in fulfilment of the requirements for the degree Master of Education in Training and Development at the North-West University

Supervisor: Prof HW Meyer

Graduation: June 2022

Student number: 24726893

ACKNOWLEDGEMENTS

First of all, all praise and honour to my Lord and Saviour, Yahshua, Jesus Christ who guided me throughout this endeavour.

The following people also deserve acknowledgment for their valuable contribution to this study:

- My study leader, Prof HW Meyer, for your exceptional guidance, support, patience, and confidence in me throughout this journey.
- Prof Lucas Meyer and the EMELTEN ethics committee for your advice and guidance.
- Human resource development professionals (HRD students) for your valuable contribution and participation in this study.
- Ms Lezelle Snyman, for your patience, assistance, and support with sources and references throughout this study.
- Ms Elize Zywotkiewicz, for your professionalism as language editor of this study.
- Prof Leon De Beer and Workwell for your financial assistance with language editing.
- Ms Petra Gainsford, for your patience and assistance with technical assistance.
- My husband for believing in me, his patience, understanding, and support.
- My parents, Wynand and Barbara Groenewald, for your prayers, support and believing in me.

ABSTRACT

Knowledge management (KM) has been brought to the fore due to rapid global changes inherent to the knowledge economy. KM assists organisations to create and apply new knowledge for improved performance and competitive advantage. Human resource development (HRD) in particular, has a significant role to play in KM to promote, build, and maintain organisational knowledge capabilities. So far, limited research has been conducted on KM within an HRD context. Most previous studies on KM were conducted within other (non-HRD) contexts. The limited number of studies that exist within an HRD context, were mostly literature reviews. Therefore, this study sought to determine, through empirical research, whether KM and associated activities are applied by HRD professionals in practice and what roles these HRD professionals fulfil concerning KM within an HRD South African context. Hence, the purpose of this study was to explore the application of KM by HRD professionals in a South African context.

A basic qualitative descriptive research design, underpinned by interpretivism, was used to conduct the study. Expert sampling, which is a form of purposive sampling, was used to select twelve HRD professionals employed in various industries to be interviewed individually, based on the practical experience of HRD that they have obtained in practice, together with their theoretical HRD knowledge obtained through HRD graduate studies at a specific South African university. The researcher used emergent and priori coding and categorised the data into themes. To ensure data quality, participants were asked to check their own verbatim quotations for accuracy. In addition, member checking was done, and the analysed data was also corroborated against the literature. Ethical clearance was obtained prior to the study to ensure that ethical conduct was maintained throughout all stages of this study.

Four themes were identified after data analysis, namely HRD professionals' perceptions of KM; application of KM and related activities in an HRD context; HRD's roles related to KM in a South African context; and participants' recommendations regarding the application of KM in a South African context. The findings revealed that HRD professionals apply KM and related activities in their various roles as HRD professionals within a South African HRD context. Based on the findings, recommendations could be made to manage and apply KM more effectively within an HRD context. One recommendation is that HRD professionals should be included on strategic levels within organisations. Based on the findings, a KM definition was formulated for the South African HRD context. It was further recommended that the formulated KM definition be considered for inclusion in HRD textbooks by HRD academics.

Keywords: Knowledge management, human resource development, human resource development professionals, South Africa, knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture; knowledge storage, qualitative research.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1 ORIENTATION, MOTIVATION, AND STATEMENT OF THE PROBLEM

1.1 INTRODUCTION

Globalisation, new technology, and the recent COVID-19 pandemic have changed the way that we live and work. Globalisation and technology transcend workplaces and influence both human resource development (HRD) (Mulder, 2021:105) and knowledge management (KM) (KMWorld, 2021a). Innovation and new knowledge are required now more than ever to operate in the new normal (Permata Bank, 2021). Knowledge work has increased (Jacobs, 2017:176; Torraco & Lundgren, 2020:42) and more recently, the Association for Talent Development (ATD) (ATD, 2021) included "knowledge for information-seeking strategies" amongst important HRD capabilities. HRD therefore must adapt to and respond to these factors to stay relevant regarding learning technologies, collaboration, and knowledge sharing (Torraco & Lundgren, 2020:47-48).

The application of KM within a South African human resource development context is explored in this study. In the introductory chapter, a background to the study will first be provided. Thereafter the problem statement and motivation for the study will be discussed. The research questions and objectives for the study will also be provided. In addition, the body of scholarship will be discussed in terms of the gaps regarding KM in HRD. The method of study will be outlined with an indication of how the research questions will be answered. Keywords and definitions regarding KM and HRD will be explained within the context of this study. A preview of the course of this study will also be provided.

1.2 BACKGROUND, PROBLEM STATEMENT AND MOTIVATION

As early as 2004, it was already widely accepted that the global economy is moving away from an industrial economy to a knowledge economy (Kessels, 2004:165). More recently, other authors have confirmed that we are indeed finding ourselves amid a knowledge economy (Department of Science and Technology (DST), 2008-2018; Pook, 2011:558; Chartered Institute of Personnel and Development (CIPD), 2017:5; Bizon & Lubińska, 2018:1). A *knowledge economy* is described as one that relies more on the creation of new knowledge than on traditional resources, such as capital and labour, for wealth and growth (Blankley & Booyens, 2010:1; DST, 2008-2018; Corporate Finance Institute (CFI), 2021b). A knowledge economy, which is distinguished by innovation and technological change, enhances a country's competitiveness, inspires economic growth, and may lead to higher wages and more employment opportunities (Blankley & Booyens, 2010:1; CFI, 2021b).

Changes inherent to the knowledge economy are expected to affect all services-related industries, including HRD. In 2008, analysts already predicted that services would account for 50 percent of the world trade in 2020 (Downe & Loke 2008:1). The service sector is the fastest growing sector in the economy (Career One Stop, 2021) and accounts for more than 70% of employment (Buckley & Majumdar, 2018; O'Neill, 2022). In comparison, other industries (industry and agriculture) experience a decline in employment according to the International Labour Organization (2021).

Services refers to exchanged amenities between residents and non-residents of an economy, such as communication services, construction, cultural and recreational services, financial services, insurance, technical services, professional services, and travel, to name a few (Organisation for Economic Co-operation and Development (OECD), 2021). A distinguishing feature of service enterprises is the emphasis placed on intellectual capital, or "intangibles", in many business activities (OECD, 2017:64; PHPKB, 2015). While difficult to measure, intangibles often hold the key to value creation in service enterprises (OECD, 2017:64). Employees in service enterprises depend on their knowledge and social networks to be productive and to continually generate value (Maglio *et al*., 2006 cited by Dickson *et al.,* 2011:541; Córdova & Gutiérrez, 2018:398; Johannessen, 2019:8).

Constantly changing aspects (inherent to the knowledge economy), such as the generation of new knowledge, competition, global markets, mergers and acquisitions, outsourcing, privatisation, and advancing technologies, to mention a few (Hall, cited by Cho *et al*., 2009:263) have, however, also forced organisations to re-examine the role of this new knowledge and the use thereof (Smith & Schurink, 2005:6). For example, the COVID-19 pandemic has not only affected how employees work (Mulder, 2021:105), but also how they communicate and use knowledge (Knowledge Management (KMWorld, 2020). Knowledge is described as a process related to the "understanding of information" (Tomé, 2012:94). Knowledge is that which (in a person's mind or possessed by a group of people) includes awareness of skill in applying and understanding information obtained by experience or study (McIntosh, 2019). The combined knowledge that employees possess has a significant influence on the competitiveness of an organisation (Perez & de Pablos, 2003:82; Van Buuren, 2012:5; Jasinskas *et al*., 2014:2469; Nonaka & Takeuchi, 2019:7).

Organisations, however, will also need a different kind of capacity to deal with the changes (inherent to the knowledge economy). Consequently, it is crucial that employees (and adult students) have unique competencies to operate beyond 2020 (Tomé, 2011:528; Forbes, 2018; HR Vision, 2021). Therefore, the HRD field, per se*,* will undergo drastic changes, which necessitate the [re]defining and upgrading of core competencies such as [knowledge]

possession, [knowledge] use, [knowledge] creation, [knowledge] sharing and [knowledge] transfer (Tomé, 2011:528).

Human resources (HR) will have to play some role in the transfer of competencies and knowledge (Tomé, 2011:529; Gautam, 2020). Human resources are described as the characteristics (age, career, competencies, formal education, health, motivation, skills, persistence, talent, training, or [even] beauty) of humans that generate economic returns (Tomé, 2011:525). Human resources consist of both human resource management (HRM) and human resource development (HRD) (Wilson, 2012:10; Alagaraja, 2012:118). However, HRD professionals, per se, have a major responsibility in leveraging knowledge to achieve the organisation's goals, given that knowledge is power and is considered a strategic resource for organisations (Caruso, 2017:51).

Raelin (cited by Cho *et al*., 2009:263) maintains that only learning can address the challenges (inherent to the knowledge economy), as discussed above, "since learning creates, adapts, enlarges and deepens knowledge". More recently, Crossan *et al*. (cited by Brix, 2017:113) also linked the learning process with knowledge in their definition of knowledge. According to Crossan *et al*. (cited by Brix, 2017:113), knowledge is defined as "the dynamic content or stock created as part of the learning process, and this same knowledge influences the learning process, which occurs on multiple levels within the organization". As the success of organisations lies in their capacity to learn, a critical need for KM arises (Cho *et al*., 2009:263). Hence, KM will be described next.

1.3 KNOWLEDGE MANAGEMENT

Knowledge management (KM) is described as the systematic coordination of people, technology, processes, and organisational structure (including culture, human resource management, leadership, and structure) for the purpose of adding value through innovation and reuse of knowledge (Dalkir, 2017:4; Heisig, cited by Hislop *et al.,* 2018:50).

KM consists of two approaches, namely the *codification approach* (which encourages the codification of organisational knowledge in electronic-based repositories where organisation members can access it) and the *personalisation approach* (knowledge is developed and embedded within organisational members, thereby requiring person-to-person contact either physically or using information technology (IT) (Hansen, cited by Li & Herd, 2017:188). The *personalisation* approach, that is, person-to-person contact applies to this study as the study is conducted within the field of HRD.

1.3.1 Knowledge management as an activity and science

KM is considered both an "*activity* and a *science"* (Tomé, 2012:95). KM as an activity will be discussed first, and thereafter KM as a science.

Knowledge management as an activity

KM as an *activity* includes all the "efforts of people, organisations, regions, and countries to organise and deal with the knowledge phenomenon" (Tomé, 2012:95). Regarding KM as an activity, knowledge (cf 1.2), per se, is classified into two main types (or categories according to Tomé, 2012:95), that is, explicit and tacit knowledge (Nonaka & Takeuchi, 1995:11; Farnese *et al*., 2019). *Explicit* knowledge is defined as knowledge usually contained within tangible or concrete media and is the content captured in tangible form, "such as words, audio recordings, and/or images" (Dalkir, 2017:10), whereas *tacit* knowledge is defined as the knowledge that resides in the heads of "knowers" and is also referred to as "know-how" (Dalkir, 2017:10), and "includes how people think and act" (Hislop *et al*., 2018).

KM is furthermore transformed during a *cycle*, whereby the following activities are performed, namely transferring, sharing, renewing, unlearning, creating, and stocking of knowledge (Tomé, 2012:95). More recently and based on the *integrated KM cycle* of Dalkir (2017:60), the latter author indicates that KM consists of activities that include knowledge capture and/or knowledge creation; knowledge sharing and dissemination; and knowledge acquisition and knowledge application. KM is achieved by promoting the creation, sharing, and application of knowledge, as well as feedback from valuable lessons learned and best practices within the organisation's corporate memory (Dalkir, 2017:4). More recently, Hislop *et al*. (2018:50) contended that the KM cycle consists of the creation, storage, sharing, and application of knowledge. To prevent confusion concerning the activities applicable to Dalkir's (2017:60) integrated KM cycle and the activities alluded to by Hislop *et al*. (2018:50) the KM activities that apply to this study within an HRD context will be described next. These include:

- Knowledge creation: When existing knowledge and/or information is combined with new knowledge and/or information during sharing and transfer opportunities, knowledge creation occurs (Alavi & Denford, 2011:107; McFayden *et al*., cited by Matsuo, 2015:1189; Kaba & Ramaiah, 2020:11).
- Knowledge sharing*:* The communication of knowledge from a source that is learned and applied by a recipient, and the collective character of knowledge emerging from interaction and dialogue amongst individuals (Renzl, cited by Alavi & Denford, 2011:107). Knowledge sharing is a people-to-people process (Gangeswari *et al*., 2016:665).

- Knowledge transfer: The transmission of knowledge from an entity (person/document) to another entity (person/document) during knowledge creation, knowledge sharing, knowledge acquisition, and knowledge application (Gangeswari, *et al*. 2016:665; IGI Global, 2021f).
- Knowledge acquisition: The integration (Huber, cited by Alavi & Denford, 2011:107) of present knowledge from other (external) organisations and the ability to understand the said external knowledge (Carbery, 2015:5; Hislop *et al*., 2018:122) in relation to [new and existing] knowledge.
- Knowledge application: The utilisation of knowledge by individuals and organisations to make decisions and solve problems (Alavi & Denford, 2011:107).
- Knowledge capture (organisation): The codification (documentation) of knowledge in such a manner that it becomes part of the knowledge base for multiple uses within the organisation (Dalkir, 2017:119-120).
- Knowledge storage: The retention (holding/ maintenance/preservation) and reuse of both individual and organisational knowledge through technical infrastructure (hardware and software) so that knowledge is retrievable for application and innovation purposes (Caroline *et al*., 2015:3; Dalkir, 2017:215).

Knowledge management as a science

KM as a *science* includes all the efforts of scientists to understand knowledge and the KM phenomenon (Tomé, 2012:95). Tomé (2012:95) states in this regard (KM as a science) that an important part of the analysis of knowledge is made by scholars from other disciplines, including economics, education, HRD, IT, management, psychology, sociology, and social policy. In this study, knowledge and KM will be explained from an HRD perspective, thereby contributing another necessary perspective (theoretical contribution) to the science of knowledge and KM.

1.3.2 The role of human resource development in knowledge management

According to several authors (McGoldrick *et al*., 2002; Blankenship & Ruona, 2009; Cho *et al*., 2009; Mankin, 2009; McGuire, 2014; Ardichvili, 2017; Caruso, 2017), HRD has a significant role to play in KM. McGoldrick *et al*. (2002:346), for example, suggest that HRD needs to promote and maintain KM in organisations. Mankin (2009:319-320) agrees that HRD is responsible for KM as well as the nurturing of knowledge, while McGuire (2014:176) argues that the building of organisational knowledge capabilities is a core aspect of HRD.

More recently, Ardichvili (2017:194) has claimed that HRD has an important role to play during the creation, sharing, and utilisation of knowledge, whether on individual, group, or organisational levels. In this regard, Caruso (2017:51) explains that HRD professionals are tasked with the

promotion, sharing, and managing of employees' knowledge a (cf 1.2). Blankenship and Ruona (2009:290), and Cho *et al*. (2009:264) add that HRD also has a role to play in the design of social structures and the facilitation of *knowledge-sharing* processes (cf 1.3.1). Cho *et al*. (2009:264) maintain that the ability to share existing knowledge in organisations and to create new knowledge is fundamentally a function of organisational learning. Since the initial purpose of KM is learning, it is apparent that HRD should be involved in KM (Cho *et al*., 2009:264). KM is therefore essential for continuous organisational learning to take place (Cho *et al*., 2009:264). Moreover, it is argued by Lawson and Sleezer, and Russ-Eft *et al.* (cited by Ardichvili, 2002:451) that the HRD function is in a unique position to provide a link between online technology-based KM solutions and technology-enabled learning and development practices.

It is the opinion of Ardichvili (2002:451) that both academics and HRD professionals realise that the integration of KM (in addition to training, performance improvement, and organisation development) should be one of the central concerns of the HRD function in modern organisations. For instance, the prominent role of KM in HRD has also recently been promoted by the ATD (ATD, 2020). The ATD is an international professional membership body for talent development [and HRD professionals]. In its competence model, the ATD defines the skills and knowledge required for talent development and HRD professionals to perform efficiently in their industry within a global context. The ATD's capability model emphasises foundational competencies that are required in the ten specific areas of expertise in the field, one being KM (ATD, 2020). (These ten specific areas are "performance improvement, change management, knowledge management, coaching, integrated talent management, managing learning programmes, evaluating learning impact, learning technologies, training delivery, and instructional design") (Werner, 2017:12; ATD, 2020). Currently, the ATD capability model also includes "knowledge of information-seeking strategies" as an important skill for HRD professionals that is linked to organisational capability (ATD, 2021). Therefore, it can be deduced that the ATD as a professional membership body also considers KM part of HRD.

Within an academic context, it is notable that HRD textbooks, written by prominent HRD scholars and prescribed by academics to their HRD students, also include KM as part of HRD. These HRD textbooks include *International Human Resource Development: Learning & Training for Individuals & Organizations* (edited by Wilson, 2012); *Human Resource Development* (McGuire, 2014); *Human Resource Development* (Werner, 2017); and *Handbook of International Human Resource Development: Context, Processes and People* (edited by Garavan *et al*., 2017). Therefore, from an academic perspective (that of prominent scholars in the field of HRD), one can infer that KM is an HRD function. The review of the body of scholarship will be discussed next.

1.4 PREVIEW OF THE BODY OF SCHOLARSHIP

In this section, international and national studies, especially those that link KM with HRD (cf 1.4.1; 1.4.2), ensuing conclusions (cf 1.4.3), and a review of previous research designs used to study KM (cf 3.3.4), will also be discussed. This section will conclude with a synthesis and derived conclusions concerning the reviewed body of scholarship (cf 3.3.5).

1.4.1 International studies linking knowledge management with human resource development

Although KM is considered part of HRD (from a practice and academic perspective) as described above (cf 1.3.2), a review of the body of scholarship revealed that previous research on KM within an HRD context is limited. Even though a great deal has been written and published regarding KM in various journals internationally (Journal of Knowledge Management; Advances in Developing Human Resources (ADHR); Human Resource Development International (HRDI); Human Resource Development Review (HRDR); Contemporary Issues in Education Research; Journal of European Industrial Training; Journal of Business Management; South African Journal of Business Management; South African Journal of Science; South African Journal of Information Management; South African Journal of Human Resource Management; South African Journal of Economic and Management Sciences; and InTech Open Science; to name a few), a limited number of empirical studies could be found that specifically tied KM to HRD. More specifically, this researcher could only locate four international studies in the aforementioned journals (cf 1.4.1) that linked KM and HRD. (It must be noted here that suspected “predatory” journals were excluded from the review, in adherence to the regulations of the university under whose auspices this research is undertaken.)

The first study linking KM and HRD that could be located, is the study of Parise (2007) (in Advances in Developing Human Resources (ADHR)) on how social network analysis (SNA) methods can contribute to KM efforts in HRD. Another study that linked KM and HRD, was the study by Zavyalova and Kosheleva (2013) that was published in the accredited journal “Human Resource Development International” (HRDI). Their study (Zavyalova & Kosheleva, 2013) focuses on HRD practices in knowledge intensive firms. In 2015, Matsuo conducted research on the integration of knowledge transfer and creation through HRD programmes. The results were published in the Journal of Knowledge Management (JKM). More recently, Gubbins and Dooley (2021) explored tacit knowledge sharing and tacit knowledge-seeking. Their findings were published in the Human Resource Development Quarterly Journal (HRDQ).

The search for previous studies that link KM with HRD furthermore included all four dedicated and accredited international HRD journals, namely Human Resource Development International

(HRDI), Advances in Developing Human Resources (ADHR), Human Resource Development Quarterly (HRDQ), and Human Resource Development Review (HRDR). The KM articles that could be located in HRDI, however, all related to other contexts and not to HRD, such as knowledge sharing in manufacturing (Shelton, 2001); knowledge transfer in multi-national corporations (Liu *et al*., 2006); knowledge culture and conversion in IT, services, electronics, and construction (Song & Kolb, 2009); culture, creation, and team performance (Yoon *et al*., 2010) and in IT, advertising, and public relations (PR). Therefore, none of the aforementioned KM studies published in HRDI linked KM to HRD, per se. It can also be deduced from the above that some of the KM activities (cf 1.3.1 KM cycle) were investigated, although not within an HRD context.

Regarding the other three accredited HRD journals (ADHR, HRDQ, and HRDR), articles could be located that linked HR and HRD to KM. However, these studies were not based on empirical research. More specifically, the following studies Aliaga (2000); Torraco (2000); Gourlay (2001); Ardichvili (2002); Ipe (2003); Ardichvili (2008); Conley and Zheng (2009); Ardichvili and Yoon (2009); Kongpichayanond (2009); Akdere (2009); Blankenship and Ruona (2009); Bennet (2009); Cho *et al.* (2009); and Jacobs (2017) were all literature reviews.

Therefore, based on the international body of scholarship, it is notable that limited empirical studies (except for four, namely Parise (2007); Zavyalova & Kosheleva (2013); Matsuo (2015); and Gubbins & Dooley (2021)) were conducted within an HRD context. In addition to the limited number of non-empirical studies (which consisted of literature reviews only), KM and associated activities within an HRD context, as well as the role of HRD in KM, are therefore considered gaps in the international KM body of scholarship.

1.4.2 National studies linking knowledge management with human resource development

Within a national context (in terms of South African studies), several researchers have conducted research on aspects related to KM, although not within an HRD context. These studies included topics such as knowledge sharing (Van den Berg & Snyman, 2003; Finestone & Snyman, 2005; Muchaonyerwa & Mutula, 2017); knowledge/talent retention (Martins & Meyer, 2011; Dewah, 2014; Nthongoa, 2014); knowledge experts or champions (Van den Berg & Snyman, 2003; Barker, 2014); people and technology in KM (Ponelis & Fairer-Wessels, 1998; Du Plessis & Du Toit, 2005); KM and culture (Botha & Fouché, 2000; Ndlela & Du Toit, 2000; Finestone & Snyman, 2005); KM metrics, models and drivers (Kruger & Snyman, 2005; Tobin & Volavsek, 2006; Du Plessis, 2007a; Gaffoor & Cloete, 2010); innovation (Du Plessis, 2007b; Steyn & Du Toit, 2007); and KM practices (Botha, 2005; Kruger & Johnson, 2009; Chigada & Ngulube, 2015).

The aforementioned studies were conducted in various South African industries, including government and the public sector (Gaffoor & Cloete, 2010; Kruger & Johnson, 2013; Shabane, 2017); private services, for instance transport (Kruger & Johnson, 2013); banking and insurance (Kruger & Johnson, 2013; Chigada & Ngulube, 2015); pharmaceutical (Kruger & Johnson, 2013; Nthongoa, 2014); construction and mining (Kruger & Johnson, 2013); services and corporate business (Botha & Fouché, 2002; Finestone & Snyman, 2005; Smith & Schurink, 2005; Tobin & Volavsek, 2006; Misch & Tobin, 2006; Du Plessis, 2007a; Kruger & Johnson, 2013); education, universities, and libraries (Kruger & Johnson, 2013; Muchaonyerwa & Mutula, 2017; Govender *et al*., 2018); the IT industry (Whyte & Classen, 2012); the energy sector (Ndlela, 1999; Steyn & Du Toit, 2007); the distribution sector (Van den Berg & Snyman, 2003); water supply (Martins & Meyer, 2011); public broadcasting corporations (Dewah, 2014); and law firms (Du Plessis & Du Toit, 2005).

A few South African KM studies focused on HR and HRM (although not HRD). These included the studies by Smith and Schurink (2005), who researched KM within a human resources (HR) context; Govender *et al*. (2018), who studied KM within an HRM context; and Shabane (2017), who conducted a study on KM and talent management (TM). However, it is notable that none of the above-mentioned national KM studies were conducted within an HRD context.

Therefore, it can be deduced from the previously mentioned national studies that the activities of the KM cycle, amongst others, were studied and within various contexts, but not within an HRD context. KM was also studied within the HR and HRM contexts, but to a limited extent. It also became evident from the reviewed national body of scholarship that none of the studies conducted linked KM to HRD, nor were they conducted within an HRD context, which are also considered gaps in the national body of scholarship.

1.4.3 Conclusions concerning international and national studies linking knowledge management with human resource development

Similar to the researcher's conclusions concerning limited KM studies conducted within national and international HRD contexts, and that those studies that were conducted (internationally) were not empirical, McGoldrick *et al*. (2002:2) claimed that there is a lack of empirical evidence regarding KM as a conceptual aspect of HRD. In this regard, Cho *et al*. (2009:264) also stated that "there is a lack of studies in the literature exploring a thorough explanation of how specific tools, processes, and theories of KM can be harnessed, advocated, and championed by HRD professionals." More recently, Jacobs (2017:199) suggested that KM should be a core research issue in HRD and stated that "It is difficult to believe that such a critical issue in organizations has not yet been fully embraced by HRD scholars" (Jacobs, 2017:199). The review of the body of

scholarship conducted by this researcher therefore concurs with McGoldrick *et al*. (2002:2), Cho *et al.* (2009:264), and Jacobs (2017:199) insofar that there is indeed a lack of research on KM within an HRD context. It is therefore essential to conduct empirical research on how KM and related activities are applied by HRD professionals within a South African context.

1.4.4 1.4.4 Review of research designs to study knowledge management

Regarding research designs to study KM as a phenomenon in relation to HRD, it became evident that most of these studies (Liu *et al*., 2006; Parise, 2007; Song & Kolb, 2009; Yoon *et al*., 2010; Zavyalova & Kosheleva, 2013; Matsuo, 2015) thus far conducted on an international level employed a quantitative research approach. Far fewer studies (Shelton, 2001; Gubbins & Dooley, 2021) were conducted internationally on KM using the qualitative approach. No KM studies linking HRD and KM by using either a mixed-method or multiple-method research design could be located nationally or internationally. What is more, no qualitative studies exploring KM from an *HRD* perspective or within an HRD context *(*exploring either the role of HRD in KM, or the application of KM in HRD) could be located internationally or nationally.

On a national level, quantitative studies concerning KM were conducted by several authors, including Botha and Fouché (2002); Du Plessis and Du Toit (2005); Botha (2005); Tobin and Volavsek (2006); Barker (2014); Dewah (2014); and Govender *et al*. (2018). Qualitative studies (concerning KM) have also been conducted by Ponelis and Fairer-Wessels (1998); Ndlela (1999); Van den Berg and Snyman (2003); Finestone and Snyman (2005); Kruger and Snyman (2005); Smith and Schurink (2005); Misch and Tobin (2006); Du Plessis (2007a; 2007b); Steyn and Du Toit (2007); Gaffoor and Cloete (2010); Whyte and Classen (2012); Nthongoa (2014); Makhubela and Ngoepe (2017); and Shabane (2017). Nationally, multiple-method studies on KM have also been conducted by Martins and Meyer (2011); Chagada and Ngulube (2015); and more recently by Muchaonyerwa and Mutula (2017).

1.4.5 1.4.5 Synthesis and conclusions concerning the reviewed knowledge management body of scholarship

Finally, it can be concluded that even though several authors expressed the view that KM is part of HRD, as previously discussed (cf 1.3.2), it seems from the reviewed body of scholarship (cf 1.4.3 and 1.4.4) that there is indeed a lack of empirical research conducted both on an international and national level, specifically concerning KM within *an HRD context or from an HRD perspective*. Although some studies could be located that investigated the role of HR in KM, an even smaller number of studies have explored the HRD/KM link. Additionally, KM studies published in one of the four accredited journals dedicated to HRD, namely HRDI, did not link KM to HRD. What is more, articles in the other three accredited HRD journals (ADHR, HRDQ and

HRDR), which linked HR and HRD with KM, consisted of literature reviews only. No empirical research studies (except for literature reviews) could therefore be located (at the time of the review), which linked KM with HRD, or which explored the application of KM or KM-related activities by HRD professionals (within an HRD context).

Consequently, from the limited empirical research on KM from an *HRD perspective or within an HRD context*, it is not clear what the roles of HRD professionals are in KM and whether HRD even has a role to play in KM, or whether HRD professionals apply KM and its associated activities in practice.

Therefore, this study anticipated addressing the previously mentioned identified gaps in the international and national KM body of scholarship regarding HRD by means of empirical (qualitative) research.

1.5 PURPOSE STATEMENT

The purpose of this study is to explore the application of KM by HRD professionals within a South African HRD context. Given that limited research has been conducted on KM within an HRD context the study sought to determine, through empirical research (in this case qualitative research), whether KM and associated activities are indeed applied by HRD professionals and within an HRD South African context. If KM (and associated activities) are applied by HRD professionals in practice, then academia should ensure that HRD scholars are sufficiently prepared in terms of KM (and applicable associated activities) to improve South African HRD practices and KM. On the other hand, if KM (and associated activities) are not applied in practice by HRD professionals, then the inclusion of KM and associated activities as portrayed in mainstream HRD scholarly textbooks and by professional associations as an HRD function should be reconsidered. Overall, this qualitative study anticipated addressing the identified research gaps concerning the application of KM within an HRD context; and shedding light on the application of KM and related activities within a South African HRD context, thereby also adding to the understanding of KM from an HRD perspective and contributing to the *science* of knowledge and KM (cf 1.3.1). The research questions and aims will be presented next.

1.6 RESEARCH QUESTIONS

1. How are knowledge management and related terms conceptualised in the literature?
2. To what extent, if any, are knowledge management (and related activities) applied by human resource development professionals in practice within a South African human resource development context?

3. What roles, if any, do human resource development professionals fulfil concerning knowledge management in South African organisations?
4. What recommendations do human resource development professionals have regarding the application of knowledge management within a human resource development context?

1.7 RESEARCH OBJECTIVES

1. To determine by means of a literature review how knowledge management and related terms are conceptualised in the literature.

2. To explore by means of empirical research to what extent, if any, knowledge management and associated activities are applied by human resource development professionals in practice within a South African human resource development context.

3. To explore by means of empirical research whether human resource development professionals fulfil any roles regarding knowledge management in South African organisations.

4. To provide recommendations from human resource development professionals regarding the application of KM within a human resource development context.

1.8 METHOD OF STUDY

The research questions were answered as follows:

1. How are knowledge management and related terms conceptualised in the literature?

The above-mentioned question was answered by means of a literature study in the fields of business and management sciences, information technology and computer sciences, human resource development, and knowledge management and organisational learning.

2. To what extent, if any, are knowledge management (and related activities) applied by human resource development professionals in practice within a South African human resource development context?

To answer this question, a qualitative research approach, using semi-structured interviews conducted with the human resource development professionals, was followed.

3. What roles, if any, do human resource development professionals fulfil concerning knowledge management in South African organisations?

Semi-structured interviews were conducted with human resource development professionals to explore what roles, if any, they fulfil concerning knowledge management in South African organisations.

4. What recommendations do human resource development professionals have regarding the application of knowledge management within a human resource development context?

Recommendations were provided by human resource development professionals regarding the application of knowledge management within a human resource development context.

1.8.1 Literature study

A focused review of the literature provided a theoretical and conceptual framework to explore the application of KM within a South African HRD context. The literature review included theories and definitions concerning KM as a foundation for the study. The sources that were consulted to conduct the literature review included the following:

- Computerised databases: Educational Resource Information Centre (ERIC), EBSCOhost, Emerald Insight Journals, Scopus, African Journals (SAePublications), and Google Scholar.
- Dictionaries to define or describe concepts.
- Accredited academic HRD journals, which include Human Resource Development International (HRDI), Human Resource Development Quarterly (HRDQ), Human Resource Development Review (HRDR), and Advances in Developing Human Resources (ADHR).
- Other accredited academic journals as well as peer-reviewed journals such as Journal of Knowledge Management, Electronic Journal of Knowledge Management; Contemporary Issues in Education Research, International Journal of Adult Vocational Education and Technology, Procedia – Social and Behavioural Sciences, Journal of European Industrial Training, Journal of Business Management, Scandinavian Journal of Management, Journal of Business Management, Journal of Intellectual Capital, International Journal of Small Business and Entrepreneurship Research, South African Journal of Science, South African Journal of Information Management, European Journal of Training and Development, Mousaion, and Acta Commercii.
- Other sources, such as dissertations and academic books pertaining to KM, HRD, and research designs and methodology.

1.9 PARADIGMATIC PERSPECTIVE

A paradigm is a worldview or a perspective (by a community of researchers) that creates an overarching constructive framework (meta-thinking) in researching [exploring] a social phenomenon (Johnson & Christensen, 2012:31; Hua, 2016:4; Ling & Ling, 2017:2). A paradigm is a "discipline matrix" (Kuhn cited by Blaikie & Priest, 2017) that includes ontology (researcher's view of reality), axiology (values and drivers of research), epistemology (nature and knowledge to be gained by research), and methodology (methods employed to conduct research) (Johnson & Christensen, 2012:31; Rehman & Alharthi, 2016:51; Kuhn cited by Blaikie & Priest, 2017; Ling & Ling, 2017:2) to provide models (exemplars) for scientific practice (Blaikie & Priest, 2017). Simply stated, a paradigm is a map that guides the researcher (within his or her view of reality) in responding to the research problem.

This study followed the interpretivist paradigm. Interpretivism aims to understand how individuals interpret a certain social phenomenon in which they interact (Rehman & Alharthi, 2016:55). Thus, interpretivism is an understanding of the subjective world of human experience according to Guba and Lincoln (cited by Kivunja & Kuyini 2017:33). Interpretivists reject the view that "a single, verifiable reality exists independent of our senses" therefore believing that multiple realities are constructed in a social environment. (Rehman & Alharthi, 2016:55).

The interpretivist paradigm assumes a subjectivist epistemology. This means that the researcher and the participants [HRD professionals] engage in an interactive process [semi-structured interviews] in which they intermingle, dialogue, question, and in which the researcher records research data (Kivunja & Kuyini 2017:33) of each participant's personal experience (subjective). A "relativist ontology means that there are multiple realities and meanings that can be reconstructed between the researcher and the participants" [HRD professionals] (Chalmers, *et al*. cited by Kivunja & Kuyini 2017:33). Therefore, participants will be interviewed to obtain the various meanings that they [HRD professionals] assign to KM. A naturalistic methodology was followed whereby the researcher gathered data through semi-structured interviews (Kivunja & Kuyini 2017:33). Finally, the researcher reported the findings of the research reflecting her personal and ethical values (balanced axiology), as suggested by Kivunja and Kuyini (2017:34).

1.10 EXPLANATION OF CONCEPTS

It is important to distinguish between the various concepts that were used to explore the application of KM in a South African HRD context. Subsequently, KM will be discussed first.

1.10.1 Knowledge management

One of the earliest explanations of KM by Wiig (1995:3) states that in its broadest sense, **knowledge management** (KM) is a conceptual framework that encompasses all activities and perspectives required to gaining an overview of, creating, dealing with, and benefiting from the corporation's knowledge assets and their particular role in support of the corporation's business and operations. Thus, KM is the coordination of people, technology, processes, and organisational structure to add value (Dalkir, 2017:4) and to benefit all stakeholders (Serrat, cited by Girard & Girard, 2015:4). This coordination (of people, technology, processes, and organisational structure) occurs through reuse and innovation by creating, sharing, and applying knowledge (including valuable lessons learned) to foster continued organisational learning (Dalkir, 2017:4). Mankin (2009:301) adds that HRD professionals rather nurture knowledge. Still, KM, per se, enhances learning and performance that relates to HRD. In this regard, several authors claim that KM attempts to create value and enhance learning and performance (Nonaka; APQC and O'Dell & Grayson cited by Ardichvili, 2002:452) to outsmart competitors, and achieve sustainable competitive advantage (Gourlay, 2001:28; Ipe, 2003:343; Parise, 2007:359; Ardichvili & Yoon, 2009:308; Kongpichayanond, 2009:376; Yang *et al*., 2009:277; McGuire, 2014:170; Ardichvili, 2017:194; Caruso, 2017:51; Mayes *et al*., 2017:272; Xue, 2017:33).

In the context of this study, KM is defined as the management of systematic processes [systems for activities in KM cycle] (King, cited by Girard & Girard, 2015:4; Pandey, 2016: 39; Xue, 2017:31) and the nurturing of knowledge by HRD (Mankin, 2009:301) to create, share, transfer, acquire, apply, capture, and store knowledge on individual, group, and organisational levels to enhance continuous employee and organisational learning and performance (cf 1.3; 1.3.1) (adapted from Wiig, 1995:3; Nonaka; APQC; O'Dell & Grayson (cited by Ardichvili, 2002:451-452; Cross *et al*.; Davenport & Prusak (cited by Parise 2007:359; Blankenship & Ruona, 2009:290; Cho *et al*. 2009:264; Mankin, 2009:301; Desouza, 2011:6; Caruso, 2017:2017:51; Ardichvili, 2017:194; Dalkir, 2017:4).

1.10.2 Human resource development

Jacobs (2014:34) asserts that HRD is "the process of improving organizational performance and enhancing individual capacities through the accomplishments that result from employee development, organization development, and career development programs". Since Harbison and Meyers introduced the term HRD in 1964 (cited by Han *et al*., 2017:299-300), many other definitions have evolved. This myriad of definitions (cited by Han *et al*., 2017:299-300) include HRD as a process or activity (Hamlin & Stewart, 2000; McLean & McLean, 2001); intervention (Hamlin & Stewart, 2000); strategic management of training and development (Garavan, 1991);

as well as the creation of a learning culture (McCracken & Wallace, 2000) that either unleashes expertise, improves systems or work processes (Swanson, 1995); enhances learning, improves effectiveness (Hamlin & Stewart, 2000); achieves business objectives (Garavan, 1991); shapes and influences learning culture (McCracken & Wallace 2000) by utilising knowledge, skills, (Garavan 1991; McLean & McLean, 2001), expertise and productivity (McLean & McLean, 2001) to achieve competence (Gourlay, 2000) for the benefit of the individual, team, organisation (Swanson, 1995; Hamlin & Stewart, 2001; Garavan, 1991; Gourlay, 2000) community or nation at large, ensuring the use of knowledge and skills (Garavan, 1991). Gosney and Hughes (2016:4) assert that HRD in its entirety (as a discipline) is a KM system.

From the aforementioned HRD definitions, it can be deduced that HRD is responsible for learning and the development of the skills and competence of individuals and groups, as well as organisational (learning) for improved performance. HRD in the context of this study is therefore defined as the strategic management of activities, processes, and interventions employed to enhance learning and develop human competence (knowledge, skills, and competencies) to improve the effectiveness and performance of individuals, teams, and organisations (Garavan 1991; Swanson, 1995; Gourlay, 2000; Hamlin & Stewart 2000; McCracken & Wallace, 2000; McLean & McLean, 2001 cited by Han *et al*., 2017:299-300; Ju, 2018:134).

1.10.3 South African human resource development context

HRD in South Africa is conducted within a certain context, which needs further discussion. Context, according to Hornsby *et al*. (2015:321) means the situation [or setting] in which something happens that makes one understand it (situation/setting). The South African government considers the development of its human resources a key strategic priority. Two strategies were formulated to ensure that skills development in South Africa is realised, namely the Human Resource Development Strategy 2010-2030 (HRDSA) (South African Government, 2009) and the National Skills Development Plan (NSDP) 2030 (Department of Higher Education and Training (DHET). The HRDSA provides guidelines to match the supply and demand of skills with purposeful development interventions (HRD-SA 2009; Erasmus *et al*., 2019:57). The NSDP guides the development of adequate skills to access occupations in high demand through, for example, integrating post-school education and training (PSET) systems with the world of work (DHET; Erasmus *et al*., 2019:59).

The focus of human resource development in South Africa is on reducing poverty and unemployment and ensuring equity (South African Government 2009:17-18) through the creation of opportunities for learning and development (Coetzee & Botha, 2019: 449). To address national skills shortages, poverty, equality, and unemployment the South African government follows an

interventionist approach towards skills development and governs skills development through legislation (Meyer & Sloman, 2014:98), for example, the Skills Development Act 97 of 1998 (SDA); the Skills Development Amendment Act 31 of 2003; 37 of 2008 and 26 of 2011; the Skills Development Levies Act 9 of 1999 (SDLA); the Skills Development Levies Amendment Act 24 of 2010; and the Employment Equity Act 55 of 1998 (EE).

A national education and training system, namely the South African National Qualifications Framework (NQF) was also implemented to enable national recognition of skills and knowledge, progression within education, training, and career paths and to ensure quality training (NQF, 2020). The NQF provides a framework that encourages lifelong learning and quality learning (NQF, 2021). The NQF Amendment Act 12 of 2019 makes provision for verification and evaluation of all qualifications and professional designations by introducing penalties for fraudulent representation. There are also twenty-one Sector Education and Training Authorities (SETAs) in South Africa (National Government of South Africa (NSA), 2021). The SETAs represent all industries in the country by raising skills within agreed standards. The functions and responsibilities of the SETAs are to implement skills and sector plans, promote learning programmes, and disburse skills levies within the skills development framework (NSA, 2021).

To safeguard the quality of training and development, South Africa has three quality assurance bodies, namely the Umalusi Council for general and further education and training, the Council for Higher Education (CHE) for higher education and training, and the Quality Council for Trades and Occupations (QCTO) for occupational qualifications. The QCTO was established in 2010 to ensure that the quality of occupational qualifications based on the Skills Development Act of 1998 amended in 2008, the National Qualifications Framework Act 67 of 2008 and the Amendment Act (12 of 2019). The QCTO is responsible for, amongst others, the establishment and management of the Occupational Qualifications Sub-Framework (OQSF), the accreditation of skills development providers, the development and maintenance of occupational qualifications, and the accreditation of assessment centres (QCTO, 2021).

1.10.4 Human resource development professionals

In the context of this study, HRD professionals are employed in various HRD contexts in South Africa and consequently will be the participants contributing the data for this study (cf 3.5.1; 3.5.2). It must be indicated from the outset that there are various terms used in literature in reference to HRD professionals. The concept HRD professional includes terms such as HRD practitioner (Short & Shindell, 2009:373), trainers (Meyer & Sloman, 2014:99), training material developers, training advisors, training and development practitioners, training consultants, training coordinators, training officers, on-the-job trainers, business leader/executive coaches, skills

development practitioner (skills development facilitator (SDF), learning and development practitioners, and business skills trainers (DHET 2013) to mention a few. For example, Short and Shindell (2009:373) refer to an HRD practitioner as someone who has mastered the HRD body of knowledge and who can strategically and effectively use and analyse resources and theory in practice. However, more recently, Torraco and Lundgren (2020:41) use the umbrella term HRD professionals when referring to members of the HRD profession, including practitioners, researchers/scholars, or scholar practitioners. Likewise and within a South African context, Botha and Coetzee (2019:191-192) also use the term HRD professional, while the South African Organising Framework for Occupations (OFO), which is a South African labour market classification system that links skills to occupations, uses the term training and staff development professionals when referring to the various job titles of HRD professionals including training and development practitioners, training consultants, business leader/executive coaches, and business skills trainers, to mention a few (DHET, 2013). Therefore, the term HRD professional will be used in this study when reference is made to members of the HRD profession, but in the text the terminology used by the various authors will be employed.

1.10.5 Application

Application denotes the practical use of something (Hornsby *et al*., 2015:60, 2015:60). Within the context of this study, application refers to the use of KM and its related activities (creation, sharing, transfer, acquisition, application, capture, and storage) by HRD professionals in a South African HRD context.

1.10.6 Explore

Explore means to investigate, study, analyse, or conduct a systematic search (looking into something) to discover (about something) (Merriam Webster Inc, 2019a; McIntosh, 2019a). Explore in the context of this study will mean to study KM and its related activities and to discover how KM and its related activities are applied by HRD professionals in a South African HRD context.

1.11 COURSE OF THE STUDY

In chapter 2 of this study, KM and related concepts, as well as KM activities will be conceptualised within an HRD context.

Chapter 3 discusses the qualitative research design and methodology used to conduct this study, in particular, a qualitative, descriptive research strategy. The research setting, study population, sampling, data generation and analysis, data quality assurance, reporting, and ethics related to this study will also be described.

In chapter 4, the analysed data derived from the individual semi-structured interviews will be presented in main and subcategories and specific quotes will be cited as evidence.

In Chapter 5 a summary of each chapter will be provided. The findings will be presented beneath the research questions and the limitations of the study will be discussed. Recommendations based on the findings and relevant to future research will be presented, and the contribution of the study will also be indicated.

1.12 SUMMARY

In this introductory chapter, the background, problem statement, and motivation of the study, namely exploring the application of KM within a South African HRD context, were described. The gaps identified within the reviewed body of scholarship that will be addressed in this study, served as further motivation for the study. The research questions and objectives of the study were also formulated, and how the research questions will be answered was discussed in the description of the method. It was indicated that a qualitative research design and methodology, a case study in particular, will be used to answer the empirical research questions and that a literature study will be conducted to conceptualise KM and related activities. The paradigmatic perspective was also briefly touched on and it was mentioned that interpretivism guided the study. Important concepts and keywords were explained, and definitions for KM and HRD within the context of the study were formulated. Finally, a preliminary preview to indicate the course of the study was also provided.

CHAPTER 2 KNOWLEDGE MANAGEMENT IN A HUMAN RESOURCE DEVELOPMENT CONTEXT

2.1 INTRODUCTION

In the previous chapter, the introduction, problem statement, and motivation for the study were provided, research questions and objectives framed, and the method of the study explained. The explanation of relevant concepts within the context of this study, including knowledge management (KM) and KM activities as well as human resource development (HRD), were introduced.

In this chapter, the literature study on KM will be discussed. KM is viewed from an array of perspectives and disciplines (Dalkir, 2017:8). However, the discussion of KM from all these perspectives falls outside the scope of this study. Therefore, KM will only be discussed within the context of HRD, and from within a South African perspective.

A background of both KM and HRD will be provided to orientate the reader and place KM within an HRD context. The similarities between the evolution of KM and HRD will be indicated in table format. The phenomenon of KM and related concepts such as knowledge and types of knowledge (tacit and explicit), will be clarified within an HRD context.

Research question one, namely how KM and related terms are conceptualised in the literature, will be answered in this chapter.

2.2 BACKGROUND AND EVOLUTION: KNOWLEDGE MANAGEMENT, AND HUMAN RESOURCE DEVELOPMENT

The management of knowledge has been around since the beginning of time. Various other terms were previously used to describe KM, for example, “knowledge-focused management practice” by Chaparral Steel in 1975; “know-how” companies introduced by Sveiby and Lloyd in 1987, and the “learning organisation” by Senge in the early 1990s (Mašić *et al*., 2017:131). All these terms refer to what is now known as KM.

The term knowledge management only entered the popular vernacular (practice) in the late 1980s. In 1986, the term “management of knowledge” was introduced in a keynote address at a European management conference (Mašić *et al*., 2017:131). From 1993 to 1995, the first books dedicated to KM were written by authors such as Karl Wiig (1997); Nonaka and Takeuchi (1995), and Davenport and Prusak (2000). From the early nineties several KM conferences were held, KM magazines were published, and KM consultants offered KM services and seminars to clients

(Mašić *et al*., 2017:131). In 2003, a request was sent (from KM gurus) to academia to “pick up the KM torch”. As a result, many universities and business schools around the world started offering courses and degree programmes in KM (Dalkir, 2017:19).

Interestingly, both KM and HRD evolved in three distinguishable phases. Initially, KM was considered as document and information management, which treated knowledge as the content of (mostly) *individual training* (Mašić *et al*., 2017:134). HRD also initially mainly focused on learning and performance (Han *et al*., 2017:298-308), particularly *individual learning*, during the first phase of its development. For example, the first definition of HRD coined by Harbison and Myers focused on the *learning* of *individuals* (Harbison & Myers, cited by Han *et al*., 2017:299). Therefore, both training and learning are considered the precursors of KM (Dixon, 2009; Mašić *et al*., 2017:134). During this first phase, the focus of KM was furthermore on the storage of *explicit knowledge* (knowledge that is easily verbalised and stored) (cf. 3.1.1; 2.5.2.1) in the form of documents and information, but also on connecting people to content (Mašić *et al*, 2017:134).

During the second development phase of HRD, the focus shifted from individual learning toward *organisational learning* (Ju, 2019:133), the learning organisation and change management (Han *et al*., 2017:301-305). Ju (2019:133) adds that the focus of HRD has moved from *learning to performance*. Apart from the learning organisation, other practices, such as coaching and mentoring, leadership development, organisational development, change practices, *culture*, and performance improvement also emerged in HRD (Ghosh *et al*., 2013:309; McGuire, 2014:2; Ruona, 2016:552-554; and Han *et al*., 2017:295,301). Additional practices were also introduced in KM during its second phase of development that include [organisational] culture, similar to HRD. Other practices introduced to KM included teamwork, the *conversion of explicit knowledge to tacit knowledge* (cf. 1.3.1; 2.5.2, 2.5.2.1; 2.5.2.2), and virtual communities of practice (VCoPs, cf. 2.9.2.4) (Nonaka & Takeuchi, 1995; Gourlay, 2001:27; Ardichvili *et al*., 2003:64; Dalkir, 2017:53). While KM initially focused on existing knowledge, the focus shifted towards *the creation of new knowledge and innovation* (Dalkir, 2017:19; Mašić *et al*., 2017:134-135).

During the third phase, KM was characterised by the accessibility, meaning of, and easy application of knowledge (Mašić *et al.,* 2017:133). During this third phase, the importance of collective knowledge in knowledge creation and knowledge sharing was realised (Ardichvili cited by Han *et al*., 2017:308) and therefore *communities of practice* (CoPs, cf. 2.9.2.3) (socialisation and sharing knowledge face to face) became important in *both KM and HRD*.

As a result of *globalisation* (Ju, 2019:133) and *technology advancement*, more virtual face-to-face and group conversations were conducted in both disciplines (KM and HRD). Apart from globalisation (Mulder, 2021:105), the COVID-19 pandemic has also resulted in major changes. For example, HRD professionals now have to provide learning and development *online* (McLean

& Jiantreerangkoo, 2020:424; Nkabinde, 2020). The possibility exists that many employees will keep on working from home, therefore *increasing the use of technology on platforms such as Zoom, Microsoft Teams, Google Meet,* to name a few (McLean & Jiantreerangkoo, 2020:424). Digital information and transformation, high-speed networks and cloud services, flexibility artificial intelligence (AI), and *KM* are only a some of the tools HRD can utilise to cope with the new normal (Wells, 2020).

Table 2-1: Similarities between the evolution of knowledge management and human resource development (Dixon, 2009; Dalkir, 2017:19; Han *et al*., 2017:298-308; Mašić, 2017:134; Ju, 2019:133)

Phases	**KM**	**HRD**
First phase	Focus on *explicit knowledge.* Known as document and information management. Focus on knowledge (as content) during *individual training.* Storage of explicit knowledge. Connect people to content.	Focus on *individual learning* and performance. Training and learning considered as precursors of KM.
Second phase	Focus moves towards *tacit knowledge.* *Learning organisation* and continual learning are introduced. Connect people to people. Focus on existing knowledge. Move toward new knowledge and innovation.	Focus shifted towards *organisation (not only individual learning and performance).* Organisational learning, the learning organisation, and change management are introduced.
Third phase	Focus on socialisation	*Globalisation and technology (including online learning*).

Phases	KM	HRD
	Access, application, and leverage of collective knowledge (*introduction of CoPs*). *Technology and virtual knowledge* for knowledge sharing and transfer. Focus on new knowledge and innovation. *Digital information.* Artificial Intelligence (AI).	Use of technology such as Zoom, Microsoft Teams, Google Meet *Introduction of CoPs.*

It can be deduced from the discussions (2.2 above) that both KM and HRD developed immensely during the last three decades. From 1970 to 1990 the focus of HRD shifted from learning on an individual level to include learning on individual, group, and organisational levels. Similarly, the focus of KM shifted from document and information management to socialisation and collective knowledge (from 1970 to 2012).

The theories that underpin the study will be discussed next.

2.3 UNDERPINNING THEORIES

The three theories underpinning KM in an HRD context are human capital theory, knowledge-based theory, and organisational knowledge creation theory. These will be discussed next.

2.3.1 Human Capital Theory

Human capital refers to strategic human resources such as professionals [and experts] who possess specialist knowledge, skills, abilities, and expertise (Ployhart, *et al*., 2014:375) and who have the ability to learn (Fitz-Enz, cited by Nafukho *et al*., 2004:548, CIPD, 2017:5). *Human Capital Theory* (HCT) suggests that society and individuals gain economic benefits from investment in training and education (Sweetland 1996:341; Aliaga, cited by Nafukho *et al*., 2004:546; Marginson, 2017:287). When investing in training and education, individual and organisational performance improve (Nafukho *et al*., 2004:549), which results in competitive advantage for organisations. HRD is tasked with training, education, and employee empowerment. Participation in training improves the performance of the organisation (Pfeffer cited by Memon, *et al*., 2009:4182; Mehta, 2011:4, Jacobs, 2014:34).

2.3.2 Knowledge-based Theory

Knowledge-based theory (KBT) considers knowledge [possessed by human resources] as the organisation's main source of competitive advantage (Tzortzaki & Mihiotis, 2014:32). Competitive advantage enables organisations to outperform their competitors [and survive] in the knowledge economy. For this reason, it is crucial that employees possess specialist knowledge and skills that competitors will find difficult to imitate or copy (Leonard-Barton, cited by Radjenovic & Krstic 2017:21; Corporate Finance Institute (CFI), (2021a). Examples of this type of [specialist] knowledge include "know-how and patents" while CoPs, and organisational culture are considered important to foster collaboration and knowledge sharing, according to Den Hertog and Huizenga (cited by Raguž *et al*., 2017:534).

KBT considers competent employees as "scarce and valuable" (Saru, 2007:37) and organisations' ability to learn (learning organisations), as a major competitive advantage (Raguž *et al*., 2017:534). HRD is tasked with organisational learning. More specifically, HRD should provide appropriate learning opportunities and activities aligned with the strategic goals of the organisation to ensure competitive advantage (Mehta, 2011:4; Devi, 2012; Saru, 2007:37).
It is clear from the aforementioned discussion (cf. 2.3.1; 2.3.2) that investing in employees' education and training will create knowledge and skills that capacitate organisations to become learning organisations to ensure competitive advantage.

Complimentary to KBT is Nonaka's (1994) dynamic organisational knowledge creation theory which will be discussed next.

2.3.3 Knowledge Creation Theory

The *organisational knowledge creation theory* (KCT*)* is built on the premise that individuals create knowledge, and that this created knowledge is made available to others in the organisation by feeding the knowledge into the organisation's knowledge system (Nonaka *et al*., 2006:1179). Subsequently, what individual employees come to know (emerging knowledge) also benefits colleagues and others in the organisation [provided that this knowledge is shared].

KCT consists of two dimensions namely the epistemology dimension of knowledge and knowledge conversion. From the *epistemological* dimension, knowledge can be converted from tacit-to-explicit knowledge (cf. 2.7.1). In this regard, Nonaka and Takeuchi found that the success of Japanese companies lies in transforming tacit knowledge into explicit knowledge (cf. 2.5.2; 2.5.2.1; 2.5.2.2; 2.7.1) (Nonaka *et al*., 2006:1179; Virkus, 2014; Dalkir, 2017:74). Knowledge conversion entails the interaction between explicit and tacit knowledge through SECI (socialisation, externalisation, combination, internalisation) also referred to as the SECI or

knowledge spiral model, (cf. 2.4.1). Accordingly, knowledge is converted through socialisation (sharing knowledge tacit-to-tacit or face-to face); externalisation (articulation of tacit to explicit (written or codified) knowledge; combination (explicit-to-explicit knowledge), and internalisation ("learning by doing" (cf. 2.8.5) (Nonaka *et al*., 2006:1182; Dalkir 2017:78).

As KCT is also the basis of the knowledge spiral or SECI model the following section will include an overview of the models applicable to KM and for comprehensiveness.

2.4 KNOWLEDGE MANAGEMENT MODELS

According to Dalkir (2017:72), KM models are the theoretical foundations that explain the best way to manage knowledge. Only those models applicable to this study, namely KM in an HRD context, will be discussed next, as the majority of KM models fall beyond the scope of this study.

The most "robust" (Dalkir, 2017:79) model in the KM field, is the knowledge spiral or SECI model that will be discussed first.

2.4.1 The knowledge spiral model

The knowledge spiral model, developed by Nonaka and Takeuchi, is based on the knowledge creation theory (KCT) (cf. 2.3.3) and is useful to explain the process of knowledge creation. Knowledge creation, which is not a sequential process, but rather requires a continuous dynamic interaction between tacit and explicit knowledge. According to Dalkir (2017:74), the focus of the knowledge spiral model is on making "personal knowledge available to others" in the organisation. Similar to the knowledge creation theory (cf. 2.3.3), the knowledge spiral model also consists of the epistemological dimension (converting tacit knowledge to explicit knowledge, cf. 2.7.1) and the ontological dimension. However, the ontological dimension is further subdivided into processes that include knowledge creation (cf. 2.8.3), knowledge conversion, and the knowledge spiral (Dalkir, 2017:74).

The *knowledge creation process* commences when an individual sparks an idea for a new product, service, or concept. In addition, knowledge creation is a social process that occurs between individuals when ideas are shared. When these knowledgeable people share tacit and explicit knowledge with others, they share the capacity to solve problems by applying their expert knowledge (Nonaka *et al*., 2006:1182).

Knowledge creation occurs on individual, group, and organisational levels. Within the knowledge creation process, knowledge is converted via four modes, namely socialisation, externalisation, combination, and internalisation (SECI; cf. 2.3.3). The knowledge spiral implies a continuous flow

of knowledge sharing by individuals, [groups] and the organisation (Nonaka & Takeuchi, 1995: 72; Dalkir, 2017:79).

2.4.2 Model for building and using knowledge (Wiig model)

The Wiig model focuses on the engagement of individuals during the building and use of knowledge when they identify and relate to activities in producing products and services (Wiig, 1993:55). According to Dalkir (2017:85), the Wiig model (developed by Karl Wiig, 1993) is a semantic network model that relates to the storing of knowledge. A semantic network is a system that represents knowledge [for example culture, experience, relationships] in a network [electronic digital format] (He, 2014:455), in other words, the organisational memory. Consequently, knowledge must be organised and stored in an accessible source (organisational memory) to enable its (knowledge) use.

Based on the Wiig model, effective knowledge storage entails four aspects, namely completeness, (the availability of both tacit and explicit knowledge), connectedness (related knowledge in the system), congruence (consistency between different kinds of knowledge in the system), and perspective and purpose ("just-in-time" knowledge, knowledge retrieval, or on-demand knowledge) (Virkus, 2014, Dalkir, 2017:84-85). In other words, effective knowledge entails having knowledge readily available when a situation requires that knowledge, for example to solve an immediate customer-related query.

The Wiig model also refines the "internalisation" process (explicit-to-tacit knowledge as referred to in the Nonaka and Takeuchi spiral model (cf. 2.4.1). Accordingly, the internalisation process of knowledge is presented on a continuum (degrees of internalisation), from the lowest level (novice) to the highest level of expertise (master) (Dalkir, 2013:63-64), that is novice, beginner, competent, expert, and master (Dalkir, 2017:86).

2.4.3 Organisational epistemology model (Von Krogh and Roos model)

The Von Krogh and Roos model differentiates between individual and social knowledge (Von Krogh & Roos, 1995b:49). The focus of the Von Krogh and Roos model is on the individual cognitive element (Cristea & Căpaţînă, 2009:356, Virkus, 2014, Dalkir, 2017:73). It is based on the hypothesis that knowledge resides in the minds of individuals and the links (or relationships) between these individuals. The purpose of this model is to analyse how organisations disseminate knowledge to their employees to ensure that this knowledge reaches the employees, what knowledge means for both employee and organisation, and to analyse KM barriers. KM barriers may, for example, include employees' mindsets, organisational communication, organisational structure, the relationship between organisational members, and the management of human

resources. These KM barriers impede organisational knowledge for [strategic goals], innovation, and competitive advantage of organisations (Dalkir, 2017:74).

2.4.4 Choo sense-making model

The Choo sense-making model is a decision-making model used to make sense of the unknown or unseen within the organisation's internal and external environments. Organisations can use [knowledge and] information strategically when utilising the three interconnected processes of this model, namely sense-making, knowledge creation, and decision-making (Choo, 2001:197; Dalkir, 2013:58):

- Sense-making involves making sense of information from the external environment, for example, changes and trends regarding clients, customers, competitors, and suppliers (De Alvarenga Neto *et al*., 2009:595; Virkus, 2014).
- Knowledge creation (cf. 2.7.3) occurs through interaction ("dialogue, discourse, sharing, and storytelling") to change what is currently happening in the organisation into a more desirable state (Dalkir, 2017:82).
- Decision-making entails the choices that are made by an organisation in line with its knowledge vision. Organisations must choose the best option out of the different (plausible) options and solutions available when making decisions (De Alvarenga Neto *et al*., 2009:595; Virkus, 2014).

2.4.5 Knowledge management process model

The knowledge management process model comprises three knowledge processes that are deemed necessary to facilitate the use of knowledge (Botha *et al*., 2008). These three processes are:

- Knowledge creation and sensing whereby new knowledge is created and existing knowledge is assembled in different and innovative ways through learning (Botha *et al*., 2008:48).
- Knowledge sharing and dissemination to facilitate collaboration, feedback, and internalising knowledge and communicate [transfer] to both individuals and communities
- Knowledge organisation to facilitate the acquisition, organisation, capture display [presenting], and access of knowledge (Botha *et al*., 2008:49-50) [in databases or knowledge repository].2.11 Summary

2.5 KNOWLEDGE MANAGEMENT: RELATED CONCEPTS

Concepts related to, and which are necessary to understand KM, will be described in this section. These include *knowledge* and *information* (and the differences between knowledge and information) as well as the link between knowledge and learning. It is necessary to first understand the meaning of knowledge as knowledge and information are often used interchangeably in the literature (Ipe, 2003:338). Reference will also be made to Bloom's taxonomy of learning as it relates to KM in the context of HRD.

2.5.1 Knowledge versus information

It is evident from the literature (Patel & Jain, 2018:542; Fricke, 2018:34) that knowledge is neither data nor information, but rather a product of both data and information. In this regard, Fricke (2018:34) states that data leads to information, whilst information leads to knowledge. Patel and Jain (2018:542) also distinguish between knowledge and information by arguing that data is needed "to process" information. Information is needed "to inform" and knowledge is needed "to know" (Patel & Jain, 2018:542). Dalkir (2017:73) confirms Fricke, Patel, and Jain's statements by stating that "there can be no knowledge without a knower".

Knowledge includes practical skill (capacity for action) judgement, reasoning, experiences, and perception (Nonaka *et al*., 2006:1181; Whitecraft, 2013:1; Gosney & Hughes, 2016:3; Nonaka & Takeuchi, 2019:6). Thus, people need information to be informed, and need knowledge to be able to know. In other words, information combined with understanding, reasoning, and application becomes knowledge (Whitecraft, 2013:1; Gosney & Hughes, 2016:3; Fricke, 2018:34). Therefore, information and data combined with action, in other words, application, becomes knowledge. Without action or application, there can be no knowledge, skills, experiences, or perception.

The role of HRD is to develop skills and increase the capacity of individuals and groups through the transfer of knowledge (Ardichvili, 2017:2021) – not just information. Thus, HRD needs to understand the difference between knowledge and information.

In addition, when information is provided, HRD professionals need to ensure that employees understand, reason, and *apply* the information during training and learning to ensure information is converted into knowledge. Coetzee and Botha (2019:218) and Armstrong (2021) argue that knowledge is the necessary precondition for putting the skills and abilities required by the learning outcomes into practice. In this regard, Bloom's taxonomy of learning (Armstrong, 2021), that is, that outcomes are classified in a hierarchical learning framework – applies. This taxonomy is used to judge whether learning outcomes in three domains, the *cognitive* (knowledge, thinking, comprehension) domain, the *affective* domain (values, feelings, and emotions), and the

psychomotor domain (physical skills development) are met (Coetzee & Botha, 2019:218; Dalkir, 2017:222). Therefore, “Bloom’s taxonomy provides a good basis for assessing knowledge application” (Dalkir, 2017:221), by not only judging and assessing knowledge and skills, but also the level of performance that is expected (level of mastery (Dalkir, 2017:221).

Knowledge, therefore, is having the theoretical knowledge or information in the cognitive domain, together with the practical skill or ability to apply the theoretical knowledge in the psychomotor domain, and the moral judgment, reasoning, and discernment between right and wrong.

Consequently, HRD is responsible for the development of knowledge, and not simply providing information. The focus of this study is therefore on knowledge and not information. The link between knowledge and learning will be discussed in section 2.9 of this study. HRD professionals should furthermore ensure that knowledge is applied. Bloom’s taxonomy provides a good basis to assess knowledge application and the level of performance expected of employees.

2.5.2 Types of knowledge

The contribution of both explicit and tacit (implicit) knowledge is indicated in most of the literature on KM (Nonaka, 1994; Yang, 2003; Olomolaiye & Egbu, 2005; Nonaka & von Krogh, 2009; Yang *et al*., 2009:284; Collins, 2010; Hislop *et al*., 2018; Straw, 2013). Collins (2010:1) maintains that explicit knowledge must be understood before tacit knowledge can be understood. Therefore, explicit knowledge will be discussed next, followed by an explanation of tacit knowledge.

2.5.2.1 Explicit knowledge

Explicit knowledge includes drawings, writings, maps, and mathematical formulae discrete or digital knowledge existing in libraries, archives, and databases (Nonaka & von Krogh, 2009; Polanyi, 1959; Xue, 2017:23), [thus tangible]. Explicit knowledge is therefore considered as facts and objects that can be easily stored, transferred, distributed, and accessed (Straw, 2013:28; Hislop *et al*., 2018:19. Hislop *et al*. (2018:19) add that explicit knowledge is mostly separate from humans.

HRD deals with explicit knowledge in the form of formal rules, policies, and procedures, standing operating procedures, and formal communication channels (Yang *et al*., 2009:276). Practical examples of explicit knowledge for training purposes in the HRD environment can, for example, include performance plans and appraisals, personal development plans, and job analysis. Explicit knowledge can also feature as learning support materials, instruction manuals, training reports, training records, and videos (adapted from Werner, 2017:353; Erasmus *et al*., 2018:137; Botha & Coetzee, 2019:181 Coetzee & Truman, 2019:49-50; Kiley & Coetzee, 2019:300).

2.5.2.2 Tacit knowledge

Tacit knowledge is considered as the skill and experience (Nonaka & Takeuchi, 1995; Xue, 2017:23) that people accumulate as a result of "learning by doing" (Baguma, 2016:14). Tacit knowledge includes, for example, attitudes (Caruso, 2017:48), beliefs (Baloh *et al*., 2011:49), competencies (Koskinen *et al.*, 2003:68), intuition and senses (Nonaka & Von Krogh, 2009:635, Adel *et al*., cited by Carbery, 2015:91), world views (Baloh *et al*., 2011:49; Hislop *et al*., 2018:19) acquired from cognitive (reasoning), physical skill (know-how), and experience (Koskinen *et al.*, 2003:68). Tacit knowledge is the knowledge that people use in their daily tasks, often not even aware of what they know, or how they know. Tacit knowledge is the knowledge that one possesses which is subconscious and becomes second nature (Hislop *et al*., 2018:19).

Tacit knowledge is considered central to KM (Moordian, 2006; Grant, 2007, cited by Xue, 2017:23; Hislop *et al*., 2018:19). Although explicit and tacit knowledge cannot exist without the other, both are complementary entities (objects) (Cho *et al*., 2009:266). Tacit knowledge, in particular, is a prerequisite for the application of explicit knowledge (Carbery, 2015:91). This statement is confirmed by Dalkir (2017:167) who states that about eighty percent (80%) of knowledge used by either individuals or groups is in tacit form. The other 15%-20% used is explicit knowledge in tangible concrete form (Dalkir, 2017:167).

Tacit knowledge is subjective, for example, discipline-specific knowledge or expertise (Virkus, 2014a; Carbery, 2015:91) (such as HRD discipline-related knowledge and expertise) and specific to an organisation (Carbery, 2015:91). Within an HRD context, tacit knowledge is found, shared, and created during face-to-face contact [interaction] (Carbery, 2015:91; Shabane, 2017:54) and demonstrations (Carbery, 2015:91), socialisation, and personal interaction meetings, workshops, seminars, on-the-job training, mentoring, and storytelling (Shabane, 2017:54).

2.6 DEFINITION OF KNOWLEDGE MANAGEMENT

As is the case with HRD, there is no universally accepted definition for KM (Hamlin & Stewart, 2010:213; Girard & Girard 2015:7; Wang *et al*., 2017:1165). In this regard, Sveiby (2001:1) argues that concepts are often best defined by how people use them.

The most frequently cited definition of KM is the one by O'Dell and Grayson (1998) which refers to KM as "a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance". The focus of this definition is on the KM activities, namely sharing,

applying, and acquisition of knowledge for organisational performance (cf. 1.10.1; 2.8.1; 2.8.3; 2.8.4).

Other definitions of KM can be categorised in three categories, namely learning and performance (2.6.1.), integrated (2.6.2), and Western and Eastern focus (2.6.3) and will be discussed next.

2.6.1 Knowledge management from a learning and performance perspective

It is evident from the following definitions that KM focuses on learning and development using collaboration, best practices and lessons learned to create value for the organisation. Caruso's (2017:50) definition states that KM "seeks to create opportunities for collaboration where informal learning can surface to create value". Dalkir (2017:4) defines KM as creating, sharing, and applying knowledge to foster continued organisational learning by storing best practices and lessons learned in corporate memory. Other authors, such as O'Dell and Grayson (1998:173), and Kongpichayanond (2009:376) define KM as a conscious strategy to capture and use knowledge to enhance learning and improve performance of individuals and organisations (Knowledge management glossary, cited by Girard & Girard, 2015:4). More recently, Beyerlein *et al.* (2017:27) maintains that KM is the repetitive process of handling "actionable knowledge" as a result of learning that occurred on individual, group, and organisational level to improve performance.

2.6.2 Knowledge management from an integrated perspective

KM is also considered as an integrated system (integration of both explicit and tacit knowledge) facilitated by systems and processes. As early as 1999, Alavi and Leidner (1999:6) considered KM from a system's perspective as a systemic process that includes both tacit and explicit knowledge during acquisition, organisation, and communication of knowledge. Brelade and Harman (2006:5) added that KM is a holistic approach to people effectiveness, technology, systems, and processes that mediate people [tacit] and information [explicit].

More recently, Girard and Girard (2015:3) cited Arkell, Blodgett, Crowell and Lahaise who described KM as an integrated, comprehensive system of processes and methods to enable employees to share, capture and use knowledge thereby facilitating innovation and integrating the information and experiences of individuals and groups.

2.6.3 Knowledge management from a Western versus an Eastern perspective

Definitions of KM from the Western world differ from those used in the Eastern world. KM in the West focuses more on an *individualistic* approach (Jelavic & Ogilvie, 2010:54), such as the reuse and exchange of explicit knowledge stored in information systems (Girard & Girard, 2015:1-14).

This means the systematic capture, organisation, description, and sharing of knowledge so that the knowledge becomes useful and reusable (Clobridge, cited by Girard & Girard, 2015:10).

The *Eastern* perspective (*community approach),* (Jelavic & Ogilvie, 2010:54) on KM is influenced by Zen Buddhism, which is based on the belief in the oneness of humanity and nature, body and mind, self and other (Nonaka & Takeuchi, cited by Dalkir, 2017:74). Definitions from an Eastern perspective, for example, describe KM as knowledge transfer between explicit and tacit [dimensions] and between the individual and the collective during knowledge creation and sharing opportunities (Nonaka and Takeuchi; Wang, cited by Dalkir, 2017:74). Von Krogh *et al*. (2000:4) also described KM from an Eastern perspective as knowledge enabling that allows conversations and relationships to positively affect knowledge creation.

HRD should consider all three these perspectives of KM to ensure optimal development of knowledge (explicit and tacit) for individuals, groups, and organisational performance by providing learning and collaboration interventions. Subsequently, the following definition for KM, which includes all three perspectives and that applies to this study within an HRD context, was formulated in chapter 1 (cf. 1.10.1):

Knowledge management is defined as the management of systematic processes by HRD to create, share, transfer, acquire, apply, capture, and storage of knowledge on individual, group, and organisational levels to enhance continuous employee and organisational learning and performance (cf. 1.3, 1.3.1, 1.10.1) (adapted from Wiig, 1995:3; Nonaka; APQC; O'Dell & Grayson (cited by Ardichvili, 2002:451-452; Cross *et al*.; Davenport & Prusak (cited by Parise 2007:359); Blankenship & Ruona, 2009:290; Cho *et al*. 2009:264; Caruso, 2017:2017:51; Ardichvili, 2017:194; Dalkir, 2017:4, Xue, 2017:31).

2.7 ORGANISATIONAL APPROACHES TO KNOWLEDGE MANAGEMENT

2.7.1 Codification approach

Codification refers to the arrangement of something into a system (Hornsby *et al*., 2015:279). The codification approach to KM implies the capturing, codification, and storage of explicit knowledge (cf. 2.5.2.1) into a system in a suitable format (Bolisani *et al*., 2020:57), for example, written documents, illustrations, or maps (Straw, 2013:28).

Knowledge is codified through a people-to-content approach (Gangeswari *et al*., 2016:654; Mašić *et al*., 2017:134; Dixon, 2018:21) and then stored into a system. This means that knowledge is extracted from the person who developed it, made independent of that person, and then reused for various purposes (Hansen *et al.,* 1999).

An advantage of the codification approach is that it allows people to search for and retrieve codified knowledge (explicit knowledge, cf. 2.5.2.1), without having to contact the person who originally developed the knowledge (Gangeswari *et al*., 2016:654). A disadvantage of the codification approach is information overload, for example, directories of unprocessed documents and unread e-mails [in databases] (Kumar & Ganesh 2010:119). The role of HRD is often overlooked in the codification approach (Gourlay, 2001:29) since people can simply access the knowledge from a database or system in which the knowledge is captured. HRD should, however, ensure that important knowledge from experts is codified into documents, such as lesson plans, training materials, the workplace skills plan, annual training reports and training budgets, and standard operating procedures (SOPs) to mention a few (cf. 2.8.3; 2.8.6). This is essential to enable accessibility of important knowledge and for later retrieval.

2.7.2 Personalisation approach

The personalisation approach, also called the people-to-people approach (Dixon, 2018:21), aims to improve the flow of [tacit] knowledge via networking and interaction (Bolisani, *et al*., 2020:57). Tacit knowledge (which includes both cognitive skills and physical skills) (cf. 2.5.2.2) is the knowledge that people possess, which shapes how people think and act (Hislop *et al*., 2018:19; Xue, 2017:23).

The personalisation approach is preferred when creativity and innovation are needed (Kuman & Ganesh, 2010:119). An advantage of the personalisation approach is the enabling of experience, know-how, and expertise that cannot be captured in documents (Parise, 2007:360.) Examples of the personalisation approach to KM [within an HRD context] include but are not limited to CoPs, storytelling, and setting up spaces for physical and virtual interaction (Kuman & Ganesh, 2010:119).

2.7.3 Integration of the codification and personalisation approaches

An integration of the codification and personalisation approaches, or a hybrid approach, is suggested by several authors such as Hansen *et al*. (1999); Zhang *et al*. (2012), and Bolisani *et al. (*2020:58). Hansen *et al*. (1999), for example, suggested a combined strategy between the codification and personalisation approaches with an 80/20 blend (80 codification and 20 personalisation). However, the mix between the codification and personalisation approaches, depends on the needs of a specific organisation.

Davenport *et al.* (cited by Gourlay, 2001:29) suggest that HRD should take social relations and organisation culture into account when considering providing opportunities for collaboration. Accordingly, HRD would most likely take on a larger personalisation approach, although it cannot exclude a codification approach as HRD should also ensure that HRD documents are stored in a

system for later retrieval (cf. 2.7.1). As suggested by Hansen *et al*. (1999) and Zhang *et al*. (2012), HRD can use a hybrid approach utilising the help of experts, or specialists, that can make explicit knowledge understandable.

The KM cycle and activities will be discussed next, with an indication how the KM activities relate to HRD, where applicable.

2.8 KNOWLEDGE MANAGEMENT CYCLE AND ACTIVITIES

Knowledge management consists of several knowledge activities that are included in a cycle (or process) during which knowledge is "transformed" (Wiig, 1995; Tomé, 2012:95, Dalkir, 2017:61) for example, activities such as transferring, sharing, renewing, unlearning, creating, and stocking of knowledge (Tomé, 2012:95). Other authors also refer to the following management activities, such as knowledge creation (Alavi & Denford, 2011:107; McFayden *et al*., cited by Matsuo, 2015:1189; Kaba & Ramaiah, 2019:11); knowledge acquisition (Carbery, 2015:5; Hislop *et al*., 2018:122), knowledge application (Alavi & Denford, 2011:107), knowledge capture (Dalkir, 2017:119-120); knowledge discovery (Kaba & Ramaiah, 2019:532), knowledge dissemination (Dalkir *et al*., 2015:60), knowledge exchange (Gangeswari *et al*., 2016:662-665; Pandey, 2016:31), knowledge generation (Brix, 2017:117); knowledge integration (Dalkir *et al*., 2015:60); knowledge retention (National Academies of Sciences, Engineering and Medicine, 2017; and Aggestam *et al*., 2014:560; National Academies of Sciences, Engineering and Medicine, 2017), knowledge sharing (Renzl, cited by Alavi & Denford, 2011:107), knowledge storage (Caroline *et al*., 2015:3; Dalkir, 2017:215), and knowledge transfer (Gangeswari *et al*., 2016:665; IGI Global, 2021f).

There is, however, a lack of consistency amongst authors regarding the naming of KM activities in the KM cycle (Dalkir, 2017:38). In 2015, Evan, Dalkir and Bidian developed an integrated KM cycle (integrating different naming conventions from authors such as Meyer & Zack (1996); Bukowitz & Williams (2003); and McElroy (1999) into three main categories, namely:

- Knowledge *capture and/or creation* include activities such as acquisition, creation, storage/retrieval, learning use distribution, and codification.
- *Knowledge sharing and dissemination* include KM activities such as presentation and assessment.
- *Knowledge acquisition and application* include building, sustainment, and value realisation (Dalkir, 2017:38).

Although these terms differ, there is some overlapping amongst all these activities (Dalkir, 2017:60). The knowledge activities applicable to this study, namely knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application,

knowledge capture, and knowledge storage are discussed next, and the applicability of each within an HRD context is indicated.

2.8.1 Knowledge sharing

Knowledge sharing (cf. 1.3.1), also known as knowledge exchange (Gangeswari *et al*., 2016:662-665; Pandey, 2016:31) is considered a people-to-people process (Mašić *et al*., 2017:134-135; Dixon, 2018:21). However, authors such as Paulin and Suneson (2015:77) claimed that knowledge can never be shared as knowledge exists in context. The reason is that the receiver interprets knowledge based on the receiver's background (thus the interpreted knowledge may differ from what was intended by the sender).

Knowledge sharing can either be unidirectional (sharing knowledge one-way from a sender to an individual receiver where the receiver reflects on the shared knowledge) or bidirectional (giving and collecting knowledge, between two or more people as a participative process (Gangeswari *et al*., 2016:662-665). The core of knowledge sharing is co-creation and social interaction (Ardichvili, 2017:202). Therefore, HRD should create social structures such as learning communities and knowledge networks (cf. 2.9.2.3) for knowledge sharing to take place (Cho *et al*., 2009:264).

Within an HRD context, *unidirectional* knowledge sharing can occur by [listening to] motivational speakers (Sterling, 2015), game-based learning, conferences, videoconferencing (Skyrme cited by Fombad & Onvancha, 2017:6), as well as workshops and seminars (Shabane 2017:54). In addition, social media platforms such as YouTube, Twitter (Remko *et al*., 2017:4-6); LinkedIn (Natarajan, 2020:727), Facebook, and blogging (Chan *et al*. 2013:1; Pandey, 2016:31; Natarajan, 2020:727) are useful to share unidirectional knowledge in an HRD context.

Examples of *bidirectional* knowledge sharing within an HRD context include structured (CoPs) (cf. 2.9.2.3) (Webber cited by Fombad & Onvancha, 2017:6; Aljuwaiber, 2021:228) work teams (Ipe, 2003:349), project teams during action learning (Chandavimol *et al*., 2013:51), coaching (Rebernik & Sirec cited by Salis, 2010:4), mentoring (Shabane 2017:54; Curtis & Taylor, 2018:142), feedback (Briner, 2016; Zhang *et al*., 2012:1329) and after-action reviews (Skyrme cited by Fombad & Onvancha, 2017:6), formal and informal networking, as well as watercooler conversations, storytelling, meetings (Webber cited by Fombad & Onvancha, 2017:6), and problem-solving (Galeazzo & Furlan, 2019:1017).

2.8.2 Knowledge transfer

Knowledge sharing and knowledge transfer (cf. 1.3.1) are often used interchangeably in the literature (Ardichvili, 2017:195). For example, Dalkir *et al*. (2015:60) refer to knowledge sharing

[and not knowledge transfer] as dissemination or integration. *Knowledge transfer* is, however, a much broader concept than knowledge sharing (Gangeswari *et al*., 2016:662-661). This is because knowledge transfer includes knowledge sharing, knowledge acquisition, knowledge assimilation, and knowledge application. Knowledge transfer also involves the movement of knowledge and facts from one location to another, for example across organisations and business units (Wang & Noe, 2009:117; Gangeswari *et al*., 2016:662-661; Ardichvili, 2017:194).

Knowledge is transferred either by using the codification approach (people-to-content, cf. 2.7.1) or the personalisation approach (people-to-people, cf. 2.7.2) (Gangeswari *et al*., 2016:665; Mašić *et al*., 2017:134-135; Dixon, 2018:21) (cf. 2.6.1, 2.6.2). When using the codification approach, knowledge is transferred via codified material such books, [manuals, documents, articles, journals], and/or online, materials (Gangeswari *et al*., 2016:664), and newsletters (Farnese *et al*., 2019). HRD can utilise documents and materials for knowledge transfer such as job content analysis, job descriptions (Erasmus *et al*., 2018:136), job processes (Li & Herd, 2017:188), checklists, work procedures, blogs, and wikis (Li & Herd, 2017:188).

During the personalisation approach, knowledge is transferred between at least two participants and includes knowledge acquisition, assimilation (integration), and application (Gangeswari *et al*., 2016:664). Training and development are examples of the transfer of knowledge, according to Conley and Zheng (2009:342) and is therefore something at which HRD excels. Therefore, within a HRD context, knowledge can be transferred by attending training [or workshops], employee orientation [induction], on-the-job-training (Li & Herd, 2017:188-191), e-learning (Charband & Navimipour, 2018:1471), observations (Botha & Coetzee, 2019:180; Erasmus, *et al*., 2018:135), coaching, CoPs, job shadowing, mentoring, and networking, (Shabane, 2017:54), during performance appraisal (Botha & Coetzee, 2019:181), performance management and succession planning (Shabane, 2017:60; Werner, 2017:353), interviews, and group discussions (Erasmus *et al*., 2018:135).

2.8.3 Knowledge creation

Knowledge creation (cf. 1.3.1) occurs when new knowledge is combined with existing knowledge (Brix 2017, 112; Ramadan *et al.*, 2017:442; KMT, 2018c). Knowledge creation is also referred to as knowledge discovery (Kaba & Ramaiah, 2019:532) or knowledge generation (Brix, 2017:117). For knowledge creation to occur, internal (innovation and knowledge generated by internal sources of organisations) and external knowledge (knowledge acquired from sources outside of the organisation) (Zhang & Wu, 2017:170) need to be integrated, (Bresciani & Ferraris, cited by Papa *et al*., 2017:329). Nonaka and Takeuchi (2019:20) state that knowledge creation enables innovation. Therefore, knowledge creation and innovation (KMT, 2018) often go together.

Knowledge is created when people collaborate and dialogue happens (Tomé, 2012:94), for example during learning opportunities (Li & Herd, 2017:185). Within an HRD context, knowledge creation includes opportunities for networking and interaction (Bolisani, *et al*., 2020:57; Farnese *et al*., 2019), for example, apprenticeships, mentoring, [and coaching] (Ardichvili, 2017:202), observing colleagues, and working side-by-side (Farnese *et al*., 2019), experiential learning – particularly double-loop learning (also known as generative learning, which implies the questioning and correcting of errors in the way of doing things according to Carbery, 2015:87) (Gosney & Hughes, 2016a:4), and [self-study]. Knowledge creation also occurs during knowledge sharing, for example, when people are involved in problem-solving and innovation (Kaba & Ramaiah, 2019:532), sharing their ideas and experiences (Darling, 2014:25). Knowledge creation may also occur during knowledge transfer, for example, in classroom training, online databases, intranet, models, best practices, handbooks, self-reflection, trial-and-error (Farnese *et al*., 2019), training materials, training reports, performance management, and quality management (Erasmus *et al.*, 2018:34). Knowledge creation is crucial, especially in the knowledge economy to keep up with constant change such as technology (4th industrial revolution) and changes brought forth (Farnese *et al*., 2019) from, for example, the COVID-19 pandemic. The fourth industrial revolution is characterised by immense technological advancements in all industries known as artificial intelligence, nanotechnology, and internet of things (Schwab, 2016).

2.8.4 Knowledge acquisition

Knowledge acquisition (cf. 1.3.1), also referred to as “obtaining knowledge” (Kaba & Ramaiah, 2019:532) involves the identification and looking for new knowledge, but also the recognition of existing knowledge (Rusly *et al*., 2015:1205; Brix, 2017:115). Knowledge acquisition is also considered learning. Liew (2013:51); Carbery (2015:5), and Erasmus *et al*. (2019:98) refer to learning as the acquisition of knowledge for example during classroom and practical learning.

Knowledge acquisition involves finding knowledge from both inside the organisation and externally (Rusly *et al*., 2015:1205; Brix, 2017:115). For HRD, knowledge is acquired inside the organisation in the form of explicit knowledge such as company knowledge [policies, procedures, strategic goals, and objectives], performance documents (Werner, 2017:353), training records, and training materials (Erasmus *et al*., 2019:137; Botha & Coetzee, 2019:181; Coetzee & Truman, 2019:49-50; Kiley & Coetzee, 2019:300) in existing databases. When knowledge is not available within the organisation, HRD can acquire knowledge from external sources such as scientific journals, software programs, hiring experts (from competitors), or when buying existing training materials (Brix, 2017:115; Bolisani & Bratianu, 2018:164; KMTb, 2020; Training Material Development, 2021; KMTb, 2020).

Knowledge acquisition also includes the creation of new knowledge (cf. 2.8.3) via social interaction (Liew, 2013:51). HRD can assist employees in acquiring knowledge through CoPs (cf. 2.9.2.3) (Jorgensen & Keller, 2008:525; Fullwood & Rowley, 2021:9); mentoring (cf. 2.9.2.2), job shadowing, notice boards, peer-to-peer [interaction], observations (Botha & Coetzee, 2019:180; Erasmus, *et al*., 2018:135), and individual research (Fullwood & Rowley, 2021:9). Interventions such as blogs, e-learning, flipped classrooms, gamification, mobile learning, and virtual classrooms (Erasmus *et al*., 2019:100) can also be used by HRD to enable knowledge acquisition (cf. 2.8.4).

2.8.5 Knowledge application

Knowledge application (cf. 1.3.1) implies the actual use or practice of knowledge (Evans *et al*., 2014:88; Dalkir, 2017:217) and is therefore also referred to as "learning by doing" (Rebernik & Širec cited by Salis, 2010:4) and "training transfer" (Huang *et al*., 2015:710), or "learning transfer" (Raliphada *et al*., 2014:743). "Training transfer" refers to the maintenance and use of learned knowledge for effective performance (Baldwin & Ford, cited by Blume *et al*., 2019:270; Werner, 2022:76).

Organisations are concerned about their return on training investment, therefore the extent to which employees apply acquired knowledge and skills to their jobs is crucial (Huang *et al*., 2015:710). HRD is responsible for learning and performance [and improved products] in the organisation and therefore contributes to the return on investment (ROI) of the organisation (Blankenship & Ruona, 2009:290; Ardichvili, 2017:194). More recently, Ode and Ayavoo (2019:210) concur that knowledge application in the form of improved products and services (innovation), are essential to ensure competitive advantage in organisations.

An example of knowledge application [within an HRD context] is when knowledge and skills acquired during a training intervention (such as a workshop on customer services) are applied in the workplace to achieve improved client services (Huang *et al*., 2015:720). Knowledge application includes making decisions and performing tasks with the knowledge and skills acquired from a learning context (Huang *et al*., 2015:710).

HRD is thus responsible for learning and performance [and improved products] and therefore contributes to the ROI of the organisation (Blankenship & Ruona, 2009:290; Ardichvili, 2017:194). However, HRD should ensure that employees can apply the acquired knowledge and skills to realise ROI.

2.8.6 Knowledge capture

Knowledge capture (cf. 1.3.1) refers to the process whereby tacit knowledge is converted into explicit knowledge (cf. 2.5.2.1; 2.5.2.2; 2.7.1) (Virkus, 2011; National Academies of Sciences,

Engineering and Medicine, 2017) [in tangible form], in other words, codification (cf. 2.7.1). Knowledge capture, which consists of various processes, systems, and interactions, is essential to ensure that critical knowledge is retained (preserved) in the organisational memory (knowledge repositories) (Virkus, 2011; National Academies of Sciences, Engineering and Medicine, 2017). Critical knowledge exists with experts inside the organisation as well as external consultants, competitors, customers, or suppliers (Becerra-Fernandez & Sabherwal, 2015). Once critical knowledge is captured in explicit form, it can be shared, captured, and retained [stored] in the organisational memory (Becerra-Fernandez & Sabherwal, 2015; Virkus 2011).

However, it is not always possible to capture tacit knowledge (Martins & Meyer 2011:80; El-Den & Sriratanaviriyakul, 2019:24) because people do not constantly want to let go of the knowledge that they have (El-Den & Sriratanaviriyakul, 2019:24). HRD can assist with capturing tacit knowledge in document form, for example, hands-on skills, procedure [to simplify a job], names and contact details of potential customers, suggestions dealing with customer complaints, writing journals, tips on how to deal with challenges (Magalhães, 2015), storytelling, lessons learned, and (experience guided) mentoring (Malamed, 2020). Tacit knowledge such as expert or specialist knowledge should also be captured in explicit form (codification – cf. 2.7.1) to ensure that such knowledge is retained when expert HRD employees leave the organisation.

2.8.7 Knowledge storage

Whilst knowledge capture focuses on the conversion of tacit into explicit form (codification, cf. 2.7.1), knowledge storage (cf. 1.3.1) focuses on the storage of the converted (explicit) knowledge in systems (databases) or organisational repositories. According to Dalkir (2017:60), knowledge capture and knowledge storage are two different activities, but they overlap (Aggestam *et al*. (2014:560) and more recently the National Academies of Sciences, Engineering and Medicine (2017) similarly indicate an overlap between knowledge storage and knowledge capture, given that both contribute to knowledge retention.

The purpose of knowledge storage is to have [explicit] knowledge available for employees to locate, retrieve, or access with ease (Pandey, 2016:37) when needed. Knowledge must therefore be stored in repositories (to build organisational memory) for easy access. Repositories or organisational memory are systems where knowledge is stored (Gray, 2001:370; Pandey, 2016:37; KMT, 2018e).

Within an HRD context, tacit knowledge that is captured in explicit form should be stored, for example, in databases and intranets for future use. This knowledge includes company knowledge, such as documented work, policies and procedures, codes of conduct, job procedures, contact details of relevant people and customers, complaints, and suggestions

(Magalhães, 2015). HRD should take care that knowledge sharing activities are not replaced by repositories, but rather that they enhance knowledge sharing, as suggested by Gray (2001:371).

2.8.8 Synthesis - Knowledge management activities

It becomes clear from the previous discussions on KM activities that *knowledge sharing* is a people-to-people process only (Mašić, 2017:134-135; Dixon, 2018:21), while *knowledge transfer* is the movement of facts (knowledge) from either people to people or people to content (Gangeswari *et al*., 2016:662-661; Ardichvili, 2017:194; Mašić, 2017:134-135; Dixon, 2018:21). *Knowledge creation* occurs when new and existing knowledge are combined (Bresciani and Ferraris, cited by Papa *et al*. 2017:329; KMT, 2018c*). Knowledge acquisition* is considered to take place during learning and can be acquired internally or externally to the organisation *Knowledge application* is the practice of knowledge (Evans *et al*., 2014:88), thus learning by doing (Rebernik & Širec cited by Salis, 2010:4, Argote & Levine, 2020:5). HRD should ensure that learners can apply knowledge acquired through learning interventions to realise ROI. *Knowledge capture* occurs when tacit knowledge is converted into explicit form to enable the storage of such explicit knowledge (*knowledge storage)* in organisational repositories or systems for easy access by all employees (Gray, 2001:370; Virkus, 2011; Pandey, 2016:37; National Academies of Science, Engineering & Medicine, 2018:2). While all KM activities overlap (Dalkir, 2017:60), Rowley (2001:235) suggests that all the KM activities in the KM cycle should be part of the learning cycle of the organisation to ensure organisational success. Learning will therefore be discussed next.

2.9 THE LINK BETWEEN KNOWLEDGE MANAGEMENT, LEARNING AND HUMAN RESOURCE DEVELOPMENT

2.9.1 Learning

Learning can be defined as acquisition of knowledge (cf. 2.8.4), experience, skills (Liew, 2013:51; Carbery, 2015:5), and the cognitive outcome of learning programmes (Botha & Coetzee, 2019:102). According to Meyer *et al*. (2017:239), learning programmes are sets of learning activities in which candidates are involved while working towards achieving learning outcomes.

Knowledge is one of the foundations of learning (Blanchard & Thacker, cited by Botha & Coetzee, 2019:102). Both Matsuo (2015:1187) and Crossan *et al*. (cited by Brix, 2017:113) maintain that the KM activity, namely knowledge creation (2.8.3), is part of learning. Thus, there is a connection between learning and knowledge.

Individual learning is the interaction experience with the environment allowing the individual to learn, understand, [and] manifest change in behaviour on their own level and at their own pace (Wallace, 2014; Zanelli, cited by Galleli *et al*., 2018:1200). Basten and Haamann (2018:1) concur

that individual learning and knowledge contribute to organisational learning. The role of organisational learning is to transform individual knowledge into organisational knowledge. Consequently, organisational learning (OL) will be discussed next.

2.9.2 Organisational learning

Organisational learning (OL) is described as a process whereby an organisation (that creates, and transfers knowledge gained from experience) improves itself (Valamis, 2019). OL is therefore learning from processes and outcomes as well as applying knowledge for purpose. OL is also described as “the bridge between working and innovating” by Brown and Duguid (KMT, 2018a). OL is the source for development of new organisational knowledge, according to Cheng *et al*. and Chiva (cited by Basten & Haamann, 2018:2). In other words, OL is about how organisations learn and adapt to new knowledge (Carbery, 2015:85) and is important for innovation.

Functions of OL include KM activities, namely the ability to create (cf. 2.8.3), share (cf. 2.8.1) (Cho *et al*., 2009:264), transfer (2.8.2), retain (cf. 2.8.6, 2.8.7) (Valamis, 2019), and transform individual knowledge into organisational knowledge (Basten & Haamann, 2018:1). It is therefore evident that KM and KM activities are essential to enable continuous organisational learning (OL) (Cho *et al*., 2009:264), therefore, to transform individual knowledge into organisational knowledge.

When a new product is developed, the organisation must reflect on the process and outcome involved in creating this product. Through this reflection, learning occurs (Valamis, 2019). Therefore, the outcome of this reflection [lessons learned] must be captured and stored (cf. 2.8.6; 2.8.7) in the organisation’s repository to be available and to be transferred (disseminated) throughout the organisation. Reflection (metacognition) (Schön, cited by Wilson, 2012:53) is crucial to draw out tacit knowledge and to make tacit knowledge explicit for learning to occur and eventually improve performance (Wilson, 2012:53). Consequently, creating a learning culture benefits individuals, teams, and the organisation (Valamis, 2019). To facilitate learning, HRD can create and enable various learning interventions, which will be discussed next.

2.9.3 Learning interventions

HRD is not only responsible for learning, training, and development (Wilson, 2012: xxvii), but also for the creation (cf. 2.8.3), sharing (cf. 2.8.1), and utilisation (cf. 2.8.5) of knowledge (Cho *et al*., 2009:264; Ardichvili, 2017:194; Caruso, 2017:51), HRD should understandably be involved in OL (cf. 2.8.2). HRD could utilise various strategies and interventions to optimise learning and performance.

2.9.3.1 Classroom training and facilitation

Classroom training is the training of a group [of people] away from the workplace to provide the skills and knowledge to perform successfully back on the job (Kiley & Coetzee, 2019:316). Facilitation occurs when people are involved in working together to achieve certain outcomes. In facilitation, the trainer becomes the facilitator, allowing mutual sharing of experience and flow of information instead of conveying knowledge and skills (Kiley & Coetzee, 2019:316). Learning experiences must be learner-centric to provide "just-in-time" opportunities to gain new [knowledge and] skills (Kiley & Coetzee, 2019:316).

Alternative methods to classroom training include demonstrations, simulations, audio and visual media, case studies, guided teaching, group inquiry, reading and discussions, information search, and flipped classrooms (Erasmus *et al*., 2019:189-199) (cf. 2.8.5). Other forms of training or learning include coaching and mentoring, which will be discussed next.

2.9.3.2 Coaching and mentoring

Coaching refers to a developmental relationship between a coach (line manager or consultant) and a performer [employee], unlocking a person's potential to maximise their current work performance (Schenk, 2016:426; Coe *et al*., cited by Werner, 2022:323; Werner, 2022:323).

Mentoring involves a developmental (teaching and learning) relationship that focuses on long-term development of a mentee or protégé and covers a wider area in terms of knowledge, experience, and career planning. The mentor is typically an authoritative, experienced, and knowledgeable senior employee that takes on an active role in guiding the less experienced individual (protégé) (Schenk, 2016:426; Erasmus *et al*., 2019:202). Mentoring provides a means for knowledge sharing that also increases the internal knowledge of the organisation (Erasmus *et al*., 2019:202).

Coaching and mentoring share similar characteristics. Both focus on individual capabilities, [knowledge], skills, and individual learning styles; make use of on-the-job-training and involve "just-in-time-learning" (Schenk 2016:426; Werner, 2022:172). Both involve "helping rather than teaching" people (Erasmus *et al*., 2019:201). Consequently, both coaching and mentoring require developmental relationships and use similar skills and techniques. However, the main differences between the two are in "scope and duration" (McBain, cited by Schenk 2016:426) and the goal of each. Coaching is about improving performance in the employee's current job; while mentoring is about the employee's career development, individual growth, and maturity. [Both are ideal opportunities for knowledge sharing, knowledge acquisition, and knowledge application].

2.9.3.3 Communities of practice

Communities of practice (CoPs) are referred to as groups of individuals that share a common interest in a topic, and through ongoing interaction and relationship building, deepen their interest in that topic (Carbery, 2015:94). CoPs are also a form (Ardichvili, 2008:267) of collective learning at organisation level (Knapp, cited by Carbery, 2015:94). The aim of CoPs is to develop expertise of members, to facilitate learning, and for members to share common interests (Choi *et al*., 2019:54). As members of CoPs are closely connected to the changes that are taking place, they become knowledge experts creating additional value for the organisation. CoPs are the ideal platforms for less experienced members to have the opportunity to learn from more experienced members [experts and specialists] during interaction (Lave & Wenger, cited by Ardichvili, 2008:542).

There is a link between CoPs, knowledge, KM, and associated KM activities. CoPs are useful to cultivate collaboration and interaction between organisational members, thereby also contributing to organisational learning and KM activities (Choi *et al*., 2019:53-54). Through CoPs, KM can drive innovation (Choi *et al*., 2020:64). Tacit knowledge is difficult to share (Nonaka, 1994) and communicate (Brown & Duguid, Rucker, Wenger *et al*., cited by Ardichvili, 2008:542) because of its intuitive nature. However, CoPs are useful in creating and sharing this tacit knowledge (Nonaka, 1994; Polanyi, 1959, cited by Ardichvili, 2008:542). Therefore, CoPs like OL (Basten & Haamann, 2018:1), assist in converting individual knowledge into organisational knowledge (Choi *et al*., 2019:54).

2.9.3.4 Virtual communities of practice

As technology advances and changes occur as a result of globalisation [and COVID-19], traditional HRD techniques are becoming irrelevant. Virtual communities of practice (VCoPs) emerged due to this technology (Bennet, 2009:363; Mutamba, 2017:9) and changes. VCoPs are online social networks (Chiu *et al*., cited by Ardichvili, 2008:542) and were developed and maintained using technology such as the internet (Bennet, 2009:363 Mutamba, 2017:9). Examples of VCoPs are chat rooms, intranets, email, electronic performance support, news feeds, and shared editable documents (Bennet, 2009:366; Mutamba, 2017:9).

Members are practitioners who are experts or specialists in their specific fields of interest. VCoPs perform a central role in promoting communication and collaboration between members who are dispersed in both time and space. According to Lave and Wenger (cited by Jorgensen & Keller, 2008:529), individuals learn by becoming members of a community or group and learn how to interact. VCoPs make collective online learning possible and encourage knowledge creation and acquisition.

HRD can establish, facilitate, and utilise CoPs [including VCoPs) as CoPs provide a [common] language for sharing informal and tacit learning processes in the organisations and communities (Jorgensen & Keller, 2008:528).

2.10 THE FUNCTION AND ROLE OF HUMAN RESOURCE DEVELOPMENT

According to Wilson (2012:7), HRD is responsible for enhancing employees' potential and growth by developing knowledge, skills, and competencies. HRD must create a constant flow of knowledge from experts [and specialists] to develop mechanisms for continuous knowledge [use and application] across various levels [of the organisation]. Additionally, HRD must promote and support [employees] through practice-aligned HRD programmes, promote initiatives, and ensure that informal tacit knowledge is shared (Mir *et al*., 2017:97).

HRD has various roles and tasks to fulfil to ensure that learning and management of knowledge occur thereby assuring enhanced performance. Accordingly, the roles of HRD professionals will firstly be discussed from an international perspective and thereafter from a South African context (cf. 2.10.1).

2.10.1 The role of human resource development professionals: International perspective

According to the Association for Talent Development (ATD) (cf. 1.3.2), HRD professionals assist organisations in managing human elements of change and create talent development strategies that align with their organisations' business strategies (ATD, 2021). Other roles of HRD professionals include facilitation and delivery of training, managing the training function, leadership development, analysing skills gaps, designing training programmes, succession planning, and performance management, amongst others (ATD, 2021).

The ATD's most recent (2020) Talent Management Capability Model, categorises HRD professionals' capabilities into three domains of practice, namely personal capability, professional capability, and organisational capability (ATD, 2021). Each of these domains are further refined with required capabilities to ensure that HRD professionals are effective in practice:

- Personal capability domain capabilities are needed to build an effective organisational culture and include communication, emotional intelligence and decision-making, collaboration and leadership, cultural awareness and inclusion, project management, compliance, and ethical behaviour. (ATD, 2021).
- Professional capability domain capabilities assist with fostering learning, maximising performance, and developing employees' capacities and include career and leadership development, coaching, evaluating impact, instructional design, knowledge management, learning sciences, training delivery and facilitation, technology application (ATD, 2021b).

Organisational capability domain capabilities ensure that talent development drives organisational performance and results and include business insight, change management, consulting and business partnering, data and analytics, future readiness, organisation development and culture, performance improvement, talent strategy, and management (ATD, 2021b).

2.10.1.1 Roles and tasks of human resource development professionals in South Africa

HRD professionals in South Africa have various tasks and roles to fulfil. Tasks are defined as activities or [functions] designed to help achieve specific learning goals (Hornsby *et al*., 2015:1548). A role is defined by Hornsby *et al*. (2015:1302) as the degree to which someone is involved in [or part played] in activities.

The tasks of HRD professionals in South Africa include setting HRD objectives, identifying training and development needs, and ensuring that skills requirements and are met. The tasks in addition, include the coordination, monitoring, and implementation of personal development plans, and workplace skills plans and reports. HRD professionals also advise on training matters; evaluate, and monitor training and learning, and development programmes for quality, and deal with vocational and occupational matters. They further develop training materials; conduct training and development; facilitate workshops, meetings, and conferences; evaluate and review training objectives, learning outcomes, and assessment of training outcomes and course deliverables (Botha & Coetzee, 2019:191-192).

The Occupational Framework for Occupations (OFO) (DHET, 2019) (cf. 1.10.4) refers to the following as the tasks of training and staff development professionals: planning, development, design of learning interventions; and assessment and evaluation of training and development interventions to ensure that employees acquire the relevant knowledge, skills, and competencies to meet organisational objectives. Tasks include evaluation of the quality of training and learning interventions and conducting assessments to determine competence (DHET, 2019).

Although the OFO classifies skills development practitioners and HRD coordinators under business and administration professionals (DHET, 2019), Botha and Coetzee (2019:191-192) include skills development in the tasks of HRD professionals. The inclusion of skills development as a task of HRD professionals is congruent to practice as confirmed by Edwards (2021). However, Edwards (2021) emphasised that not all organisations use experienced and competent skills development practitioners to fulfil tasks as per the OFO guidelines. Some organisations merely capture data in an administrative capacity for compliance purposes. Notwithstanding the previous statement, other organisations, however, do recognise the value of skills development practitioners. In these organisations, skills development practitioners fulfil the tasks indicated in

the OFO. Subsequently, in South African skills development practice, there is a divide between theory and what is taught according to the policies, criteria, and guidelines provided by DHET, and what is indeed practiced (Edwards, 2021).

The roles of HRD professionals in South Africa include those of assessors, moderators, learning facilitators, quality coordinators and compliance managers, training material designers and developers, and skills development facilitators (OFO, 2019) (cf. 4.4.1)

- An a*ssessor* is a "person able to conduct a high-quality internal and external assessment for specific qualifications, part-qualifications, or professional designations" (National Policy and criteria for designing and implementing assessment for NQF qualifications and part qualifications and professional designations in South Africa, 2014:4). For HRD, assessment is a form of measurement or diagnosis used to ensure that acquired knowledge and skills are applied on the job. Tools such as case studies, demonstrations, logbooks, portfolios, practical exercises, questionnaires, roleplays, self- or peer assessments or simulations are used to determine whether learners can indeed apply their knowledge (Meyer *et al*., 2017:247).
- Moderators "fulfil the role of quality improvement agents by providing guidelines on how assessment practices can be improved" (Meyer *et al*., 2017:278).
- Learning facilitators *are "trainers"* that adopt a facilitative approach to training "in learner-centred training (in the outcomes-based training context" (Kiley & Coetzee, 2019:310).
- Training material designers and developers prepare and develop instructional training materials and support materials (OFO, 2019).
- Quality coordinators and compliance managers in the HRD sphere monitor, evaluate, verify, and manage the quality of learning and development interventions (OFO, 2019).
- Skills development facilitators advise on planning skills development matters and are responsible for developing and implementing workplace skills plans (WSPs) in South African organisations, (Coetzee & Truman, 2019:54).

It became evident from the previous discussions that HRD professionals in South Africa fulfil a wide variety of tasks and roles, although KM is not mentioned in the OFO. In contrast however, the ATD (2021) includes KM (amongst other) as an essential professional capability for HRD professionals to foster learning, maximise performance, and develop employees' capacities. The findings of this study may shed light on whether South African HRD professionals fulfil any roles concerning KM and/or to what extent the tasks indicated on the OFO are related to KM.

2.11 SUMMARY

In this chapter, the literature study that was conducted to answer the first research question posed in this study was discussed. KM in relation to HRD specifically was examined, both from an international and national (South African) perspective. This discussion of KM included the background and evolution of KM, the underpinning theories, and the definition of knowledge and KM. The organisational approaches that organisations can utilise in terms of their KM strategies, KM models, and KM activities were also considered. Thereafter, a link was made between knowledge, KM and learning to position the KM link with HRD. Finally, the role and functions of HRD in relation to KM were discussed.

In the next chapter, the research methodology followed in this study together with research approach, strategy, methods, data collection, study population, data quality, and ethical considerations will be discussed.

CHAPTER 3 RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In the previous chapter a literature study was conducted regarding knowledge management (KM) in relation to human resource development (HRD). Both international and national perspectives regarding KM were explored. In addition, the theories underpinning KM were also discussed. Chapter 2 further focussed on the definition of KM, KM strategies, KM models and KM activities were also discussed.

In this chapter, the research methodology employed in conducting this study will be discussed. This discussion includes the research approach, research strategy, and research method used. The research setting and entrée, study population, and study sample are also outlined. In addition, the collection, recording, and analysis of the collected data is described. Strategies to ensure data quality are discussed, and finally, the ethical considerations that were taken into account during this study are explained.

3.2 RESEARCH DESIGN

A research design is described as a plan, strategy (Nieuwenhuis, 2019:80), or proposal (Creswell & Creswell, 2018:4) to conduct research. A research design includes the underlying philosophical assumptions, specifies the selection of participants and data-gathering methods, as well as the data analysis to be conducted (Nieuwenhuis, 2019:80) during a particular study. A research design, therefore, includes an intersection of philosophy, research approaches, and specific methods (Creswell & Creswell, 2018:4).

3.3 RESEARCH APPROACH

A qualitative research approach, based on an interpretivist perspective, was used to conduct this study. Qualitative research is described as research that examines individuals in social settings seeking answers to certain questions (about a phenomenon) (Leedy & Ormrod, cited by Fouché & Chubb, 2021:40). Qualitative research entails exploring words (linguistics), rather than numbers, and focuses on processes in natural settings (Polkinghorne, Berg, cited by Nieuwenhuis, 2020:59). Words in the form of concepts, symbols, and terms are the best way to communicate meaning, (especially from the participant's point of view (Leedy & Ormrod, cited by Fouché & Chubb, 2021:40)). Consequently, qualitative research was chosen for this study (Nieuwenhuis, 2020:59) as qualitative research comprises diverse perspectives and practices for generating knowledge (Leavy, cited by Nieuwenhuis, 2020:56). More specifically, the rationale for selecting qualitative research for this study was

to explore meaning from the participants' view (in the form of words, concepts, and symbols) regarding knowledge management (KM) (the phenomenon).

3.3.1 Characteristics of qualitative research

Qualitative research, according to Kumar, and Creswell and Poth (cited by Fouché & Chubb, 2021:41), is *characterised* as flexible, since this form of research is unstructured, therefore it is more appropriate when the nature of a phenomenon is explored. Another characteristic is that qualitative research describes situations, phenomena, problems, or events, without the researcher quantifying it. Researchers collect data themselves. As the key instrument, the researcher interviews participants and observes the participants' behaviour. In qualitative research, the researchers can build categories, patterns, or themes using an inductive approach to establish meaning (from the participants' views of the phenomenon). An inductive approach involves searching for patterns and development of explanations from data (Thomas, 2006). Another [distinctive] characteristic of qualitative research is the fact that the researchers "position" themselves in the study by conveying their own background, interpretation, and their potential gains from the study. Subsequently, qualitative research can be regarded as an interpretivist approach.

3.3.2 Interpretivism

Interpretivism is a typical approach to qualitative research (Creswell & Creswell, 2018:7). Interpretivism (often combined with constructivism) emphasises the individual's ability to construct meaning (Nieuwenhuis, 2019:66). Creswell and Creswell (2018:7), and Nieuwenhuis (2019:67) posit that from the interpretivist paradigm, individuals create meaning and understanding about the world in which they live and work. Merriam and Tisdell (2016:9) suggest that the meaning that individuals create is socially constructed and that individuals do not have a single observable reality but rather multiple realities or interpretations of a single event [or phenomenon]. Subsequently, individuals develop subjective meanings of their experiences, which are varied and multiple, leading the researcher to look for complex views into a few categories or ideas, instead of narrow meanings (Creswell & Creswell, 2018:7).

Researchers dealing with "everyday concerns of people's lives" make use of the interpretive approach (Merriam & Tisdell, 2016:1) as it allows the researcher to understand a topic from the participants' perspectives (Creswell & Creswell, 2018:4). In other words, the researcher explores and attempts to understand "the meaning that individuals or groups ascribe to a social or human problem" (Creswell & Creswell, 2018:4). The researcher accordingly wishes to understand the application of knowledge management within a South African human resource development (HRD) context from the participants' (HRD professionals')

perspectives. The study was explorative and contextual. Being able to explore a certain phenomenon [in this case KM within a South African HRD context] further, a qualitative research approach was employed as it lends itself to asking researchable questions (as suggested by Merriam & Tisdell, 2016:1, cf 1.6). The researcher attempted to understand the world in which HRD professionals work, and how they develop subjective meanings regarding their experiences and interpretations of KM in the South African HRD context.

3.4 RESEARCH STRATEGY

The research strategy chosen for this study is *basic qualitative research*. All qualitative research is interested in how people construct meaning (Merriam & Tisdell, 2016:25). The primary goal of a *basic qualitative study* (derived from amongst others, phenomenology (Merriam, cited by Worthington, 2010) is to uncover and interpret meanings that people use to make sense of their worlds (Merriam & Tisdell, 2016:25). *Basic qualitative research* and phenomenology are very closely related (Worthington, 2010). Where phenomenology focuses on the essence of human experiences (appropriate when studying affective, emotional, and intense experiences) *basic qualitative research* focuses on uncovering participants' experiences and the meaning ascribed to processes, experiences, or practices regarding the phenomenon to improve practice (Merriam, cited by Worthington, 2010).

Although participants' attitudes, beliefs, ideas, or opinions [about a phenomenon], may emerge during the study, basic qualitative research does not focus on that, but rather on the process, experience, or practices [regarding the phenomenon] (Merriam, cited by Worthington, 2010). Less interpretive than phenomenology, basic qualitative research is still an interpretive strategy or research method (Sandelowski, 2010:79).

The rationale for using basic qualitative research in this study is to explore and interpret HRD professionals' experiences and perceptions regarding the application of KM (practice) within an HRD context. These individual perceptions will be explored to find commonalities in how and to what extent, if any, KM is applied within a South African HRD context. The research method chosen for this study will be discussed next.

3.5 RESEARCH METHOD

In this section, the research method, including the research setting and entrée, study population and sampling, collection of data, recording of data, data analysis, strategies to ensure data quality, reporting, and ethical considerations will be discussed. The literature review was discussed in chapter 1 (cf 1.8.1), while the literature study will be discussed under the qualitative data collection (cf 3.5.3).

3.5.1 Research setting and entrée

Qualitative research involves the study of research sites and gaining permission to access the site (Creswell & Poth, 2018:154). Maree (2019:39) asserts that it is essential to select research sites that are suitable and feasible and that it is crucial to obtain permission from "gatekeepers" (Creswell & Poth, 2018:185) to access the site to conduct the research. Accordingly, the empirical part (semi-structured interviews, cf. 3.5.3) of this study was conducted at a South African university under whose auspices ethical clearance was obtained.

Participants were students enrolled in the Bachelor of Human Resource Development (BHRD) degree at a specific university (currently the only South African university that offers specialised undergraduate and postgraduate HRD degrees). A prerequisite for admission into the BHRD degree is that all students must have at least three years' work experience in the HRD environment (NWU, 2019). These HRD students are therefore simultaneously employed as full-time HRD professionals all over South Africa and they all attend limited study sessions at one of the campuses of the university at specific times during the academic year. These HRD students therefore have the required theoretical knowledge regarding KM (prescribed in the HRD textbooks, cf 1.3.2) in addition to current practical experience of HRD in the workplace that enabled them to meaningfully contribute to this study. Permission to conduct this research was sought from the university, utilising the ethical clearance (cf Annexure A) and applicable gatekeeper(s), namely the Registrar (of the university under whose auspices this study was conducted). The participants (students) were requested, by an independent third party, to provide informed consent (cf Annexure B) to eliminate any possible bias, conflict of interest, or victimisation (also cf 3.5.1; 3.5.9).

The consent letter (cf Annexure B) for participants explained the right of participants to voluntarily withdraw from the study at any time, the purpose of the study, the procedures to be used in data collection, the protection of the confidentiality of the participants, and the known risks associated with participation in the study. Further inclusions in the letter of consent were the expected benefits for the participants, as well as the signatures of participants and the researcher, as suggested by Creswell and Poth (2018:155). Based on the advice of the ethics committee of the university (under whose auspices the study was conducted), the researcher (who is a lecturer at the university) did not communicate to the participants regarding the purpose of the study or the informed consent. An independent third party, (not involved in the study) discussed the study with the students, asked them to provide informed consent, and informed them that their participation was voluntary and that they could withdraw at any time (also cf 3.5.1, 3.5.9). In addition, neither the researcher nor her study leader lectured the participants during the empirical phase of the

study, so that participants would not feel obligated to take part in the study or fear that the researcher would penalise them in any way if they wished not to participate.

The ethics application (cf Annexure C) to the university included the following information: approximate dates and duration of the interviews that were to be conducted; how results would be reported; gatekeeper requirements; who the participants would be; what the site, participants, and gatekeeper would gain from the study; and all that what was going to be done at the site during the research study as suggested by Creswell and Poth (2018:156).

3.5.2 Study population and sampling

Study population

A study population consists of the specific participants selected for a study (Creswell & Poth, 2018:157). Creswell & Poth (2018:153) furthermore state that participants must be individuals who have all experienced the phenomenon being explored and can articulate their lived experiences. Accordingly, participants for this study were HRD professionals with sufficient work experience and theoretical knowledge about KM, which enabled them to articulate their lived experiences regarding HRD and to reflect on whether, and to what extent, they have applied KM (and associated activities) in their various HRD workplaces within a South African context.

More specifically, the study population for this study consisted of forty-one (N=41) third-year HRD students at the specific university under whose auspices this study was conducted. As discussed previously (cf 2.3.1), the reason for selecting this specific study population was that all these participants (HRD students) were simultaneously employed as HRD professionals. (It is a prerequisite to gain access to this programme that all students who enrol in the programme be employed as full-time HRD professionals (cf. 3.5.1) (NWU, 2019). These HRD students were all employed in a variety of industries and organisations (within an HRD context) across South Africa. Based on the aforementioned, these HRD students were subsequently the best choice of participants to answer the research questions.

The final composition of the study population is depicted in Table 1.1 below.

Table 3-1: Study population

	Black	Coloured	Indian	White	Total
Male	8	2	0	2	12
Female	19	7	0	3	29
Total	**27**	**9**	**0**	**5**	**41**

The study population consisted of both males (12) and females (29); with the majority being females. The study population represents a variety of ethnic groups namely blacks, coloured, and whites with the majority being blacks. There were no Indian/Asian participants. Manipulation did not take place therefore participants consisted of other ethnic groups as represented in table 3-1.

Sample

It is not always practical or possible to study the entire population, due to restrictions, such as time and cost. In this study, purposive sampling was used. Purposive sampling, a type of non-probability sampling, entails the selection of a group of people that can best inform the researcher by answering the research questions (Creswell & Poth, 2018:148). Simply stated, purposive sampling involves choosing people whose experience and perspectives are deemed to be important to the investigation (Anderson *et al*., 2020:254). More specifically, *expert sampling*, which is a form of purposive sampling (Etikan *et al*., 2016:3), was used for this study. *Expert sampling* calls for experts in a particular field to be the subjects of the purposive sampling (Kumar, 2014:241; Etikan *et al*., 2016:3). In this study, the senior undergraduate (third year) HRD students who are simultaneously employed in practice as HRD professionals (with at least three years' HRD experience) were considered experts based on their theoretical knowledge of KM obtained through undergraduate studies as well as their applied HRD knowledge, within a practical HRD context.

As only using a sample of the population was used, the sufficient sample size according to Polkinghorne (cited by Creswell & Poth, 2018:79), could be between five and 25 participants. However, to ensure that sufficient data was collected, all (41) the BHRD third-year students that met the following sampling criteria were invited to participate:

- Participants had to be senior (third-year) HRD undergraduate students enrolled in the BHRD degree at the specific university.
- Participants had to be HRD professionals with a minimum of three years' working experience in the field of HRD.

Twelve (N=12) participants from the study population (N=41) (who met the criteria listed above) indicated their willingness to participate. The final sample is depicted in Table 1-2 below.

Table 3-2: Qualitative sample

	Black	**Coloured**	**Indian**	**White**	**Total**
Male	3	0	0	2	5
Female	3	3	0	1	7
Total	**6**	**3**	**0**	**3**	**12**

Table 1.2 shows that similar to the study population, the majority of participants were from the black ethnic group and were females. However, only black and white males (no coloured males) took part. Black females and coloured females were equally represented but only one white female participated. Similar to the study population, no Indians participated.

Table 3-3: Sectors where participants were employed

Industry	African		Coloured		Indian		White		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
Private Skills Development Provider	1	1		1					3
Higher Education		1					1		2
Private HRD consultant across various industries								1	1
Banking Industry				1					1
Legislator	1								1
Mining							1		1
Engineering	1								1
Transport		1							1
Military				1					1
Total									**12**

Participants were employed in a variety of sectors across South Africa, amongst which the public service, parastatals, the service sector, and private practice that includes finance, manufacturing, and education.

3.5.3 Collection of data

Data generated by the researcher, literature study and semi-structured interviews conducted, field notes taken, and observations done, will be discussed next. Given that the researcher was an instrument in data collection, the role of the researcher will be described first.

Role of the researcher

The researcher was entering into a collaborative partnership with the participants; therefore, ethical aspects such as obtaining letters of consent and obtaining permission to be interviewed, were taken into consideration (Maree, 2016:44). Participants were invited to take part in this study through a formal invitation (Annexure D) that will be discussed in more detail below (cf 3.5.3 semi-structured interviews).

An additional concern that should be addressed in qualitative studies is that researchers should identify their biases, values, and personal aspects that shape their interpretations (Creswell & Creswell, 2018:183) to enhance the credibility of the study and to minimise bias. Accordingly, the researcher will now describe her personal background, values, and possible biases that may have influenced her interpretations of the study.

As an HRD consultant in private practice in South Africa, I (the researcher) offered training courses on various topics, such as leadership and management, human resource management, and training and development, amongst others. One of the study units covered in some of the aforementioned training courses is KM. During this time, I observed that delegates (including fellow HRD professionals) did not thoroughly understand the concept knowledge management. The aforementioned experiences sparked my interest in researching KM. Since the commencement of this study, I accepted a position as a junior lecturer in HRD at the university. Lecturing HRD students (who are experienced professionals in practice (cf 3.5.1, 3.5.2)) has furthermore reinforced my interest in exploring the application of KM and its related activities within an HRD context, since I also experienced a lack of understanding of the concept KM amongst the HRD students. Moreover, the HRD textbooks (Werner, 2017; Wilson, 2012; McGuire, 2014; Garavan *et al*. 2017; cf 1.3.2) view KM as an HRD function (as previously explained in the problem statement and motivation for this study). Nevertheless, HRD professionals, including my students, do not seem to practice KM in their respective work environments, or if they do, they do not realise that what they are practicing is, in fact, KM. I, therefore, bring certain biases to this study. Firstly, I believe that HRD professionals indeed apply knowledge management, such as knowledge sharing and knowledge transfer, to a certain extent. I am, however, unsure whether HRD professionals also apply the other KM activities, such as knowledge creation, knowledge acquisition, knowledge application, and knowledge storage (cf 1.3.1, 2.7) in HRD practice.

Having said that, I believe that my current position as a lecturer together with my experience as an HRD professional allowed me to spend “prolonged time in the field”, as suggested by Creswell and Creswell (2018:201), and therefore put me in the fortunate position to view KM not only from a theoretical and academic point of view, but also from a practical point of view, which may address my biases to some extent. Since I am aware of my possible bias, I made an effort to be transparent and reflexive regarding any preconceived ideas (also referred to as “bracketing” by Tufford & Newman, 2010) and as mentioned above, and as noted by Galdas (2017:1). I also believed that the intended research for the study would provide final clarification for my questions, which were also framed as research questions of the study.

I was personally involved in interviewing the participants (who were also students). According to Creswell and Creswell (2018:201), the more experience the researcher has with their participants

in their setting, the more accurate the findings will be. Therefore, I chose to conduct the interviews myself. I acknowledge that these participants were considered a vulnerable group, and therefore additional precautions were taken to address any possible bias that may have stemmed from my relationship as a lecturer with these students. I (together with my study leader who is the BHRD programme leader and lecturer) withdrew from lecturing these third-year BHRD students for the duration of this study to prevent possible risks. To avoid my influencing the participants regarding their participation in this study, another precaution was taken when an independent third party (peer reviewer/auditor) invited the participants to take part in the study and obtained consent from them. In addition, and to ensure rich, thick data (as part of validity in qualitative research) (Nieuwenhuis, 2019:142; Creswell & Creswell, 2018:200) (cf 3.5.1, 3.5.7), it was necessary that I, as the researcher, personally conduct the interviews. I probed and followed up on cues to provide such rich and thick data. In this way, I was able to develop an "in-depth understanding of the phenomenon" (Creswell & Creswell, 2018:201). I, also had to note all observations, including non-verbal cues during the interviews, as these observations are part of the qualitative report. For this purpose, a video recording via Zoom (a virtual cloud-based video conferencing service application (Zoom, 2021)) was also done of each of the interviews (cf 3.5.4, 3.5.9) (after consent had been obtained from the participants (cf 3.5.1, 3.5.3, 3.5.9)). The Zoom video recordings are available for peer scrutiny to address transparency and any possible bias (Creswell & Creswell, 2018:200).

Next, the literature study will be discussed.

The literature study

The combination of findings from two or more rigorous sources is regarded as triangulation (Heale & Forbes, 2017:98). Triangulation is consequently a means to add richness and depth to a research inquiry (Heale & Forbes, 2017:98). A literature study was therefore conducted regarding the KM phenomenon in the HRD context in chapter 2 (cf 2.3.5) to ensure the validity of the findings.

Semi-structured interviews

Data was collected by means of semi-structured interviews. An interview is described as a two-way conversation or dialogue. In this conversation, the interviewer asks the interviewee questions to gain knowledge about the [interviewee's] beliefs, ideas, opinions, and behaviours. Semi-structured interviews are interviews where a combination of both closed and open-ended questions are used (Nieuwenhuis, 2019:108). Semi-structured interviews are more "open-ended and less structured" than [closed] structured interviews. The questions used in semi-structured

interviews are also more “flexibly worded”, and there is a mix of more structured and less structured questions (Merriam & Tisdell, 2016:110).

Qualitative interviews aim to view the world from the participant’s point of view (perspective). The participant’s perspective, according to Nieuwenhuis (2016:93), can be a valuable source of information when used correctly. Nieuwenhuis (2016:93) further states that semi-structured interviews are frequently used in research projects to validate data emerging from other data sources, for example, a literature study and field notes.

An independent third party was requested to obtain the informed consent (to eliminate any possible bias, conflict of interest, or victimisation (also cf 3.5.1, 3.5.3, 3.5.9). Thus, the independent third party invited participants to take part in the study using a formal invitation (Annexure D), which contained the following information:

- A brief introduction about KM (definition and related terms).
- The interview schedule (Annexure E), which included the date, time, venue, and interview questions.

The interview schedule was as follows (Annexure E):

Table 3-4: Interview schedule

DATE	**TIME**	**PARTICIPANT**
Venue	**Cloud-based Zoom video recording**	
24/08/2020	16:00-17:00	Participant A
	17:00-18:00	Participant B
	18:00-19:00	Participant C
25/08/2020	16:00-17:00	Participant D
	17:00-18:00	Participant E
	18:00-19:00	Participant F
26/08/2020	16:00-17:00	Participant G
	17:00-18:00	Participant H
	18:00-19:00	Participant I
27/08/2020	16:00-17:00	Participant J
	17:00-18:00	Participant K
	18:00-19:00	Participant L

The researcher conducted the semi-structured interviews via Zoom during the study school week (24 August 2020 to 27 August 2020). The Zoom interviews were conducted after hours to avoid interfering with the participants study school classes. Each interview lasted between 45 and 60 minutes. Prior to the interviews, the researcher established rapport (as suggested by Bryman, 2012:218) with the participants by providing them (through an independent third party cf 3.5.1, 3.5.9), with information regarding the study (background and rationale, interview questions/interview schedule, and the expected length of the interviews). At the start of the interviews, to build further rapport, the researcher first engaged in brief, polite conversation (as a trust relationship already existed (Geyer, 2021:356) between participants and researcher (lecturer and students). The researcher maintained a good pace and direction during the social conversation (as suggested by Neuman, 2014:351) to ensure that she did not get distracted and focused on getting on with the interviews. The researcher then explained the interview process again and assured the participants of the confidentiality of the interview, recording, and information (data) that they provided (even after they had already signed the informed consent).

Participants were asked the following interview questions:

(1) How do you, as an HRD professional, understand the term knowledge management?

(2) What experience, if any, do you have concerning KM, specifically in your HRD context?

(3) As part of your role as HRD professional, do you or have you ever applied KM? Can you elaborate and explain with examples?

(4) As part of your role as HRD professional, do you or have you ever applied any specific KM tasks or activities? Can you elaborate and explain with examples?

(5) What recommendations can you provide regarding the application of KM within your HRD context?

(6) In your opinion, to what extent, if any, should HRD professional be involved in KM and related activities in the HRD environment?

Each participant was requested not to answer any questions that they were uncomfortable with. The researcher asked and the participants confirmed that they were comfortable with being interviewed and recorded on Zoom and the observed body language seemed to confirm this. All 12 the participants were willing to participate and to be recorded. The semi-structured interviews were therefore video recorded (via Zoom video recording) as suggested by Nieuwenhuis (2016:94). All the participants were also comfortable in answering the questions put to them.

Where a question was not clearly understood, the researcher rephrased it (without changing the meaning) to help the participant gain clarity.

Although the researcher used pre-prepared interview questions; semi-structured interviews [questions need not to be asked in sequence] and allow for participants to have flexibility in their reply (Bryman, 2014:476). The researcher used visual cues, such as maintaining good eye contact; smiling; and nodding to gain, further, and maintain rapport (as suggested by Bryman, 2014:219). The researcher allowed participants flexibility to add relevant information and to elaborate so that they could get their point across. In cases where participants asked the researcher to repeat a question, due to them either not hearing what was asked or not clearly understanding the question, the question was repeated to ensure that the participant understood exactly what was required of them.

There is a delicate line between probing and leading questions. The researcher should guide the interviewee by probing (by for example asking participants: “having said that, can you elaborate…”), rather than leading the interviewee in a particular direction (Bryman, 2014:257) or towards a desirable answer (Reynolds, 2017). Therefore, (to avoid leading questions) the researcher used probing techniques such as silence (to allow the participant to reflect), follow-up questions, interpreting questions (Bryman, 2014:478), clarification, and elaboration (Nieuwenhuis, 2020:109). Double-barrel questions were avoided (Bryman, 2014:478) to ensure that the data collected from the participants was clear and unambiguous as suggested by Moerman (2010:15). (Double-barrel questions imply that two questions are asked in one, for example how do you apply knowledge transfer, knowledge sharing, and knowledge creation in the workplace?). The researcher refrained from asking leading questions to ensure validity as suggested by Neuman (2014:160); Cypress (2017:257) and Nieuwenhuis (2019:143).

All 12 interviews were conducted in one week (after hours, during the week of 24 to 27 August 2021) (cf 3.5.3 semi-structured interviews). On exiting the field (finalising Zoom interview), the researcher thanked the participants for their willingness and time to be involved in the interviews. Immediately after the interview, the researcher made additional notes about her main observations and reflections, and then listened to the recording once again, before she started transcribing (while it was still fresh in her memory) as suggested by Nieuwenhuis (2020:110).

Field notes

Field notes (handwritten notes), were made during the interviews, as suggested by Creswell and Creswell (2018:190). The field notes consisted of the researcher’s observations, keywords used by participants, dates, times, and the length of each interview.

Observations

The field notes and observations allowed the researcher to reflect on the data, participants' body language, and her own thoughts. The researcher observed participants' body language that might have revealed additional information that was not verbalised. The recorded interviews were used to confirm the body language observed, as suggested by Nieuwenhuis (2020:106). It was evident that the participants were comfortable and felt honoured to be part of the research. Body language, such as smiling and verbal comments such as "*I'm really excited to be part of this*" confirmed that participants indeed considered it an honour to participate. It was also observed that some participants lacked theoretical knowledge regarding the KM phenomenon as two of the participants were stuttering, and gave very short answers, without elaborating. They also confirmed that they were not confident in their knowledge about the KM phenomenon. (By probing and asking additional, clarifying questions the researcher managed to get the needed data – since these participants seemed to have practical experience but not necessary theorical knowledge).

3.5.4 Recording of data

The semi-structured interviews were video recorded after permission was obtained from each participant (cf 3.5.3, 3.5.4), as suggested by Nieuwenhuis (2016:94). More specifically, the recording function on Zoom was used. In addition to the interview questions, handwritten notes (or field notes) (cf 3.5.3) were made during the interviews (Creswell & Creswell, 2018:190). The field notes consisted of the researcher's observations, dates, times, and the length of each interview.

3.5.5 Analysis of the data

An analysis is a thought process (Anderson *et al*., 2020:236) that, according to Creswell and Poth (2018:182), consists of the preparation and organising of data according to themes and by utilising a coding process. The researcher needs to focus on the participant's perspective and, as suggested by Nieuwenhuis (2019:119), take "the self" out of the context.

Computer-assisted qualitative data-analysis programs such as Ethnograph, Nvivo, NUD*IST, ATLAS.ti, and QDAS are available to conduct data analysis (Nieuwenhuis, 2016:125-126; Nieuwenhuis (2019:129). Computer-assisted programs can perform a pure content analysis; however, technology cannot understand the meaning of the text, according to Nieuwenhuis, (2016:126). Nieuwenhuis (2019:129) argues that computer programs cannot interpret data, nor construct any meaning. Nieuwenhuis (2016:126) adds that only the human mind can understand the world through the eyes of the participants. Therefore, the data analysis for this study was conducted manually, thereby ensuring that the focus was on the participants' perspectives and

the deeper meanings regarding the KM phenomenon. More specifically, data was analysed and coded using the following steps:

Organising and preparing data

After the Zoom interviews were conducted, the data was transcribed verbatim (Nieuwenhuis, 2019:110). To transcribe verbatim means that everything that was said is preserved for analysis (Merriam & Tisdell, 2016:131). The researcher transcribed the interviews to familiarise herself with the data, as suggested by Merriam and Tisdell (2016:132). Transcriptions were done soon after the interviews, while the information was still fresh in the researcher's memory (cf 3.5.3) and as suggested by Nieuwenhuis (2019:110). The researcher should know the data thoroughly by "reading and re-reading the text", according to Nieuwenhuis (2019:135). After reading the data thoroughly, the data was classified and coded into themes (Creswell & Poth, 2018:187).

Coding the data

Coding is at the core of qualitative data analysis, and is the process of reading, dividing into significant chunks, and coding the transcribed data into categories as well as themes and ideas (Anderson *et al*., 2020:240; Creswell& Creswell, 2018:195; Nieuwenhuis, 2019:136). In other words, the coding process involves placing data into meaningful groupings or themes for analysis and interpretation (Blair, 2015:16). When coding manually, the researcher should assign code labels to the data (Creswell & Creswell, 2018:197), which was done in this study.

There are two approaches to coding data, namely *emergent coding* and *priori coding* (Stemler, 2001:3; Nieuwenhuis, 2019:138). When using emergent coding, categories emerge from a preliminary examination of the data, whereas with priori coding, categories are established before the data analysis, based on the theory (Stemler, 2001; Nieuwenhuis, 2019:138; Creswell & Creswell, 2018:196). Faherty (2010:59) claims that there are "no absolute hard-and-fast rules" to using either emergent or priori coding, while on the other hand, Creswell and Creswell (2018:196) state that traditionally emerging codes are used in social sciences, whereas priori coding is used in health sciences. In this study, priori coding was used, thus categories were established before the data analysis based on the KM theory. However, the researcher also examined the emerging data, for example, the KM activities applied by HRD professionals, since the latter is scarce in KM literature. Thus, while using priori coding, the researcher also had to examine the data for emerging themes that might have not been part of initial priori coding. The establishment of themes will be discussed next.

Establishing descriptions and themes

Once the data was coded into textural data (*what* the participant experienced) and structural data (*how* the experience happened), the descriptions regarding the participants' experiences were written up. Thereafter, the data was sorted into meaningful themes by means of thematic analysis (Creswell & Poth, 2018: 201). The goal of thematic analysis is to identify themes or patterns in the data that are important or interesting to use, and to address the research questions (Maguire & Delahunt, 2017:3353). A thematic analysis interprets and makes sense of, rather than just summarising, the data (Maguire & Delahunt, 2017:3353).

Interpreting the data

Interpretation requires both creative and critical capabilities in making carefully considered judgements about the meaning emerging from the themes, such as using "hunches, insights and intuition" (Creswell & Poth, 2018:195). Interpretation similarly involves "summarising the overall findings, discussing a personal view of the findings, stating limitations, and providing recommendations for future research" (Creswell & Creswell, 2018:198). Interpretation also involves a comparison of the findings with the literature (Creswell & Creswell, 2018:198). Therefore, the analysed data was brought into context with existing theory to validate present knowledge and to bring new awareness or understanding to the body of knowledge (Nieuwenhuis, 2019:141).

In this study, the analysed data (findings ensuing from this study presented in chapter 4) was corroborated with the literature study conducted in chapter 2 (cf 3.5.3) as well as the findings of previous researchers who also researched the phenomenon (cf chapter 5), thereby achieving multiple lines of sight. These lines of sight are also called triangulation, which is an important strategy in synthesising the findings (Nieuwenhuis, 2019:143). Triangulation is also a way to measure and validate findings (Nieuwenhuis, 2019:143), [thereby ensuring the quality of data], which will be discussed next.

3.5.6 Strategies employed to ensure data quality

To ensure data quality, reliability and validity must be considered in qualitative studies during all the phases of the research, such as design and analysis (Cypress, 2017:256). Novice researchers could become easily confused and puzzled while attempting to understand the "notion of validity in qualitative inquiry" since some qualitative researchers argue that the term validity does not apply to qualitative research (Cypress, 2017:256). Some qualitative researchers link validity to terms such as adequacy, authenticity, goodness, quality, rigour, and trustworthiness, to name a few (Cypress, 2017:256). However, Cypress (2017:257) argues that concepts of "reliability and

validity are overarching constructs" that can be appropriately used in both quantitative and qualitative methodologies. The concepts of validity and trustworthiness in qualitative research as they pertain to this study, will be discussed next.

3.5.7 Validity

To validate means to "investigate, to question, and to theorise"; in other words, all the activities applied to ensure rigour in a qualitative inquiry (Cypress, 2017:257). Nieuwenhuis (2019:143), on the other hand, describes validity as presenting solid descriptive data to understand the meaning of the experience being studied, while Angen (cited by Creswell & Poth. 2018:257) referred to validation as judging trustworthiness or judging how good a piece of research is (Creswell & Poth, 2018:257).

During the 1980s, Guba and Lincoln substituted reliability and validity with the parallel concept of "trustworthiness", which includes credibility, transferability, dependability, and confirmability (Morse *et al*., 2002:12). In this study, validity was ensured by applying criteria for trustworthiness. Trustworthiness is of utmost importance in qualitative research (Nieuwenhuis, 2019:144). Trustworthiness is described as the consistent, exhaustive, and precise analysis of data to determine whether the research process is credible (Nowell *et al*., 2017:1). Guba and Lincoln's (cited by Morse *et al*., 2002:12) and Nieuwenhuis' (2019:114) criteria for trustworthiness (credibility, transferability, dependability, and confirmability) will be discussed next:

- Credibility: When the data represents an accurate view of the participant's lived experiences, it is considered credible (Cypress, 2017:257). As the participants were experienced HRD professionals in the HRD field, there already existed a degree of credibility in this study. To ensure further credibility, the researcher triangulated the data collected from participants (findings cf chapter 4) with the literature study in chapter 2.

Other measures that the researcher employed to ensure credibility, as suggested by Nieuwenhuis (2019:144), included frequent debriefings with her supervisor as well as member checking with participants to ensure the accuracy of the findings (Creswell & Creswell, 2018:200). Accordingly, participants were asked to confirm the accuracy of the findings before such findings were finalised in the qualitative report. Member checks enabled the participants to correct any errors in the transcribed data, thereby also corroborating the transcribed data (Creswell & Creswell, 2018:200). Additionally, multiple coders ("intercoder agreement"), including the researcher's supervisor as well as an independent co-coder (an HRD peer who is also an HRD academic, who was chosen based on his/her practical and theoretical HRD experience), were utilised to ensure agreement on the codes obtained from the transcribed

data (as suggested by Creswell & Creswell, 2018:200) and to provide an interpretation of the data – other than that of the researcher alone. Peer reviews/peer examination using intercoder-agreement was therefore also used. The co-coder also had access to the data (like the researcher and supervisor, however, only transcribed data for the coding purposes). Codes between coder and co-coders did not differ. The research report will also be examined by examiners as part of peer review/examination. The Zoom video recordings of all the interviews were also made available to the supervisor for scrutiny to ensure the accuracy of the findings and to eliminate bias (cf 3.5.3).

- Transferability determines whether the findings can be transferred to other settings or environments as it invites readers to make “connections between the elements” of the study and their own experiences or research (Nieuwenhuis, 2019:144). The researcher ensured that she provided a full picture of the context (cf 3.5.1) in such a manner that the reader will be able to determine whether the research is transferable to their own context, as suggested by Nieuwenhuis (2019:144).
- Dependability includes the aspect of consistency (Korstjens & Moser, 2018:122). The researcher followed Nieuwenhuis’ (2019:145) suggestion in that she ensured consistency by documenting the entire research process for others to see, including all the decisions made, as well as the analysed and interpreted data.
- Confirmability concerns the aspect of neutrality as interpretation should be grounded in the data and not in the viewpoint of the researcher (Korstjens & Moser, 2018:122). The bias that the researcher brought to the study was also declared (cf 3.5.3), as suggested by Creswell and Creswell (2018:200). Strategies that the researcher employed to ensure confirmability included triangulation, member checking, and involving others to eliminate bias (cf 3.5.3) (Nieuwenhuis, 2019:145), as discussed under the concept of credibility above. Researcher bias was declared in (cf 3.5.3, role of the researcher) to ensure confirmability of the data.

Once validity and trustworthiness were ensured, the findings were noted in the qualitative report. The qualitative report will be discussed next.

3.5.8 Reporting

Writing a research report is the last and most crucial step of the research process (Kumar, 2014:44/276). The research report includes the knowledge and findings of the study, the evaluation of the collected data and findings, recommendations, and conclusions (Fouché & Chubb, 2021:142; Kumar, 2014:44). This report reflects and communicates to readers what has been done and found by conducting the study (Kumar, 2014:44). In other words, the research

report is the vehicle to communicate the results of the particular study (Fouché & Chubb, 2021:142).

There is no single accepted outline for a qualitative research report, unlike with conventional, positivist [quantitative] research (Morse, 1991:149). Qualitative reports are less structured and more descriptive than quantitative reports (Fouché & Chubb, 2021:145). However, research writing must be true, clear, sensible, and unambiguous (Kumar, 2014:44).

The report reflects the guiding paradigm (interpretivism). It is simplistic and clear, educational, provides a sense of action on the part of the reader; and provides detailed descriptions and experiences so that readers can draw interpretations about their own experiences a suggested by Fouché and Chubb (2021:145). Interpretation of the data together with observations from the field were made and presented in the final report. As suggested by Babbie (2010:522), shortcomings of this research project were also reflected on under the discussion of the limitations of the study (cf chapter 5). This research report takes the form of a full dissertation paper, which is written in an academic style, divided into different chapters based on the themes of this study, as suggested by Kumar (2014:276).

3.5.9 Ethical considerations

Before commencing with the research project, an application was made to the ethics committee of the university, under whose auspices this research was conducted, for ethical clearance. Ethical practice refers to codes of ethical conduct that are designed to protect participants involved in the research study from possible exploitation and breach of their human rights (Mauthner, 2019:669).

A code of ethics also includes the protection of participants' identities (Maree, 2019:47). Creswell and Creswell (2018:88-90) noted that researchers need to develop trust with their participants as the latter will disclose personal and private information. The investigator should therefore ensure integrity during the study to ensure that this trust is not broken. Research should employ ethics and moral standards (a sense of what is right and wrong) (Anderson *et al*., 2020:135).

Creswell and Creswell (2018:88-90) suggest that ethical issues need to be considered during all the phases of the study, such as prior to and at the beginning of the study, but also during the study (data collection, data analysis, reporting, sharing, and storing). As suggested by Creswell and Creswell (2018:88-90), the researcher had taken this into account in terms of the following:

- Prior to and at the beginning of the study, university approval was sought to conduct the research by making an application for ethical clearance (cf 3.5.1) (Annexures A and C).

The applicable gatekeeper at the university was contacted to obtain permission to conduct the research. Before the interviews and after ethical clearance had been provided, participants were informed of the general purpose of the study; and informed consent was obtained from participants by an independent third party (cf 3.5.1) (Annexure B). Participants were requested to give their consent to be video recorded during the Zoom interviews (cf 3.5.1; 3.5.3). In this regard, an informed consent letter was drafted, and participants were asked (by the independent third party as recommended by the ethical committee of the university; also (cf 3.5.1) to read it and to give consent to be interviewed. Before signing the letters of consent, participants were informed (by the independent third party) that they could withdraw from the study at any time, without stating reasons, and that participation was voluntary. Participants were informed that they did not have to provide information if they did not want to or felt uncomfortable doing so. Before the researcher conducted the interviews, each participant was asked again whether they gave consent to start with the interview (cf 3.5.1, 3.5.3). The researcher asked the participants' permission to record the interviews on Zoom, before the interviews commenced and once again assured participants of the confidentiality of the information provided (cf 3.5.3; 3.5.4). To ensure anonymity, the participants were in no way identified in the transcriptions or the research report. Fictitious names or aliases were used to refer to participants in the report to protect the identity of participants (Annexure B and chapter 4).

- This study was considered a minor risk study by the ethics committee as it explored the application of KM within participants' HRD workplaces. As the researcher who conducted the semi-structured interviews with participants is also the lecturer of the identified participants (cf. 3.5.3), the lecturer as well as her study leader withdrew from lecturing the third year BHRD study group to eliminate any possible bias, conflict of interest, or victimisation (cf 3.5.1; 3.5.2; 3.5.3). However, these measures did not impose on the scientific rigour and findings of this qualitative study (cf 3.5.7).
- Collecting data: Participants were respected and treated equitably. Leading questions as well as the sharing of personal impressions were avoided at all cost. Moreover, the researcher only stuck to questions stated in the interview schedule (Annexure E) and only used probing questions to clarify information and to eliminate ambiguity. The Zoom video recording also served the purpose of scrutiny (cf 3.5.3; 3.5.4).
- Analysing data: Any possible siding with participants was avoided as the researcher did not offer her views, and only asked the participants for their views. The researcher disclosed all the results, not only positive results. Participants' privacy and anonymity were also respected by assigning them symbols instead of using their names and also by

confirming that only the researcher and her study leader would have access to the information that they provided during this study.

- Reporting multiple perspectives: All perspectives were taken into consideration and contrary findings discovered, if there were any, would have been reported.
- Reporting, sharing, and storing data: Any falsifying of authorship, evidence, data, findings, and conclusions were avoided. Communication was conducted in clear, straightforward, appropriate language, and data was shared with the study leader. All raw data, Zoom video recordings, and other materials are kept safe and in adherence to the ethical policies (NWU Research Ethics Policy 9P/9.1.5) of the university under whose auspices the research was undertaken (Research Ethics Policy). Word documents of transcribed data, as well as video recordings, were password protected and there was compliance with all ethical issues. Only the researcher and her supervisor have access to the data and video recordings.

3.6 SUMMARY

The qualitative research design utilised in this study was explained in this chapter. The research approach, strategy, and methods were also discussed. The study population and sample, namely, HRD professionals who participated in the semi-structured interviews as part of data collection, were also described. The methods used to record, analyse, and report the data were outlined. Finally, the ethical considerations employed during this study were discussed. In the next chapter (chapter 4), the findings that ensued from the empirical research will be presented.

CHAPTER 4 DATA ANALYSIS, INTERPRETATION OF FINDINGS, AND SYNTHESIS OF THE DATA

4.1 INTRODUCTION

In this chapter, the analysed data collected from participants through the 12 individual, semi-structured interviews (cf. 3.5.3; 3.5.4) will be presented. All the interviews were conducted in English. To ensure anonymity, each of the participants was assigned a letter of the alphabet (A to K) instead of their own names to prevent them from being identified (cf. 3.9.10). Therefore, each participant's verbatim quotation will be indicated next to his/her unique alphabet letter.

The findings presented here sought to provide answers to the following empirical research questions (cf. 1.6):

- To what extent, if any, is knowledge management (and related activities) applied by human resource development professionals in practice within a human resource development context?
- What roles, if any, do human resource development professionals fulfil concerning knowledge management in South African organisations?
- What recommendations do human resource development professionals have regarding the application of knowledge management within a human resource development context?

Four themes, nine main categories, and 34 subcategories were identified from the transcribed data. Main and subcategories are presented and listed in tables (4-1 to 4-9) beneath the applicable themes. The subcategories will be presented from the highest to the lowest frequency. Theme 1 presents participants' perceptions of knowledge management (KM) and will be discussed next.

4.2 THEME 1: HUMAN RESOURCE DEVELOPMENT PROFESSIONALS' PERCEPTIONS REGARDING KNOWLEDGE MANAGEMENT

Within theme 1, one main category and four subcategories emerged that address the participants' understanding of knowledge management (KM) in human resource development (HRD) context. "*Professional*" is defined as "a person who does a job that needs special training and a high level of education" … "who regularly does a particular activity, especially one that requires skill" (Hornsby *et al*., 2015:1189). Participants in this study practice as human resource development professionals as described in chapter 1 (cf. 1.10.4). "*Perception*" is defined as "the ability to

understand the true nature of something", in this case, knowledge management (Hornsby *et al*., 2015:1105).

4.2.1 Main category 1: Understanding the term knowledge management

(cf 1.10.1; 2.4)

This main category clarifies participants' understanding of the term knowledge management. Hornsby *et al*. (2015:1642) defines "*understanding"* as "to come to a fact, an idea, or how to do something".

It transpired that the participants perceived KM mostly consistent with the literature. Three of the participants (C, E, H) understood the term KM as *managing knowledge for individual and organisational benefit* (cf. 1.10.1). Three participants (A, J, G) understood knowledge management as "*having people with the right knowledge at the right time*" (O' Dell & Grayson, 1998; Carbery, 2015:90) (cf. 2.6) which is a textbook definition of KM. One participant (G) stated that he/she is "equipped" with everything that he/she needs to know when he/she referred to having the right knowledge. The latter participant's understanding of KM is not in line with KM literature in terms of using the word "equip". None of the literature on KM or HRD refers to "equip" or "equipping" people with the knowledge that they need to perform. However, the closest definition in the literature to "equip" is that of Jacobs (2014:34, cf. 1.10.2) who refers to "enhancing capacities" and O'Dell and Grayson (1998, cf. 2.6) refer to "getting" the right knowledge to the people who need that knowledge so that they can perform.

Furthermore, two participants (B, D) understood KM as "the application, practice, and implementation of knowledge". They used words such as "given an opportunity to practice" and "applying and implementing new knowledge" in line with the literature (Carbery, 2015:90; O'Dell & Grayson, cited by Girard & Girard, 2015:1; Dalkir, 2017:4) (cf. 1.10.1; 2.6; 2.6.1). Two participants (I, K) referred to "a system where knowledge is recorded and available" by using words such as "system", "documented and recorded", "keeps record" "having it [knowledge] stored", which is in line with the literature by Serrat (cited by Girard & Girard, 2015:4); King (cited by Girard & Girard, 2015:4); and Nonaka *et al*. (2006:1183) (cf. 1.3; 1.10; 2.6; 2.6.1).

Table 4-1: Understanding knowledge management

MAIN CATEGORY	UNDERSTANDING THE TERM KNOWLEDGE MANAGEMENT	N = 12
Subcategories	Managing knowledge for individual and organisational benefit	3
	Having people with the right knowledge at the right time	3
	The application, practice, and implementation of knowledge	3
	A system where knowledge is recorded and available	2

The category, *participants' understanding of KM* is based on the following subcategories and verbatim quotations contained in it:

4.2.1.1 Managing knowledge for individual and organisational benefit

(cf. 1.10.1; 2.6.1)

"Managing" according to Hornsby *et al*. (2015:917; 325) is "to succeed in doing something." "Benefit" is "an advantage that something gives" and "enjoying the result of something" (Hornsby *et al*., 2015:126). In line with the literature (cf. 1.10.1; 2.6.1), KM is seen as managing knowledge to provide value and improving performance, as is evidenced by four participants' verbatim quotations:

(E) *"Uh its management of uh knowledge available within the organisation that benefits, not only the organisation, but every employee or individual in the organisation."*

(H) *"I need to be able to have a handle on and control the knowledge that's inherent in the organisation in order to benefit the organisation and also the individuals."*

(C) *"So, my understanding of knowledge management in an organisational context, I would say, it's how a specific organisation manages the knowledge that the individuals have, the individuals of that specific organisation."*

4.2.1.2 Having people with the right knowledge at the right time

(cf. 2.6)

A textbook definition of O'Dell and Grayson's regarding knowledge management "having the right knowledge in the right place at the right time" (Carbery, 2015:90; Girard & Girard, 2015:1) (cf. 2.6) was provided by the following participants:

(A) *"Having the right knowledge at the right place at the right time …" I think it's having knowledge. I think it's having knowledge about a certain field of expertise, occupation, and having the ability uhh or the skillset to apply it in your workplace, in other words going back to the ... going back to the definition uh having knowledge you selected and put in a section, and you are able to put that knowledge into practice."*

(J) *"Having the right information at the right time, basically when your look at a problem uhm when you have that uh have knowledge, you can address that problem immediately. So, you have the knowledge to address the problem, uhm so its knowledge at the right time, uhm at their right place and to implement."*

Participant G, however, added "equipped" to the above-mentioned definition. "Equipped" means "to prepare somebody for an activity or task, especially by teaching them what they need to know" (Hornsby *et al*., 2015:503). The participant's statement is also aligned with O'Dell & Grayson's definition (cf. 2.6) of getting [equipped with] the right knowledge to people for them to perform.

(G) *"Uhm, so knowledge management to me is having, uhm, ja having the right, uhm … What do you call it? Uh, having the right knowledge, uhm at the right point in time. Uhm, so, if it is required of me to do something at any given point in time then I have, I'm equipped with everything that I need to know in order to do that."*

4.2.1.3 The application, practice, and implementation of knowledge

(cf. 2.6; 2.6.1; 2.8.5)

"Application" is defined by Hornsby *et al*. (2015:60) as "the practical use of something, especially a theory", in this case, knowledge. "Practice" is "to do an activity ... so that you can improve your skill" (Hornsby *et al*., 2015:1166). Evans *et al*. (2014:88) maintain that knowledge application is the "actual practice of knowledge" (cf. 2.8.5). In line with the literature (cf. 2.6; 2.6.1; 2.8.5), participants' understood knowledge management as using knowledge practically to improve skill, as is evident from the next verbatim quotations:

(A) *"Having the ability uhh or the skillset to apply it* [knowledge] *in your workplace, … you are able to put that knowledge into practice."*

(B) *"When it comes to knowledge management, I think it is a process of a way whereby the knowledge within an organisation is empowered, when I say empowered, being given an opportunity to practice their own knowledge and expertise."*

Participant D viewed knowledge management as applying and implementing new knowledge. This statement is in line with the literature as far as the application of knowledge, [not only new knowledge] and putting information into action, to practice and use knowledge (cf. 2.6; 2.8.4):

(D) *"Applying and implementing new knowledge to transform the organisation in a very way that can lead to innovation, this process applied in the right way."*

4.2.1.4 A system where knowledge is recorded and available

(cf. 2.6.1; 2.6.2)

The literature indicates that KM entails capturing and making knowledge available in a system [database/corporate memory] for all employees to access (cf. 2.6.1). The following verbatim quotations where participants I and K refer to this system similarly reflect the literature (cf. 2.6.1):

(I) *"A system where all the HRD activities and practices, you know, are documented and recorded."*

(K) *"The manner in which uhm an organisation uhm keeps record of its internal uh knowledge uhm and having it stored in, in a manner that allows for that knowledge by those within the organisation."*

Based on the verbatim quotations in this category, participants understanding of KM is mostly similar to the KM literature. Participants' adequate understanding of KM may be because these participants were introduced to the definition of KM in a module covered in the BHRD curriculum (cf. 3.5.1; 3.5.2).

4.3 THEME 2: APPLICATION OF KNOWLEDGE MANAGEMENT (AND RELATED ACTIVITIES) IN A HUMAN RESOURCE DEVELOPMENT CONTEXT

(cf. 1.3.1; 2.8; 2.8.1; 2.8.2; 2.8.3; 2.8.4; 2.8.5)

Within theme two, five main categories and 19 subcategories emerged that indicated how participants apply knowledge management and related activities in an HRD context.

Although knowledge management activities are referred to in the literature (cf. 2.8.1–2.8.6) as knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture, and knowledge storage, the participants did not refer to these activities as such. As indicated in chapter 3 (cf. 3.5.3), HRD professionals may indeed practice

KM, but they may not realise that what they are practicing is, in fact, KM. This aforementioned statement is evident in the verbatim quotations, as only five of the seven knowledge management activities, namely knowledge sharing, knowledge transfer, knowledge application, knowledge capture, and knowledge storage were referred to by the participants. Knowledge storage as such was only mentioned by one participant. This may be because some activities (knowledge sharing, knowledge transfer, and knowledge application) are covered in the third year HRD curriculum that they are familiar with. However, it also became evident (from the five main categories cf. 4.3.1; 4.3.2; 4.3.3; 4.3.4; 4.3.5 and verbatim quotations beneath theme 2) that the knowledge management activities, namely knowledge creation and knowledge acquisition are indeed applied by human resource development professionals, although participants used different descriptions to refer to activities rather than mentioning these knowledge creation and knowledge acquisition by name.

4.3.1 Main category 1: Knowledge sharing and knowledge transfer

(cf. 2.8.1; 2.8.2)

This main category clarifies participants' application of knowledge sharing and knowledge transfer. Although the participants did not refer specifically to the knowledge management activities, the verbatim quotations and shared experiences of examples could be categorised beneath the seven KM activities specifically within an HRD context. For example, knowledge sharing and knowledge transfer were applied by participants through communities of practice (CoPs), as evident from the verbatim quotations (participants A, B, L, D, G, K). Knowledge sharing and knowledge transfer also occur via learning programme facilitation and training (participants K, B, C, E, I). Three participants (B, J, I) applied the transfer of knowledge from intervention to the work environment. KM is also applied through coaching and mentoring (participants L, F), and via written (audio-visual) means such as videos and pamphlets (participants F, H).

Table 4-2: Knowledge sharing and knowledge transfer

(cf**.** 1.3.1; 2.8.1; 2.8.2)

MAIN CATEGORY	**KNOWLEDGE SHARING AND KNOWLEDGE TRANSFER**	**N = 12**
Subcategories	Platforms for knowledge sharing – communities of practice	6
	Learning programme facilitation and training	5
	Transfer of knowledge from intervention to workplace	3
	Coaching and mentoring	2
	Via written means	2

The category, *knowledge sharing (cf. 1.3.1; 2.8.1) and knowledge transfer (cf. 1.3.1; 2.8.2)* is based on the following subcategories and are supported by the participants' direct verbatim quotations:

4.3.1.1 Platforms for knowledge sharing – communities of practice

(cf**.** 2.8.1; 2.9.2.3)

Knowledge sharing (cf. 2.8.1) takes place (amongst others) via platforms such as communities of practice (CoPs) (cf. 2.9.2.3) as indicated by six of the participants. None of the six participants referred specifically to COPs in the interviews. Instead, they referred to certain platforms where they share and transfer knowledge, both internally and externally (which denotes CoPs). In this regard, Nonaka; and Polanyi (cited by Ardichvili, 2008:542) state that CoPs are beneficial in the creation and sharing of tacit knowledge. Only one of the participants (A) referred specifically to CoPs, as evident from the verbatim quotation below:

(A) *"The transfer of tacit knowledge is made possible through … and that's a bit of uh, uh literature through apprenticeships, communities of practice, and corporate universities."*

Participant B referred to CoPs as "touch-base sessions" where victories and challenges are shared:

(B) *"So, you can share it amongst other facilitators in a way of having touch-base sessions. To say that there was this kind of problem in my class. This is how I handled it. As facilitators we come together to share our victories and also our challenges."*

Participant L referred to monthly revision sessions where problems and solutions are discussed:

(L) *"So, on a monthly basis, we meet and then we revise eh, eh, eh, we revise the module and then we discuss the issues that we come across during the … where we train the learners. You see, we discuss those problems and then we come up with solutions."*

Participants D and G referred to sharing "best practices" (cf. 1.3.1; 2.6.1) and "benchmarking" as sharing knowledge on various external platforms:

(D) "S*ince we engage with external stakeholders, uh, to advise them on best practices on how to on uh, ah, ah, uh, uh take on programmes like apprenticeships, maybe it's where we advise organisations on best practice [with] regard to uh, uh management of uh of programmes and all these things."*

(G) *"So, in terms of knowledge transfer and sharing uhm, we have, can I say, three mines uh that is, we're probably in a radius of uhm 180 km/160 km* [kilometres] *within from each other. Uhm, there's a lot of uhm, can I say, cross-pollination uhm that takes place in terms of sharing ideas and uhm and benchmarking against each other uhm … So ja, that's the one way where we [are] sharing, you know, broader than just your uhm … your own organisation."*

Two participants (K, L) referred to knowledge sharing for compliance on the Sector Education and Training Authority (SETA) and Mining Qualifications Authority (MQA) platforms:

(K) *"Through and through other forums and engagement forums and uhm on the compliance or, you know, your SETA side where there is new knowledge and new information, we also do tend to internally just identify whom may raise it and I would share with those particular people."*

(L) *"We usually attend the eh, we are members of the technical revision group of the MQA. So, on a monthly basis we meet and then we revise eh, eh, eh, we revise the module and then we discuss the issues that we come across during the … where we train the learners."*

It transpired from the above verbatim quotations that knowledge is shared, transferred, and applied through CoPs, also referred to by participants as either "engagement forums", "touch-base sessions", or revision groups where ideas, challenges, and problems are shared and solutions, best practices, and benchmarking are attained.

4.3.1.2 Learning facilitation and classroom training

(cf. 2.8.1; 2.8.2; 2.9.3.1)

Five participants indicated that they apply knowledge sharing (cf. 2.8.1) and knowledge transfer (cf. 2.8.2) when facilitating (cf. 2.9.3.1) learning programmes (in a classroom situation) or during training (or workshops). This is in line with the literature, which states that knowledge sharing and knowledge transfer are frequently used interchangeably. Both knowledge sharing and knowledge transfer can occur in classroom situations. However, knowledge sharing (cf. 2.8.1) mostly occurs during one-on-one interaction and during CoPs rather than in classroom situations. Hence, participant K referred to knowledge transfer (cf. 2.8.2) in the context of training (workshop) in the following verbatim quotation:

(K) *"So, so, so, the transfer part of it would definitely be in the training of the people that require the information and also, I think, just within uhm your internal uhm eh uhm, stakeholders who need to understand your processes. It's important that you invest time in training them or workshopping them on, on your own processes. So, that is how I've done it all this while and I think it does sort of shed light on, you know, what it is in terms of what I do, my knowledge areas and what not, because then the next person understands my core function."*

Participants (B, C, E) indicated that they "share" [knowledge] when facilitating in a classroom situation (cf. 2.8.1; 2.9.3.1). Though these participants (B, C, E) used the word "share", they actually refer to knowledge transfer. This concurs with the literature (cf. 2.8.2) that the terms knowledge sharing and knowledge transfer are used interchangeably:

(B) *"I am this person who loves a lot of reading, whatever information which is around me I tend to share with my learners; ice-breakers, what works for me, I give it to them. So, the more I share with them, then it is something that they are going to apply in their classes."*

(C) *"I share knowledge when I'm busy facilitating. Let's say for example it's a new product, or a new system, when learners ask me questions. So, of the … the … the questions if you don't have that particular, uh knowledge or experience, you won't be able to answer that question."*

(E) *"It is just shared at that specific time for that duration of the training in the form of a learning programme."*

Participant I stated that knowledge is shared instead of transferred in the classroom via written modules (cf. 2.7.1; 2.8.2):

(I) *"What we do, uh we share that information through, you know, written uh … uh modules, and then obviously when we do that, when these individuals go for training, it will be an integrated mo.., uh knowledge. It will be the theory part, which will be in the classroom so they can understand the concepts and then also they must do the practicals, which then are done on-the-job."*

It is not clear from the above verbatim quotations whether participants understood the differences between knowledge sharing and knowledge transfer. The literature clearly indicates that there are differences between the two terms (cf. 2.8.1; 2.8.2; 2.8.8).

4.3.1.3 Transfer of knowledge to the workplace

(cf. 2.8.2)

One definition of knowledge transfer (cf. 2.8.2) is the "movement of knowledge and/or facts" from one location to another (Wang & Noe, 2009:117; Gangeswari *et al*., 2016:662-661; Ardichvili, 2017:194). Three participants similarly viewed knowledge management as the transfer of knowledge from a learning intervention to the workplace, as evident from the following verbatim quotations:

(B) *"I want to see them applying, not exactly what I told them, but being in line [with] what I, I have shared with them. So, with the knowledge that they've been given, now they need to apply it for that particular task."*

(J) *"So, my job as an HRD uh, uh L & D* [learning and development – cf. 1.10.4] *professional uhm professional was to ensure that that knowledge and skill was transferred. And then we placed the learners into the workplace, and I have to monitor and check if what the learners uhm knowledge and skill that was obtained at the academy is being implemented in the workplace. So, if they can actually transfer that knowledge and skill into the workplace."*

(I) *"Uh knowledge, it will be the theory part which will be in the classroom, so they can understand the concepts and then also they must do the practical's which then is done on-the-job."*

It transpired from the verbatim quotations above, that participants viewed knowledge transfer as taking the knowledge obtained from the learning intervention and applying the knowledge and/or skills in the workplace.

Knowledge transfer is not only the "movement of knowledge" from one place to another (cf 2.8.2), but also include sharing (cf 2.8.1), acquiring knowledge (cf 2.8.4), while *training/learning transfer*

(cf 2.8.5) is the “use of learned knowledge, skills, and attitudes to enable effective performance” (Baldwin & Ford, cited by Blume *et al*., 2019:270) also referred to as “knowledge application” (Evans *et al*., 2014:88; Dalkir, 2017:217).

Although referred to knoweldge transfer, what participants are referring to is “knowledge application” (cf 2.8.5) which refers (in KM literature) to application, use or implementation of acquired knowledge in the workplace (Evans *et al*., 2014:88; Dalkir, 2017:217). The training literature (in contrast to the KM) (cf 2.8.5) refers to the application of acquired knowledge from learning interventions in the workplace refers to “training transfer” (Baldwin & Ford, cited by Blume *et al*., 2019:270; Werner, 2022:76) or “learning transfer” (Raliphada *et al*., 2014:743).

4.3.1.4 Coaching and mentoring

(cf. 1.3.2, 2.8.1; 2.8.2; 2.9.3.2)

Participants (F, L) indicated that they apply knowledge sharing (cf. 2.8.1) and knowledge transfer (cf. 2.8.2) via “coaching and mentoring”. As indicated in the literature, coaching and mentoring are means used for knowledge sharing (Shabane, 2017:158) [and knowledge transfer]

(F) *“We use it through mentoring and coaching. At the moment, it’s quite challenging, I must say. People find that at the beginning as we approach them and ask ‘can you mentor this person?’, they agree, but along the way, it falls apart.”*

(L) *“Give the person the chance to … to practise and that’s where I’m now, I start applying the coaching. When I see, okay the person is missing a step, that’s where the coaching comes in. Then I stop the person, coach the person, and give the person a chance to do things on his or her own.”*

4.3.1.5 Through written means (explicit knowledge)

(cf. 1.3.1; 2.5.2.1; 2.8.2)

Participants (F, H) indicated that they transfer knowledge (cf. 1.3.1; 2.8.2) through written means. Knowledge transferred by written means is known as explicit knowledge (cf. 2.5.2.1) (Nonaka & von Krogh, 2009; Polanyi, 1959; Xue, 2017:23). Consistent with the literature is participant F’s verbatim quotation that he/she transfers knowledge through written (audio-visual) means in the form of videos and pamphlets on their workplace intranet:

(F) *“We have information sessions, where it’s not a training, where we put our intranet videos; where we issue the pamphlets with information, and we always encourage people to come and talk to us in the department of HRD.” “We have made sure that those who have access to computers, they can access it on their phones, mobiles, yes.”*

Participant H referred to knowledge transfer when he/she gave an example of passing knowledge along different stages in the quality management process in explicit form, which is in line with the literature (Nonaka & von Krogh, 2009; Yang *et al*., 2009:276; Xue, 2017:23; cf. 1.10.4; 2.5.2.1; 2.8.1):

(H) *"I can't hold that knowledge in my head, I need to be able to pass it along at different stages up and down in the quality management process, regardless, whether I am consulting in an organisation or in my own organisation – I can share the knowledge in a million different ways without resorting to electronic means."*

4.3.2 Main category 2: Knowledge creation

(cf. 1.3.1 2.8.3)

The knowledge management activities are viewed as sharing and transfer through learning programme facilitation and classroom training by some of the participants. Other participants see sharing and transfer through platforms for knowledge sharing (communities of practice); the transfer of knowledge from the interventions to the workplace, while the rest of the participants see coaching and mentoring as knowledge management activities.

Knowledge creation occurs when new knowledge is combined with existing knowledge (Ramadan *et al*., 2017:442; KMT, 2018c), in creating new procedures, processes, and training material (cf. 2.8.3). Nine participants indicted how knowledge creation occurs within their HRD contexts. Verbatim quotations thereof will be provided in this section.

Table 4-3: Knowledge creation

MAIN CATEGORY	**KNOWLEDGE CREATION**	**N = 12**
Subcategories	Development of new procedures and processes	3
	Development of new training material	3
	Combining new knowledge with existing knowledge	3

The category, *knowledge creation* (2.8.3) is based on the following subcategories and verbatim quotations contained in it:

4.3.2.1 Development of new procedures and processes

(cf. 2.8.3)

Development is described as creating something new or more advanced (Hornsby *et al*., 2015:409). The literature on knowledge creation does not specifically refer to development of new procedures and processes, but refer to instances where people share their ideas and experiences (Darling, 2014:25), and when people are involved in problem solving and innovation (Kaba & Ramaiah, 2019:532). New knowledge is also created when combined with existing knowledge (Ramadan *et al.*, 2017:442; KMT, 2018c).

Participants (A, G, K) indicated that knowledge is created when HRD professionals develop new processes and procedures in line with company specific, legislative, and industry requirements, for example, the "quality improvement cycles and processes" and "review processes'':

(A) *"We facilitate, in other words a process whereby we help our colleagues get a better understanding of the processes they are concerned with, how it links with quality and quality improvement cycles and processes, whether they are doing it well, help them assess gaps and needs within their processes."*

(G) *"Any review process, that's aimed at enhancing a procedure, a process uhm, has to do with knowledge that's created. Uhm, because I was, I was doing it a, b, c, it's required of me to do it today, uhm, in a new way, uhm d, e, f. So, ja, there's a lot of that going on as well specifically in our environment where we're heavily legislated, uhm, there are a lot of changes that take place, and uhm ja, that forces you to change the way you are doing things. Uhm, because it's normally impacted by uhm, by accidents, uhm that take place. Those enquiries again, knowledge gets created through that process as well, because the accident enquiry will actually inform uhm changes to be made to your training material; uhm to policy and procedures, and uh to risk assessments."*

Participant K stated that new knowledge is created through "day-to-day engagement", which "should then be captured and documented". He/she also referred to innovation that had to take place due to "unusual circumstances" where this new knowledge that was "birthed" also had to be documented in processes and procedures. The unusual circumstances that participant K referred to, are the changes that occurred due to the COVID-19 pandemic during which HRD had to change the way in which they operate during lockdown. (This data was collected during the lockdown period while the majority of the South African population was working from home. The lockdown in South Africa commenced in March 2020). The next verbatim quotation provides confirmation of the aforementioned statement:

(K) *"So, I find that the best place to find the … the, right knowledge that should fit into the organisation's quality management system is through your day-to-day engagement, through your day-to-day execution of your activities, because it is through those that you learn, you know. It's through those that new knowledge comes in and it replaces what was known as knowledge before, and that should then be captured and be documented because it talks to the environmental changes and, you know, for example COVID-19, uhm it came when most of us were not even thinking that something of this nature would come. A lot of businesses that are standing today had to innovate. They had to find ways even in our industry we had to find ways of how to continue business under these unusual circumstances. So, there's been a lot of innovation and it is in those processes that new knowledge is birthed, and such knowledge must be documented so that it is available for those situations. I don't know if I'm making sense."*

Participant K's statement is in line with the literature stating that innovation is the creation of new products and services (cf. 2.8.3). Therefore, when new products and services are created, those new procedures and processes are needed and should be implemented accordingly. The importance of policies, [processes] and procedures are to "avoid employee confusion and to adhere to legal and regulatory guidelines" (Erasmus *et al*., 2018:34). Examples of procedures relevant for HRD professionals include human resources (HR) and procedures such as [code of conduct], performance procedures, [recruitment procedure], training and development procedures, and quality management [procedure] (cf. 2.8.3).

4.3.2.2 Development of new training material

(cf. 1.10.4; 2.6.1; 2.8.3)

The KM and knowledge creation literature does not specifically refer to development of training material as knowledge creation, however, the literature refers to knowledge embedded as "new products, service, and systems" (Nonaka, cited by Mitchell & Boyle, 2010:69). The literature also indicates that knowledge is collected from knowledgeable people, and that knowledge is made independent from knowledgeable persons in the form of documents for reuse (codification approach, cf. 2.7.1).

None of the participants referred to knowledge creation during the semi-structured interviews. Only when presented with follow-up questions, could these participants indicate how knowledge creation is applied. In response to the follow-up question "Are you at any time creating new knowledge?", participant E responded as follows:

(E) *"I was tasked to present a learning that was never presented before, so I had to develop everything from scratch together with members in my section. We developed everything from scratch"*.

Participant I responded as follows when asked: "The information that you put then in the module that you create uhm is it always. Do you always get it from meetings, or are there any other sources that you use to create the knowledge that goes into the module?"

(I) *"We will schedule a meeting with the [subject matter experts] SMEs. We will ask them questions just to gather information for … for the content. And after we have done that, we go back to the design and development process in terms of finding out who the target audience [is], what are the objectives, what do you like, the outcomes, and then documenting everything, that will be the design part."*

When asking whether the participants may provide input in what must go into the training material, participant L responded as follows:

(L) "Uh, sometimes. Sometimes eh they do involve us in this to have input. The person comes with a draft to say this is what I have developed and then we go through it and then we eh we … we … we check whether the material eh is developed the right way it covers all the necessary like … like all the objectives be met. When the learner uses that material, we go through that together, but some material that had been developed long before I came here. We just use it as it is, yes."

4.3.2.3 Combining new knowledge with existing knowledge

Participants also indicated that they create knowledge by combining new knowledge with existing knowledge, which is in line with the literature (cf. 2.8.3). Participants provided the example that they had existing knowledge of HRD (a prerequisite for entering the BHRD degree), that they have combined with new knowledge acquired within the BHRD degree (for example the research module), which resulted in new knowledge. The following verbatim quotations attest to this:

(K) *"Sjoh, in my opinion, I think that human resource development is really critical. And, you know, I am obviously basing this on the last three years of my studies in this degree. Uhm, one has really got to understand the broader sense of human resource development; that it is not just your skills development, you know, it there is more to it than that."*

(F) *"Uhm, I must say that I know it's about your research, but this degree has opened my eyes in a lot of areas. So HRD needs to take its position in the organisation and contribute strategically so that we can make change not just to the institution, but to the country at large."*

Participant H stated that new knowledge is created when they share and solve problems in his/her HRD context:

(H) *"We create when we share. I am a sharer, so uhm I am the kind of person who would, for example, give you the answer before you thought of the question. So, I guess for me that all comes together in creating knowledge … for me creating knowledge goes hand-in-hand with problem-solving."*

Although none of the participants referred to knowledge creation as a KM activity it became evident from the above verbatim quotations that participants indeed applied knowledge creation in an HRD context. Knowledge creation occurs via the development of new procedures and processes, new training material, and by combining new knowledge with existing knowledge. Participants also create knowledge when new knowledge is combined with existing knowledge during opportunities where they can share and solve problems.

4.3.3 Main category 3: Knowledge acquisition

(cf. 2.8.4)

Knowledge acquisition is referred to as learning (Liew, 2013:51; Carbery, 2015:5), and looking for new knowledge and recognising existing knowledge (Rusly *et al*., 2015:1205) (cf. 2.8.4). In line with the literature, participants (A, B, C, D, G, I J, L) indicated that they acquire knowledge by means of training materials, curriculums, assessment procedures; research and reading; asking questions; attending workshops and HRD interventions; and through observations and peer-to-peer reviews (cf. 2.5.2.1; 2.8.4).

Table 4-4: Knowledge acquisition

MAIN CATEGORY	**KNOWLEDGE ACQUISITION**	**N = 12**
Subcategories	Training materials, curriculums, and assessment procedures	3
	Research and reading	3
	Asking questions	2
	Attending workshops and HRD interventions	2
	Through observations and peer reviews	2

The main category, *knowledge acquisition* (cf. 2.8.4) is based on the following subcategories and verbatim quotations contained in it:

4.3.3.1 Training materials, curriculums, and assessment procedures

(cf. 2.5.2.1; 2.8.4)

Knowledge acquisition also occurs when (explicit) knowledge is bought (cf. 2.5.2.1) in the form of existing training or learning materials, curriculum, and assessment material, as is evident from the following verbatim quotations:

(B) *"The learning material comes directly from (XXX) college, so we use their material."*

(J) *"Business administration qualification, that was uhm bought. They bought the material from somewhere and uhm the welding [material] they obtained from the MerSETA* [Manufacturing, Engineering and Related Services SETA Sector Education and Training Authority]*."*

(L) *"Okay, we, we, we, got our training material from uhm MQA* [Mining Qualifications Authority]*. The one that we are using is from the MQA. And then eh that is the one that we use when we facilitate. We use the MQA approved curriculum. And then the assessments as well, they are from MQA. And then we also have the, eh our own eh the in-house material that has been developed. We have our in-house material that has been developed for short course."*

4.3.3.2 Research and reading

(cf. 2.5.2.1; 2.8.4)

Three participants indicated that they have gathered explicit knowledge by doing "research" and reading of, for example the "quality manual", "the company's' processes, procedures, and policies". The following verbatim quotations confirm this:

(A) *"It was a matter of reading the documents, the template of a quality manual and then the guide. First of all, it's just a matter of reading through it; and the second one is engaging with your colleagues …"*

(C) *"Uh by also reading the … the … the company's processes, procedures, policies ..."*

(G) *"Uhm, so ja, personally in terms of how do I acquire knowledge is, uhm, obviously research is one, uhm, but ja, it's a bit more formal then uhm, it's not something that you do uhm each and every day."*

4.3.3.3 Asking questions

(cf. 2.8.4)

Knowledge acquisition includes searching for new knowledge and recognising existing knowledge (Rusly *et al*., 2015:1205, cf. 2.8.4). Asking questions is one way of acquiring knowledge within the organisation (cf. 2.8.4). Two participants (A, C) stated that they acquire knowledge by asking questions:

(A) *"Engaging with your colleagues. My colleague, the quality manager at that time answering them [questions], I gained knowledge."*

(C) *"… asking questions, asking different people questions, that's also how I learn, you know, talking to my colleagues learning from them."*

4.3.3.4 Attending workshops and HRD interventions

(cf. 2.8.4)

Knowledge acquisition includes classroom learning (Erasmus *et al*., 2019:98, cf. 2.8.4). Two participants confirmed that they acquire knowledge by attending workshops and HRD interventions. The verbatim quotations provided next, confirms this statement:

(C) *"I acquire knowledge by attending, uhm various … uhm HRD interventions, like for example train-the-trainer workshops*

(D) "*NAMB* [National Artisan Moderation Body]*, QCTO* [Quality Council for Trades and Occupations]*, all those organisations and other manufacturing companies as well just for us to understand what drives apprenticeships from the national perspective from organisational as well as uh, from the sectors. This is where we actually gain the knowledge and the practicality of how uh, uh we can do this" "asking a lot of questions about policies and all these things, it's actually to help me try to gather information for feeding into these documents."*

4.3.3.5 Through observations and peer reviews

(cf. 2.8.4)

Knowledge acquisition occurs through "peer-to-peer [interaction] and observations" (Botha & Coetzee, 2019:180; Erasmus *et al*., 2018:135). In line with the literature (cf. 2.8.4), participants also indicated that they acquire knowledge through observations and peer reviews":

(G) *Uhm, a lot of knowledge is obtained through observation as well. Uhm … and uhm … and ja, peer reviews, is also a form of uhm knowledge that can be gained."*

(I) *"What we will do, we will sit with the SMEs* [subject matter experts] *and also, we will go and observe. We may take a trip with a driver, you know, and observe what they do, and ja, that's what, that's what we do. Because most of our programmes, we have customised so we need to, you know, uh develop programmes that are customised specifically for that particular department or that particular function."*

It became evident from the above that participants acquire knowledge in an HRD context "through training materials, curriculums, assessment procedures; research and reading; asking questions; attending workshops and HRD interventions; and through observations and peer-to-peer reviews". These verbatim quotations are mostly in line with the literature which also indicates that knowledge is acquired through CoPs, peer-to-peer interaction, performance documents, and training materials, (cf. 2.8.4).

4.3.4 Main category 4: Knowledge application

(cf. 2.8.5; 2.9.3.2)

In line with the literature (cf. 2.8.5), participants agreed that knowledge must be applied in practice to generate benefits. Participants also stated that knowledge application occurs when applying acquired knowledge in the workplace, which is consistent with literature cf. 2.8.5); through learner evaluation and assessment and implementation of knowledge by demonstrating the acquired knowledge; via mentoring and coaching (cf. 2.9.2.2); and indicated that knowledge is not always applied in the work environment. Participants further indicated that knowledge is applied when quality manuals are produced, people's actual performance on-the-job is observed, keeping logbooks of performance, conducting simulations, discussions, and work integrated learning. Participants also indicated that when knowledge is acquired, that knowledge must be applied in practice to generate benefits (cf. 2.8.5).

Table 4-5: Knowledge application

MAIN CATEGORY	KNOWLEDGE APPLICATION	N = 12
Subcategories	Applying acquired knowledge in the workplace	6
	Learner evaluation and assessment	5
	Implementation of knowledge by demonstrating the acquired knowledge	2
	Mentoring and coaching	2
	Knowledge is not always applied in the work environment	2

The main category, *knowledge application* (2.8.5) is based on the following subcategories and verbatim quotations contained in it:

4.3.4.1 Applying acquired knowledge in the workplace

(cf. 2.8.5)

Participant A explained that HRD professionals apply their own knowledge when they produce a product for the work environment, for example, a quality manual. The following verbatim quotation confirms this:

(A) *"At the end of the time they must produce this quality manual, which in the end uhm, informs too. They later go through a self-evaluation process, a peer evaluation which is one of the evidence documents for a self-evaluation and a peer evaluation. So, by the time they are finished, they must know what they are doing, so they know they must apply it according to the standards that we give them."*

Participants B, E, I, and K indicated that their *learners* apply or must apply the knowledge gained from or shared through the learning intervention, for example, by their performance in the work environment, as evident from the following verbatim quotations:

(B) *"I want to see them applying, not exactly what I told them, but being in line [with] what I … I have shared with them." "When we are teaching, or when we are delivering learning to these learners, it needs to be career-orientated." "So, with the knowledge that they've been given, now they need to apply it for that particular task."*

(E) *"Okay, there are some circumstances where you can actually see that uh the knowledge that they gained, they are applying it. Especially through their performance."*

(I) *"So, we train, you know, apprentices so that they can be able to go and work in the production line."*

(K) *"Uhm, and I always thought perhaps in a technical environment it is easy to see uhm and measure, you know, the application of knowledge, because people have to do certain things, like you have to drive a car. You need to, but in truth I think it is the same across where it's very hard to monitor and ensure that knowledge is applied. Uhm, because as we perform our job tasks on a daily, we obviously go through that even process with routine because we sort of understand how to do this thing, you know, we become experts at it; that the application like comes as second nature, you know, to us."*

Participant D indicated that knowledge application is necessary to transform the organisation for innovation, which is consistent with literature (Ode & Ayavoo, 2019:209, cf. 2.8.5) as the next verbatim quotation confirms:

(D) *"Applying and implementing new knowledge to transform the organisation in a very way that can lead to innovation."*

4.3.4.2 Learner evaluation and assessment

(cf. 2.10.1.1)

In line with the literature, participants indicated that evaluation and assessments are used to provide evidence of what learners can do [thus, the application of the acquired knowledge and skill] (cf. 2.10.1.1). Participants (A, H) indicated that they make use of self and peer evaluations as well as formative assessments in an HRD context to determine whatever their learners can apply the acquired knowledge.

(A) *"They later go through a self-evaluation process, a peer evaluation which is one of the evidence documents for a self-evaluation and a peer evaluation, so by the time they are finished, they must know what they are doing. So, they know they must apply it according to the standards that we give them."*

(H) "*If I start in class, if we learn something new or really valuable like the example I gave you earlier on, I will actively look for an opportunity to bring it into a formative assessment or an in-class assessment of some kind. In terms of can they take it back to the workplace?"*

Participant J said that they use logbooks to record and monitor the application of knowledge of their learners:

(J) *"I could actually see from the logbooks if they have done the shielded metal arch whatever it is in the project, they needed to do so that was a way that I could monitor that the learner was getting the or transferring ... So, they have to adapt accordingly. It was practically inclined where the learner had to do Excel or PowerPoint. They uhm I would uhm set up a session for them where they actually uhm would do a practical component on the computer, like generating the Excel spreadsheets or the Word."*

Participants (B, I) indicated that knowledge application of their learners is determined by using simulations, discussions, and work integrated learning:

(B) *"So, we do a lot of simulations, we do a lot of discussion. We also do a bit of work integrated learning. The intern facilitators, they need to know how to create a roll-out plan. So, what they are going to do, I will show them this is how you create a roll-out plan. Now, at the end of the day, they need to demonstrate that they can create a roll-out plan."*

(I) "*They will go into the class, read, write, and then we have a practical station where they will have to practice before we send them on the real production."*

4.3.4.3 Implementation of knowledge by demonstrating the acquired knowledge

(cf. 2.8.5)

Consistent with the literature, participants (B, G) indicated that knowledge is applied when learners demonstrate the knowledge gained in training and learning interventions:

(B) "*So, what they are going to do, I will show them this is how you create a roll-out plan. Now, at the end of the day, they need to demonstrate that they can create a roll-out plan."*

(G) "*Uhm, they can't learn if it's not demonstrated to them. They can't learn merely from manuals. Uhm and then from the trainer point again, obviously again, uh the observation and then also doing it themselves."*

4.3.4.4 Mentoring and coaching

(cf. 2.8.5; 2.9.2.2)

Participants D and L indicated that they use mentoring and coaching in the workplace to assist employees to apply knowledge. In this regard, Fagan (2017:46) posits that mentoring and coaching have the potential to assist in transferring knowledge and skills to the workplace (cf. 2.8.5). The literature refers to mentoring as developing and implementing knowledge and experience for long-term career development (Forbes Coaches Council, 2018), and coaching as improving current job performance (cf. 2.9.2.2). Thus, applying knowledge and skills gained during learning in the workplace (cf. 2.8.5):

(D) *"To understand the policies and procedures, to understand even the … in terms of the national uhm, uh agenda where this is coming from and how do they fit in as uhm, uhm mentors in, in, in knowledge, uh, development, that's, where I, I get involved in terms of where it comes to the application of knowledge."*

(L) *"Okay, so when I coach people, I do the uhm eh, eh, I identify the gap first. After identifying the gap to see that this person, he needs to perform this task, but he lacks one, two, three. So, I do the coaching on the job. Because we need the results now."*

4.3.4.5 Knowledge is not always applied in the work environment

(cf. 2.8.5)

According to Raliphada *et al*. (2014:743) learned knowledge and skills are not always applied in the work context. Participants C and K similarly indicated that knowledge is not always applied:

(C) *"When I train and people ask me questions, and I explain something to them, I can say they use that knowledge because whatever I explain to them, they go and apply it in the workplace." "Not all of them apply it in the workplace."*

(K) *"Once you have acquired your degree, people then take that as, you know, that you will apply the knowledge, but it is not always the case."*

4.3.5 Main category 5: Knowledge capture and knowledge storage

(cf. 2.8.6; 2.8.7)

In this main category, knowledge capture and knowledge storage were categorised together, since the participants seemed to perceive the two as one concept. However, in the literature, knowledge capture (cf. 2.8.6) and knowledge storage (cf. 2.8.7) are two different concepts (cf. 2.8.8).

Participants indicated that knowledge is captured in tangible form, for example through writing improvement plans, policies, standard operating procedures, and quality management systems (QMSs), and by making videos from engagement and innovation. The literature (Magalhães, 2015; Malamed, 2020), accordingly refers to dealing with customer complaints, procedures to simplify a job, journals, storytelling, and lessons learned as ways to capture knowledge.

Table 4-6: Knowledge capture and knowledge storage

MAIN CATEGORY	KNOWLEDGE CAPTURE AND KNOWLEDGE STORAGE	N = 12
Subcategories	Methods of knowledge capturing or storage	6

The main category, *knowledge capture and knowledge storage (2.8.6; 2.8.7)* is based on the following subcategory and verbatim quotations contained in it:

4.3.5.1 Methods of knowledge capturing or storage

(cf. 2.8.6; 2.8.7)

Virkus (2011) and National Academies of Sciences, Engineering and Medicine (2017:2) indicate that knowledge capture is the conversion of tacit knowledge into explicit form (cf. 2.8.6). Even though participants did not specifically refer to tacit knowledge, it is clear from their use of the terms "engagement and innovation" that they do indeed refer to tacit knowledge (cf. 2.4.2.2). Participant A indicated that he\she captures knowledge by writing improvement plans for their department:

(A) *"We guide them to write improvement plans for their departments and their processes"*.

Participant B referred to the recording of a training session to ensure that everything is captured:

(B) "*Whenever we are delivering this, we need to record our session that tomorrow one can go back and, and reflect on those sessions, because at the end of the day you might be in a good session, but you find that you did not even capture everything*".

Participant C captured knowledge in the form of videos for continual use:

(G) *"So, ja, uhm, firstly it's a lot of information and then we went and we uhm broke down the entire onboarding, can I say, intervention uh and we literally took the whole thing apart and we made videos of it."*

Participant K indicated that knowledge is captured in the form of policies, procedures [standing operating procedures] (SOPs), and quality management system (QMS):

(K) *"The best place to find the, the right knowledge that should fit into the organisation's quality management system is through your day-to-day engagement – through your day-to-day execution of your activities because it is through those that you learn, you know. It's through those that new knowledge comes in and it replaces what was known as knowledge before,*

and that should then be captured and be documented. Okay, so KM is also about documenting, especially things like your po … po … po … policies your procedures, your standing operating procedures your processes – those need to be well documented ..."

Although Pandey (2016:37, cf. 2.8.7) indicated that knowledge storage should be easily accessible, retrieved, or located, participant K verbalised his/her frustration with locating the necessary knowledge:

(K) *"The knowledge, you know, uhm that falls within my area which is something I've found not existent with my predecessors when I started here. As a result, I struggled to locate stuff. I had struggled to find my way around the maze, and I think, should I move on, somebody that would occupy this role should not go through the same struggle that I went through."*

Participant H was the only participant who referred to "storage" instead of "capture". He/she created an "online library" where *information* is stored as evidence in the South African regulated skills development system (cf. 1.10.3). This participant (H) also referred to *information* rather than *knowledge,* which is consistent with the literature (cf. 2.5.1) in that information is stored in this case, and not knowledge per se. The following verbatim quotation attests to this:

(H) *"You know, uhm how much "information" – I'm not calling it knowledge, for now, information. You are very aware of how much information is generated on a daily basis for a number of reasons, but I guess primarily because, it's a regulated system. So, we have to get evidence of everything. I've created and "online library" within which all the knowledge is stored. It's indexed, it's catalogued, because I am absolutely obsessive compulsive about that and whatever that repository, is I always make sure that it's in a form that it can be shared with whoever is allowed to have access to that kind of information, depending on the different levels of security."*

It became evident from main category 5 that knowledge capture and knowledge storage were applied by participants in an HRD context through methods such as writing improvement plans, videos, policies, procedures (SOPs) and QMS. One participant also alluded to the struggle to obtain the knowledge that he/she needed when he/she started as a new employee with his/her organisation.

4.4 THEME 3: HUMAN RESOURCE DEVELOPMENT'S ROLES RELATED TO KNOWLEDGE MANAGEMENT IN A SOUTH AFRICAN CONTEXT

(cf. 1.10.4; 2.10.1)

Within this theme, one main category and five subcategories emerged that address the roles of HRD professionals in the South African context.

4.4.1 Main category 1: Roles of human resource development professionals

(cf. 1.10.4; 2.10; 2.10.1; 2.10.1.1)

HRD professionals include individuals involved in training, training delivery, assessment, and moderation of learning. HRD professionals typically fulfil roles as assessors, coaches, facilitators, mentors, moderators, and skills development facilitators (Stuart, cited by Meyer & Sloman, 2014:101; DHET, 2019; cf. 1.10.4). Other roles of HRD professionals include quality coordinators and compliance managers, skills development facilitators, and training material designers and developers (DHET, 2019; cf. 1.10.4; 2.10.1.1). Some HRD professionals may fulfil only one of these specified roles, while others may fulfil more than one of these HRD roles.

Participants indicated that HRD professionals fulfil the following roles, namely as assessors, moderators, learning facilitators, quality coordinators and compliance managers, training material designers and developers, and skills development facilitators. Participants could also link their roles with knowledge management. The roles that HRD professionals fulfil within an HRD and KM context are indicated in Table 4-7. Links between these roles and previous categories will also be indicated with cross referencing.

Table 4-7: Roles of human resource development professionals

MAIN CATEGORY	**Roles of human resource development professionals**	**N = 12**
Subcategories	Assessors and moderators	4
	Learning facilitators	4
	Quality coordinators and compliance managers	4
	Training material designers and developers	4
	Skills development facilitators	2

The main category, *roles of human resource development professionals* is based on the following verbatim quotations contained in it:

4.4.1.1 Assessors and moderators

(cf. 2.10.1.1; 2.8.4; 4.3.3 knowledge acquisition – training materials, curriculums, and *assessment procedure; 2.8.5;* 4.3.4 knowledge application – learner evaluation and *assessment*)

Participants indicated that assessment is part of knowledge application (cf. 2.8.5; 2.10.1.1; 4.3.4). The assessment procedure is also part of knowledge acquisition (cf. 2.8.4; 2.10.1.1; 4.3.3). In the South African context the term "assessor" refers to an assessment practitioner that is monitoring, evaluating, and reviewing training quality, training objectives, and training deliverables [outcomes] (DHET; 2019, cf. 2.10.1.1). "Moderator" (cf. 2.10.1.1) refers to the person responsible for the authenticity of assessment results, and evaluating the assessment process and instruments (SAQA, 2004 cited by Meyer *et al*., 2017:274). Assessors' and moderators' involvement in knowledge management is to make judgements and check the quality with regard to the knowledge and skills that a learner (employee) has acquired during learning interventions (cf. 2.8.4; 2.8.5). Participants applied and acquired knowledge within their roles as assessors and moderators:

(J) "*And the moderation of the whole moderation process where I had to get the uh uhm the SETA* [Sector Education and Training Authority] *out to do the moderation to ensure that the portfolios are ready for moderation, that was my role."*

(H) *"Yeah, I uh, so first of all as a moderator I like to moderate a 100%."*

Participant H further described his/her multiple roles as HRD professional within an HRD context, in addition to internal moderator include "consulting", "internal skills development facilitator (ISDF)", and "compliance consultant" (cf. 2.10.1.1):

(H) *"Yes, absolutely. So, I have for more than 15 years been in a consulting role, and in that role, I put on different hats. So, I have, I play internal moderator for some clients, uhm and I play the ISDF* [internal skills development facilitator] *for some clients, so those are the two most prevalent roles, but my third role is probably, I don't want to say legal consultant, because that sound so grandiose and I don't want to use compliance, because I detest it, but uhm I advise and consult in terms of regulatory matters. Which falls also under moderator and SDF* [skills development facilitator].

The next verbatim quotation attests that participant L's roles in addition to being a moderator:

(L) *"I'm a facilitator and assessor, and a moderator."*

Participant E is a moderator, but also evaluates and presents learning programmes, as evident from the next quote:

(E) "*Present learning programmes, I do evaluate, I uh assess, I sometimes, I do moderate."*

4.4.1.2 Learning facilitators

(cf. 2.10.1; 2.8.1; 2.8.2; 4.3.1: knowledge sharing and knowledge transfer – learning facilitation and classroom training; knowledge creation – development of new procedures and processes; cf. 2.8.4; 4.3.3 knowledge acquisition – attending workshops and HRD interventions; cf. 4.3.4 learner evaluation and assessment)

Learning facilitators, sometimes referred to as trainers (Meyer & Sloman, 2014:101, cf. 2.10.1) are involved in the acquisition of learning (cf. 2.8.4). Participants also indicated that they share knowledge and transfer knowledge through learning facilitation and classroom training (cf. 4.3.1). It is evident from the previous category (*assessors* and *moderators*), that participant L (in addition to his/her role as assessor and moderator) is also a learning facilitator. The role of the learning facilitator (trainer, training officer, business skills trainer) is included as part of the roles of the HRD professional (cf. 1.10.4; Stuart, cited by Meyer & Sloman, 2014:101; DHET, 2019).

Three participants indicated that they work as facilitators in the HRD environment. Participant B is a facilitator responsible for training and mentoring intern facilitators, participant C is a training officer, participant E presents learning programmes, and participant I is "just providing assistance" to learning facilitation. The following quotations attest to this:

(B) *"I tend to mentor intern facilitators."*

(C) "*I am employed as a facilitator, training officer*".

(E) *"And currently I am not working within the, the, the HR function, but I am working hand-in-hand with training because I am also actively involved in training. I do present learning programmes."*

(I) *"I am currently in the HRD facility … I have facilitated, not in depth, just providing assistance with facilitating some of the programmes in the organisation."*

4.4.1.3 Quality coordinators and compliance managers

(cf. 2.10.1.1; 2.8.1; 4.3.1 platforms for knowledge sharing; cf. 2.8.3; 4.3.2 knowledge creation – development of new procedures and processes; cf. 2.8.5; 4.3.4 knowledge application – applying acquired knowledge in the workplace; knowledge capture – methods used to capture or store knowledge)

Participants are involved in knowledge sharing (cf. 2.8.1; 4.3.1 – platforms for knowledge sharing) during discussions regarding compliance issues on Sector Education and Training Authority (SETA) and Mining Qualifications Authority (MQA) platforms. Participants apply their knowledge of HRD within their roles as quality coordinators and compliance managers (cf. 2.8.5; 4.3.4 knowledge application – applying acquired knowledge in the workplace) when they produce, for example, quality manuals. Participants also indicated their involvement in knowledge creation when they review processes and the quality improvement of quality cycles and processes. Participants indicated their involvement in knowledge capture though documenting knowledge in policies and processes. The verbatim quotations that follow are in line with the literature (DHET, 2019; cf. 2.10.1) that states that quality coordinators and compliance managers are responsible for the monitoring, ongoing evaluation, and verification of the quality and effectiveness of training and learning interventions. This role of quality coordinators also includes the review and modification of training objectives, methods, [and outcomes] (DHET, 2019).

Participant A referred to his/her role as a quality coordinator. The tasks of quality coordinators are included in the role of HRD professionals (DHET, 2019, cf. 1.10.4):

(A) *"Okay, firstly, let me just mention that I am not an HRD practitioner* (cf. 1.10.4), *but I'm working as a quality coordinator."*

Two participants (K, H) indicated that they are dealing with compliance of training and development matters in the South African context. Compliance of training and development incudes compliance with regulations, which includes monitoring, evaluation, and verification of the quality, in terms of standards set by SAQA and skills development legislation (cf. 1.10.4):

(K) *"I work for a training academy, and I work as the uhm quality and compliance manager within that environment."*

(H) *"I advise and consult in terms of regulatory* [compliance] *matters."*

As part of quality and compliance, participant G referred to "continuous improvement normally seen as training". This is in line with the literature, which refers to training as an important mechanism to facilitate continuous improvement (Van Assen, 2020:132):

(G) *"Continuous improvement, ja, a lot of the times it's … it's normally seen as training, that's the problem. Uhm, but ja, it's not it not really purposefully driven in terms of okay uhm great, so we have identified that it's a training problem, but now how do we purposefully address it?"*

4.4.1.4 Training material designers and developers

(cf. 2.10.1.1; 2.8.1; 4.3.1 knowledge sharing – platforms for knowledge sharing – communities of practice; cf. 2.8.3; 4.3.2 knowledge creation – development of new training material)

Participants are involved in knowledge sharing (cf. 2.8.1; 4.3.1) when revising and creating written modules. Participants are also involved in knowledge creation (cf. 4.3.2) through their roles as training material designers and developers when developing new learning materials. Training material design and development include the preparation and development of instructional training materials, such as tutorials, textbooks/manuals, and supporting training aids (DHET, 2019, cf. 2.10.1.1). In line with the role of training and development professionals as specified by the DHET (2019), participants indicated that their roles include those of designers or developers of new learning content, new learning presentations, and developing new videos of learning content. The following verbatim quotations attest to this:

(I) *"I am currently in the HRD facility, I'm working as a content designer and developer."*

(J) "*I had to redevelop, because uhm the material was not up to scratch. So, I had to start it from scratch by designing uhm the outcomes and uhm the material from scratch. The portfolio, everything I had to create from scratch."*

Participant E is a learning facilitator, but is also tasked with developing learning content:

(E) *"Okay, uh, I had a challenge this year, uhm, I uhm, was uh … uh … uh tasked to present a learning that was never presented before, so I had to develop everything from scratch."*

Participant G indicated his/her involvement in the design and development of training material in the form of making videos of learning content:

(G) *"… a lot of information and then we went and we uhm broke down the entire onboarding, can I say, intervention uh and we literally took the whole thing apart and we made videos of it. So, and ja, to me that contextualises uhm just so much more information from what you could have gained in a manual."*

4.4.1.5 Skills development facilitators

(cf. 1.10.4; 2.10.1.1; 2.8.1; 2.8.2; 4.3.1 knowledge sharing and knowledge transfer – through written means; cf. 2.8.6; 2.8.7; 4.3.5 knowledge capture and knowledge storage – methods used to capture or store knowledge)

The term ‘’skills development facilitator” (SDF) was recently renamed to “skills development practitioner” (in the South African context) (DHET, 2019; cf. 1.10.4). A skills development practitioner (or SDF) is responsible for analysing, executing, implementing, monitoring, and reporting on [knowledge and] skills requirements of organisations, therefore sharing transferring, and capturing knowledge and information. This role also includes providing information, advising on further education, training, and career decisions (DHET, 2019). Botha and Coetzee (2019:191-192) confirm that the tasks of SDFs are included in the role of HRD professionals. The Association for Skills Development in South Africa (ASDSA) (2021) confirms that roles of skills development practitioners include facilitators, assessors, and moderators. In line with this literature, participant (H) indicated that his/her roles as HRD professional, amongst others, include that of internal SDF, as evident from the next verbatim quotation:

(H) *“I play the ISDF* [internal skills development facilitator] *for some clients, but in addition to the consulting role uhm I do also have an academy that is accredited with the QCTO* [Quality Council for Trades and Occupations], for full qualifications and part qualifications *of the occupational learning system. So, there is KM in that context as well, so that would be internal.”*

Participant F’s role, however, included only that of a SDF (cf. 1.10.4; 2.10.1.1), as evident from the next verbatim quotation:

(F) *“I am a skills development facilitator. I will start by saying we do have courses that we offer and we look at career paths for individuals, especially for those people who don’t have qualifications and those who are at the lower level. Like you find that maybe someone is a receptionist. In order to manage that they are gathering throughout the years, we develop a career path, we’ll say someone just have a matric and then that person will be put through the learnership of Business Administration, which is a year programme. And then after that, they will go and do Generic Management. And then, at that level, we appoint the mentor or the coach for them, so that they prepare them for the next level positions.”*

4.5 THEME 4: PARTICIPANTS' RECOMMENDATIONS REGARDING THE APPLICATION OF KNOWLEDGE MANAGEMENT WITHIN A HUMAN RESOURCE DEVELOPMENT CONTEXT

This theme presents participants' recommendations regarding the application of knowledge management within a human resource development context.

4.5.1 Main category 1: Recommendations regarding the application of knowledge management within a human resource development context

(cf. 2.7.1; 2.8.6; 2.8.7)

HRD is responsible for improving individual, group, and organisational effectiveness by developing knowledge, skills, and competencies of employees (Wilson, 2012:7). (Mir *et al*., (2017:97) argue that there must be a constant flow of knowledge from experts or specialists to the rest of the employees that may need this knowledge. This flow of knowledge can be achieved by programmes and initiatives where (tacit) knowledge is shared (Mir *et al*., 2017:97) and transferred (explicit knowledge) by way of documents, such as policies and procedures. Participants indicated that for HRD to effectively contribute to the flow of knowledge, HRD should be situated on strategic level. Opportunities for sharing knowledge should be created and people should be rewarded for sharing their knowledge.

Table 4-8: Participants provided recommendations regarding the application of knowledge management within a human resource development context

MAIN CATEGORY	**Participants' recommendations regarding application of knowledge management within an HRD context**	**N = 12**
Subcategories	Knowledge should be captured and recorded in systems and processes	5
	HRD should be situated on strategic level	5
	Opportunities for sharing knowledge should be created	3
	People should be rewarded for sharing knowledge	2

The main category, *participants' recommendations regarding the application of knowledge management within a human resource development context* is based on the following subcategories and verbatim quotations contained in it:

4.5.1.1 Knowledge should be captured and stored in systems and processes

(cf. 2.7.1; 2.8.6; 2.8.7)

Knowledge capture, as one of the KM activities (cf. 2.8.6) entails that knowledge should be captured and recorded in organisational databases for retention and ease of access (Virkus, 2011; National Academies of Sciences, Engineering and Medicine, 2017:2; KMT, 2018e). This recorded knowledge can then be applied by employees and used for the purpose of innovation and improved performance (Ode & Ayavoo, 2019:210, cf. 2.7.1; 2.8.6). The application of knowledge is also a KM activity (cf. 2.8.5).

Consistent with the literature (National Academies of Sciences, Engineering and Medicine, 2017; KMT, 2021c; cf. 2.7.1; 2.8.6), participants D, B, and G recommended that knowledge should be recorded [captured]. Participants D and B actually referred to the capture of tacit knowledge (cf. 2.7.1):

(D) "*Okay, the recommendation that I can recommend in this regard mainly one is it that, uh in most cases, uhm organisations need to … to … to … to … to … to appreciate the knowledge, which is not recorded in the organisation, these now – especially the guys – there [are] a lot of guys who … who really possess the knowledge. But their knowledge – should they leave the organisation today, they … there [are] no records kept to inform whoever is coming in to take over these, ah … ah positions. So that's why it's very important that the organisation should design systems, which allow for uh … uh recording of data and all these things or to keep data with regard to KM*".

(B) "*Whenever we are delivering this, we need to record our session that tomorrow one can go back and, and reflect on those sessions, because at the end of the day you might be in a good session, but you find that you did not even capture everything*".

Participant G recommended that the recording of knowledge in digital format (explicit knowledge (cf. 2.5.2.1; 2.7.1) is necessary to ensure availability and that such knowledge can be applied in real-time:

(G) "*But ja, the truth to this is the recommendation is uhm knowledge within an organisation needs to be digitised. Uhm because it's the only way that we can really keep track of organisational performance, where if you have all of this information digitally available*

then, then you can actually come to a point where you have data-driven decision-making, and, and, its literally available in ja, in real time".

Participants H and I recommended the recording and capturing of knowledge in the [quality management system] QMS for standardisation of processes:

(H) "*HRD practitioners need to see it* [knowledge] *as a very, as a valuable component of the QMS*".

(I) "*We don't have a proper QMS* [quality management system] *in place, and then uhm even when I say we are designing, we are producing this learning material, but we don't have proper and approved, you know, processes to guide us*". "*So, we need to have, you know, proper processes uhm, we must follow, you know*". "*You know, there's no standardisation, there's lack of standardisation, and another thing is we don't have, we do have processes in place, but they are not followed correctly. So, another thing that I realised that uhm, I'm not sure if this is part of … of … of … of … of your topic is that uh."*

4.5.1.2 HRD should be situated on strategic level

Participants recommend that HRD should be situated on strategic level to effectively drive KM. In this regard, Alagaraja (2013:118) and Gubbins *et al*. (2018:2-3) state that the goal of HRD is to be strategically involved in the business by leveraging employee-related abilities, knowledge, and skills. Five of the participants stated that their organisations' focus is on the 'bottom line". However, participants felt that the return on investment and compliance should rather focus on the value that training, development, and knowledge add to the organisation. To realise the aforementioned, and to ensure effective KM, participants recommended that HRD should be situated on strategic level in organisations. The following statements attest to this:

(D) "*HRD is not taken … seriously in many organisations, and they're supposed to be at the forefront to drive this agenda* [knowledge management] *forward, ja, to drive this agenda forward."*

(E) "*You know, I think if HRD can have a person in the chair there on the strategic level, then that person can enforce uh … uh … uh uhm change within the organisation. Then uhm they don't have to worry about the bottom line or the return on investment, because obviously if the training and development is effective and the members come back to the unit, they will obviously have that enthusiasm to apply whatever they have learned. And that will also … (uh … uh … uh … hmm (sigh) … uh, the English is leaving me now) it will enhance the effectiveness of the organisation."*

(F) *"… but if it's just send them to training for the sake of training, and it's not adding value to the department, but we are spending money. It's quite difficult to manage that. It's like sometimes, it's like pushing the numbers, because with our reporting you will find that it's huge. We have so many people who have attended training. We have spent so much money, but performance, it's not improving Ja, again, I think what we need to do is to empower the line managers. What is the training all about? And it's quite difficult, to … to do that. We do it to a certain level, because HRD is not put at the strategic level, you know, we report to HRM. And HRM they can't really represent us. You don't get an opportunity to go [and] showcase [what] you know. This is what is happening, this is why we do it. For them its compliance. That's how it will be recognised and be able to make a better input – or a strategic decision."*

(J) "*HRD should be involved uhm where they actually have a say in what's happening and how things can be implemented*".

(K) *"Organisations should view HRD as a strategic business partner, because that way HRD would be inclusive, or rather organisational strategies will be inclusive of human resource development strategies, and the HRD will not focus on the training aspect, but it will focus on the knowledge management aspect, the quality management aspect and so forth … Uhm they should be the custodians of that process."*

4.5.1.3 Opportunities for sharing knowledge should be created

(cf. 2.7.2; 2.8.1; 2.8.2; 2.9.2.2; 2.9.2.3; 2.9.2.4)

Participants recommended that opportunities should be created to share and transfer knowledge. This is in line with the literature, which states that knowledge sharing is a people-to-people process (Mašić *et al*., 2017:134-135; Dixon, 2018:21; cf. 2.8.1), and that HRD should create structures for people to share their knowledge (Cho *et al*., 2009:264; cf. 1.3.2). Knowledge sharing and transfer occur via various means, such as communities of practice (CoP's) (cf. 2.9.2.3; 2.9.2.4), mentoring and coaching (cf. 2.9.2.2), and learning opportunities (cf. 2.9.1; 2.9.3). Participants also referred to how knowledge should be shared. The following verbatim quotations attest to this:

(C) "*Consultants who know everything, I would say they have to share their knowledge in in … in platforms like that."*

Participant C further stated that people with specialist knowledge should share their knowledge. If these specialists leave the organisation and knowledge has not been shared or transferred, the knowledge leaves with them:

(C) *" I think uh, I would also suggest to avoid situations like the example that I made from this particular, there's only this one guy who knows how this particular system is working. To avoid situations like that, I think the company should make sure that this particular person uhm teaches others. He must not be the only one who knows this*".

(E) "*Uh, I think we should implement uhm mentoring and coaching programmes in our unit, especially when members are transferred from one section to another section – just to coach and guide and see if uhm whatever they've learned, or their experiences from previous, uh uhm work sections, if they can apply it correctly."*

(H) *"So, there's no point of having knowledge in your head; you need to be able to put it out there, to put push it out, to disperse it so that you actually make everybody around you stronger*".

4.5.1.4 People should be rewarded for sharing knowledge

Jacobs and Roodt; and Bello and Oyekunle (cited by Shabane 2017:160) maintain that knowledge sharing should be rewarded. Govender *et al*. (2018:6) also maintain that "proper reward systems encourage knowledge exchange" [sharing (cf. 2.8.1]. In line with the aforementioned statements, two participants recommended that people who share knowledge should be rewarded:

(B) *"With regard to those who are giving knowledge to other people uh … uh, I will recommend some incentive, Mrs Smith, to say that if you are sharing something with others*".

Participant D referred to providing employees with formal qualifications as reward for being confident in sharing their experience and tacit knowledge with others when he/she provided the following quote:

(D) "*If this guy is now comfortable enough to share his knowledge because he knows, regardless of what, he cannot, he cannot be replaced with anyone since he has already got his qualification*".

4.5.2 Main category 2: Human resource development should be involved in knowledge management and related activities

(cf. 1.3.2; 2.10.1; 2.10.1.1)

Involvement means "the act of taking part in something" (Hornsby *et al*., 2015:806). Participants recommended that HRD should be involved (or partake) in KM and related activities, such as knowledge sharing (cf. 2.8.1), knowledge transfer (cf. 2.8.2), knowledge acquisition (cf. 2.8.4) and knowledge capture (cf. 2.8.6).

Table 4-9 Human resource development should be involved in knowledge management and related activities (cf 1.3.2)

MAIN CATEGORY	**Human resource development should be involved in knowledge management and related activities**	**N = 12**
Subcategories	Human resource development's involvement in knowledge management	5
	Human resource development's involvement in knowledge management activities	4

The main category, *human resource development's involvement in knowledge management and related activities is* based on the following subcategories and verbatim quotations contained in it:

4.5.2.1 Human resource development's involvement in knowledge management

(cf. 1.3.2; 2.10.1)

Many authors (McGoldrick *et al*., 2002; Blankenship & Ruona, 2009; Cho *et al*., 2009; Mankin, 2009; McGuire, 2014; Ardichvili, 2017; Caruso, 2017) believe that HRD has a noteworthy involvement in KM (cf. 1.3.2; 2.10.1). Five participants similarly referred to the importance of HRD's involvement in KM using phrases such as "I believe that *QE* [quality enhancement] *managers/coordinators* [HRD professionals] should be involved in KM"; "it must be in full"; "definitely"; "I believe that HRD should be involved", and "I think that HRD should be involved". The following verbatim quotations attest to this:

(A) *"I believe that QE managers/coordinators (HRD practitioners) should be involved in KM and related activities in the* [quality management, quality enhancement, human resource development] *QM/QE/HRD environment."*

(B) *"It must be in in in full [involvement]. I believe that 100%."*

(J*) "Definitely, but uhm HRD should be involved."*

(K) *"I believe that HRD should be involved in knowledge management."*

(L) *"Eh, it think … uh I think HRD should be involve with KM. "HRD should be involved with knowledge management because eh people will need to improve their learning and their ability to stay ahead of the competition and to face challenges in the world, you see. And people will be able to solve problems and make eh, eh, eh better decisions."*

4.5.2.2 Human resource development's involvement in knowledge management activities

(cf. 2.6; 2.8.1)

The knowledge management activities include knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture, knowledge storage (cf. 2.8.1 --2.8.8). Participants recommended that HRD should be involved in the following knowledge management activities, namely knowledge sharing (cf. 2.8.1), knowledge transfer (cf. 2.8.2), knowledge acquisition (cf. 2.8.4), and knowledge capture (cf. 2.8.6).

One participant (A) indicated that HRD should be involved in the KM activities of knowledge acquisition and knowledge transfer to ensure that staff is equipped for optimal performance:

(A) "*To make sure, through the right KM tasks and activities, that knowledge acquisition and transfer methods are used to equip staff effectively to perform their tasks optimally."*

Participant G added that HRD should be proactive in knowledge transfer and not waiting for problems to occur before knowledge is transferred:

(G) "*Reactive, instead of being proactive. Take what is currently happening and disseminating [transfer] that information instead of waiting to, for a problem to occur, to determine what's the knowledge uhm component of that."*

Participant A stated that HRD should be involved in knowledge sharing with information technology playing a major role therein:

(A) *"Knowledge sharing in the working environment should be clearly understood and applied in the most effective way possible. Information technology will play a major role, but as Gourlay (cited by Carbery, 2015:92) has rightly mentioned that high-value-added-knowledge (tacit knowledge) is very difficult to share using an information technology approach."*

The same participant (B) also indicated that HRD should record or capture the knowledge after a training session:

(B) "*Whenever we are delivering this, we need to record our session that tomorrow one can go back and, and reflect on those sessions, because at the end of the day you might be in a good session, but you find that you did not even capture everything*".

Next, a summary of the themes that emerged from this study, with the main categories and subcategories of each, will be provided.

THEME 1: HUMAN RESOURCE DEVELOPMENT PROFESSIONALS' PERCEPTIONS REGARDING KNOWLEDGE MANAGEMENT

MAIN CATEGORY 1: Understanding the term knowledge management

Managing knowledge for individual and organisational benefit

Having people with the right knowledge at the right time

The application, practice, and implementation of knowledge

A system where knowledge is recorded and available

THEME 2: APPLICATION OF KNOWLEDGE MANAGEMENT (AND RELATED ACTIVITIES) IN A HUMAN RESOURCE DEVELOPMENT CONTEXT

MAIN CATEGORY 1: Knowledge sharing and transfer

Platforms for knowledge sharing – communities of practice

Learning facilitation and classroom training

Transfer of knowledge to the workplace

Coaching and mentoring

Through written means (explicit knowledge)

MAIN CATEGORY 2: Knowledge creation

Development of new procedures and processes

Development of new training material

Combining new knowledge with existing knowledge

MAIN CATEGORY 3: Knowledge acquisition

Training materials, curriculums, assessment procedures

Research and reading

Asking questions

Attending workshops and HRD interventions

Through observations and peer reviews

MAIN CATEGORY 4: Knowledge application

Applying acquired knowledge in the workplace

Learner evaluation and assessment

Implementation of knowledge by demonstrating the acquired knowledge

Mentoring and coaching

Knowledge not always applied in the work environment

MAIN CATEGORY 5: Knowledge capture and knowledge storage

Methods of knowledge capturing or storage

THEME 3: HUMAN RESOURCE DEVELOPMENT'S ROLES RELATED TO KNOWLEDGE MANAGEMENT IN A SOUTH AFRICAN CONTEXT

MAIN CATEGORY: 1 Roles of human resource development professionals

Assessors and moderators

Learning facilitators

Quality coordinators and compliance managers

Training material designers and developers

Skills development facilitators

THEME 4: PARTICIPANTS PROVIDED RECOMMENDATIONS REGARDING THE APPLICATION OF KNOWLEDGE MANAGEMENT WITHIN A HUMAN RESOURCE DEVELOPMENT CONTEXT

MAIN CATEGORY 1: Recommendations regarding the application of knowledge management within a human resource development context

Knowledge should be captured and stored in systems and processes

HRD should be situated on strategic level

Opportunities for sharing knowledge should be created

People should be rewarded for sharing knowledge

MAIN CATEGORY 2: Human resource development should be involved in knowledge management and related activities

Human resource development's involvement in knowledge management

Human resource development's involvement in knowledge management activities

4.6 CHAPTER SUMMARY

In chapter four (4), the findings from the analysed data collected during the twelve semi-structured interviews were presented. Four themes, nine main categories, and 34 subcategories were identified and presented.

The findings revealed that most of the participants understood KM, in line with the literature. This may be due to participants' exposure to KM in the HRD curriculum that they have completed.

The findings furthermore revealed that participants apply KM through all knowledge management activities within an HRD context in practice. More specifically, knowledge sharing and knowledge transfer were applied via platforms, such as communities of practice (CoPs), learning programme facilitation and training, transfer of knowledge from intervention to workplace, coaching and mentoring, and via written (or audio-visual) means (explicit knowledge) such as pamphlets and videos.

Participants created knowledge through the development of new procedures and processes, development of new training material, and by combining new knowledge with existing knowledge. Although participants did not refer to knowledge creation per se, it was evident from the quotations that they indeed applied knowledge creation.

Participants also applied knowledge acquisition. Knowledge was acquired by means of training materials, curriculums, assessment procedures, observations, and peer reviews. Knowledge was also acquired by attending workshops and HRD interventions through research and reading and by asking questions to assist them in their HRD context. Although participants indicated how they themselves acquired knowledge, they did not refer to (as expected from them as facilitators) how their learners or trainees acquired knowledge. They also did not make the link that knowledge acquisition in their context equates to learning.

Participants also applied knowledge by implementing and demonstrating acquired knowledge in an HRD context. This was done through learner evaluation assessment, mentoring, and coaching. A concern was however raised that knowledge is not always applied in the workplace.

Participants capture and store knowledge (knowledge capture and knowledge storage) by writing improvement plans, policies, and procedures, and by capturing and storing processes such as SOPs and QMSs. Videos were also used to capture and store knowledge for continual use.

Participants indicated that they perform the following roles in an HRD context, namely assessors, moderators, learning facilitators, quality coordinators, compliance managers, training material designers and developers, and skills development facilitators. In their roles as *assessors and*

moderators, participants are involved with knowledge application when dealing with mentoring and coaching, and learner evaluation and assessment, which include demonstrations, and keeping logbooks of performance. As assessors and moderators, HRD professionals acquire knowledge by using training materials, curriculums, assessment procedures, observations, and peer reviews. As *learning facilitators*, participants indicated the application of knowledge sharing and knowledge transfer when facilitating learning interventions and classroom training. Knowledge creation is applied in their roles as learning facilitators when developing and enhancing new procedures and processes. As learning facilitators, participants further attend workshops and HRD interventions where they acquire knowledge. Participants also help others to acquire knowledge by learner evaluation and assessment. Although participants help others (learners/trainees) to acquire knowledge during learning interventions none of the participants mentioned how they as facilitators assist their learners to acquire knowledge.

In their roles as *quality coordinators and compliance managers*, participants are involved in knowledge sharing (discussing compliance matters); knowledge creation (enhancing and reviewing quality manuals); knowledge application (producing quality manuals); and knowledge capture (documenting knowledge in policies and procedures). As *training material designers and developers*, participants share and create knowledge when developing new training materials and during involvement in CoPs. Although participants indicated that they have to fulfil a variety of roles, including that of skills development facilitator (SDF), one participant indicated that SDF is his/her only role. As *skills development facilitators*, participants apply knowledge transfer written in the form of training reports, for example the workplace skills plan (WSP), which must be captured and stored on the organisational repository. However, the capturing of the WSP merely entails capturing information, and not knowledge (cf. 2.5 the difference between knowledge and information). To turn the information into knowledge, SDFs have to use their experience to interpret the information so that it becomes knowledge. Once information becomes knowledge, it can be captured in the WSP. SDFs also store knowledge in the organisational repository.

Consistent with human capital theory (HCT) (cf. 2.3.1), which indicates that investment in knowledge and skills of employees has derived benefits, participants indicated that they provide learning opportunities such as learning facilitation where knowledge is acquired, shared, created, and transferred. Opportunities (for investing in knowledge and skills) were also created in the form of coaching, mentoring, and assessments to facilitate the application of acquired knowledge in the workplace.

In line with knowledge-based theory (KBT) (cf. 2.3.2) a great deal of knowledge upon which superior performance in practice is based, is tacit (Smith, cited by Gubbins & Dooley, 2021:1). Although participants did not specifically refer to the use of tacit knowledge, they indicated that

they use knowledge through skills development. The latter is, in fact, tacit knowledge because the knowledge referred to is expert knowledge needed to apply skills development. In addition, participants also applied interventions such as workshops, conferences, project teams, coaching and mentoring. In all the aforementioned, participants gain, apply, and share tacit knowledge.

In line with knowledge creation theory (KCT) (cf. 2.3.3), participants indicated that they are involved in CoPs. CoPs usually include experts and are valuable in organisations to share tacit (expert) knowledge. However, participants also indicated that in some organisations, expert knowledge is not always shared. To retain (tacit) knowledge, participants recommended that knowledge should be captured (tacit knowledge, cf. 2.4.2.2). Once expert knowledge is shared, it becomes explicit. In an HRD context, tacit knowledge could be made explicit (cf. 2.7.1) in the form of new processes, procedures, and products – for example, new policies, standing operating procedures, quality manuals, and training materials for application and future use. As discussed above, as participants apply all the KM activities, they also use the SECI model, which involves sharing (socialisation), capture and transfer (externalisation), creation, capture, and storage(combination), and application (internalisation) (cf. 2.3.3; 2.7) – even though they did not refer to the SECI model.

It also became evident from the findings that even though knowledge management is not mentioned per se in the OFO (cf. 2.10.1.1, DHET, 2019) that participants apply knowledge management and related activities in practice within an HRD South African context. The findings are in line with the most recent ATD Talent Management Capability Model (2020) (cf. 2.10.1), which indicates that knowledge management is indeed a core capability for HRD professionals to ensure learning and performance in organisations.

The aforementioned findings will be discussed in more detail in chapter 5 together with limitations of this study, conclusions, and recommendations.

CHAPTER 5 DATA ANALYSIS, INTERPRETATION OF FINDINGS, AND SYNTHESIS OF THE DATA

5.1 INTRODUCTION

In this final chapter, a summary of previous chapters will be provided. Thereafter, the research questions will be answered beneath the findings (cf. 5.3). The recommendations resulting from the findings, recommendations for future research (cf. 5.4), together with the limitations of the study (cf. 5.5) will be provided.

5.2 SUMMARY OF THE CHAPTERS

Chapter 1 provided the background to this study, the purpose and problem statement, as well as the research questions and research objectives. It was argued that both the knowledge economy and the COVID-19 pandemic have contributed to constant changes in organisations that require innovation and development of new knowledge (cf. 1.2).

As learning “creates, adapts, enlarges and deepens knowledge” (Raelin, cited by Cho *et al*., 2009:263), it was pointed out that learning is crucial to address challenges such as innovation and development of new knowledge (a characteristic of the knowledge economy), and to ensure organisational success and competitive advantage. Therefore, in agreement with several authors (Mc Goldrick *et al*., 2002; Blankenship & Ruona, 2009; Cho *et al*., 2009, Mankin, 2009; McGuire, 2014; Ardichvili, 2017; Caruso, 2017), human resource development (HRD) and HRD professionals have a substantial role to play in knowledge management (KM). Moreover, HRD professionals are essential to ensure the transfer of competencies and knowledge (Tomé, 2011:529; Gautam, 2020), the nurturing of knowledge (Mankin, 2009: 319-320) and knowledge management (KM) per se (cf. 1.3.2).

Nevertheless, it was argued that the role of HRD in KM and its associated activities (knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture and knowledge storage) is not yet clear. Although several authors (as indicated above) and various HRD textbooks maintain that HRD has a role to play in KM (cf. 1.3.2), a review of the body of scholarship revealed that a limited number of empirical studies have been conducted on HRD’s involvement in KM and KM activities, both internationally and nationally (cf. 1.4). Besides, most national, and international studies on KM were conducted in other contexts, for example HRM, and not HRD, and those international studies on HRD and KM that do exist, were mostly literature reviews (cf. 1.4). Therefore, this study, whereby the

application of KM was explored within a South African HRD context, addressed the aforementioned gaps in research.

Furthermore, Tomé (2012:95) contended that in order to inform KM as a science, it is necessary that scholars from other disciplines, that include HRD, analyse knowledge and KM. As this study provides an understanding of knowledge and KM from an HRD perspective, it contributes an alternative perspective and thus also contributes theoretically to the science of knowledge and KM. As previous studies on KM within an HRD context are scarce, definitions of both KM and HRD were framed for this study (cf. 1.4.1; 1.10.1; 2.6.3). The South African HRD context was contextualised in chapter 1 and important concepts in the study, including HRD professionals (with their roles and tasks), were described.

In chapter 2, a literature study was conducted. This literature study commenced with a discussion on the evolution and background of KM and HRD. An interesting observation was made that both KM and HRD simultaneously evolved over the past three decades (cf. 2.2). The literature study further explored the three underpinning theories of KM (cf. 2.3; 2.3.1–2.3.3), namely human capital theory (HCT), knowledge-based theory (KBT), and knowledge creation theory (KCT).

Applicable KM models (the knowledge spiral model, the model for building and using knowledge, the organisational epistemology model, Choo sense-making model, and the KM process models) were also introduced (cf. 2.4; 2.4.1–2.4.5). KM-related concepts such as data, information, and knowledge, Bloom's taxonomy, as well as the types of knowledge (explicit and tacit) (cf. 2.5; 2.5.1; 2.5.2) were discussed (and differentiated). Similar to HRD, there is no universally accepted definition for KM. The various KM definitions that relate to HRD were discussed (and categorised) in terms of three perspectives, namely the learning and performance perspective, an integrated perspective, and Western versus Eastern perspectives to coin a definition for KM in an HRD context (cf. 2.6; 2.6.1–2.6.3).

Additionally, in chapter 2, organisational KM approaches, namely codification and personalisation (and an integration of the two) were also alluded to (cf. 2.7; 2.7.1; 2.7.2; 2.7.3), whereafter the KM cycle and related KM activities included in this cycle were discussed. The KM activities, namely knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture and knowledge storage (cf. 2.8; 2.8.1–2.8.8) were differentiated and elaborated upon with examples in HRD context.

The link between KM, learning, and HRD was also explored. The terms learning, organisational learning, and learning interventions (classroom training and facilitation; coaching and mentoring; CoPs and VCoPs, cf. 2.9; 2.9.1–2.9.3) were discussed. In conclusion, the functions, and roles of

HRD professionals in KM, from both international and national (South African) perspectives, were introduced (cf. 2.10; 2.10.1; 2.10.1.1).

In chapter 3, the theory related to the research design and methodology applicable to the study were described. The research approach followed for conducting this study, namely qualitative research, was discussed (cf. 3.3). The rationale for utilising a qualitative approach, which is, to explore the meaning from the view of the participants was also discussed (cf. 3.3). Qualitative research is underpinned by interpretivism. *Interpretivism* was chosen to allow participants to create meaning and understanding of KM within their HRD context (cf. 3.3.2). Interpretivism allowed for the understanding and perspectives of participants concerning the application of knowledge management within a South African HRD context to be explored.

The chosen research strategy, *namely basic qualitative research*, together with the rationale for using this strategy was discussed in chapter 3 (cf. 3.4). Basic qualitative research rather than phenomenology was chosen to focus on the meaning participants ascribe to processes, experience, and practices regarding the phenomenon.

The research setting for this study was the only South African university where an undergraduate degree in HRD is offered. Enrolled students with least three years' work experience in the HRD environment were invited to take part in this study (cf. 3.5.1). Therefore, purposive sampling, in particular *expert sampling* (cf. 3.5.2), was used to invite experts in their field of HRD to be subjects (of purposive sampling).

Forty-one HRD professionals (HRD students) were invited of which 12 decided to participate in this study. Data was collected by conducting *semi-structured interviews* (cf. 3.4; 3.5.3) to focus on the use of words and processes in the day-to-day settings of HRD professionals. During the interviews, field notes were captured, including observations such as body language, stuttering and long pauses to pick up on meanings and that which was not communicated in words. The recorded semi-structured interviews (cf. 3.5.4) were transcribed verbatim (cf. 3.5.5). Coding (both *emerging* and *priori coding*) of the transcribed data was categorised into themes (cf. 3.5.5). *Thematic analysis* (using themes and patterns) was used to analyse the data (cf. 3.5.5). Strategies that were used to ensure data quality and rigour included accurate verbatim quotations that were checked by participants to ensure accuracy. The data was also corroborated with the literature and peer reviewed (cf. 3.5.7). Prior to the empirical research, ethical clearance had to be obtained that scrutinised each aspect of the study (cf. 3.5.9; Annexures A, C). Accordingly, a rigorous ethical process (cf. 3.5.9) was followed to ensure ethical conduct during all stages of this study.

In chapter 4, the data collected from the 12 individual, semi-structured interviews (cf. 3.9.4) was analysed, interpreted, and presented. Verbatim quotations of participants were categorised and presented in four themes, nine main categories, and 34 subcategories (cf. 4.1.). Participants were each assigned an alphabetic letter from A to K to protect their identity (cf. 3.5.9). The findings resulting from chapter 4 will be discussed in more detail beneath applicable research questions in the findings section (cf. 5.3).

5.3 DISCUSSION OF FINDINGS

This study set out to explore the application of knowledge management within a South African human resource development context. Findings will be presented next by answering each research question.

5.3.1 How are knowledge management and related terms conceptualised in the literature?

The first research question, namely "how are knowledge management and related terms conceptualised in the literature?" was answered. This research question was answered in chapter 2 of this study that commenced with a discussion on the background and evolution of HRD, and KM (cf. 2.2). Similarities between the evolution of HRD and KM were illustrated in table format (cf. Table 2-1). It was pointed out that both KM and HRD developed immensely during the last three decades. An interesting observation was made that both fields KM and HRD evolved simultaneously during the past three decades. For example, the focus of HRD shifted from learning on an individual level to include learning on individual, group, and organisational levels while the focus of KM shifted from document and information management to socialisation and collective knowledge (cf. 2.2). Both KM and HRD initially started out with training – particularly individual training – as focus, and they have evolved since then to focus more on group learning and collaboration in the second phase. In the third phase of the evolution of KM and HRD, the inclusion of technology to improve performance is evident in both fields.

Three theories, HCT, KBT, and KCT (cf. 2.3.1; 2.3.2; 2.3.3) and five models (cf. 2.4.1; 2.4.2; 2.4.3; 2.4.4; 2.4.5) were identified as applicable to this study, and discussed. KM and related concepts were alluded to (cf. 2.5), and the difference between knowledge and information was pointed out (cf. 2.5.1). It was indicated that knowledge is neither data nor information. Rather, knowledge is a product of data and information (cf. 2.5.1) that includes practical skill. It was further argued that HRD professionals need to be aware of the differences between knowledge and information to ensure that learners/trainees can apply knowledge. In this regard, the relevance of Bloom's taxonomy was also alluded to in order to motivate that HRD professionals must ensure that

employees (learners/trainees) understand, reason, and apply information during training and learning to ensure that information is converted into knowledge (cf. 2.5.1). Two types of knowledge, namely tacit and explicit knowledge, were distinguished (cf. 2.5.2; 2.5.2.1; 2.5.2.2). It was indicated that tacit knowledge is the skill and experience accumulated as a result of "learning by doing" and explicit knowledge is the factual knowledge in tangible form that can be stored, transferred, distributed, and accessed.

Although KM is viewed from a range of perspectives and disciplines, only those definitions of KM within an HRD context were included in chapter 2. More specifically, KM definitions could be categorised in three groups in terms of focus, namely KM definitions from a learning and performance perspective (cf. 2.6; 2.6.1); integrated system perspective (cf. 2.6.2); and Western vs Eastern perspectives (cf. 2.6.3). Although one would intuitively align HRD with the KM definitions from a learning and performance perspective, it was argued that HRD should consider all three (above mentioned) perspectives of KM to ensure optimal development of knowledge (explicit and tacit) for individuals, groups, and organisational performance by providing learning and collaboration interventions.

The approaches that organisations can use to implement KM were also discussed (cf. 2.7.1; 2.7.2). Organisations may opt to use either a codification approach (where the focus is on utilising explicit knowledge) from repositories, cf. 2.5.2; 2.5.2.1) or a personalisation approach where the focus is on tacit knowledge (cf. 2.5.2; 2.5.2.2) and whereby people share knowledge during collaboration and interaction (cf. 2.6; 2.7.1; 2.7.2; 2.7.3; 2.8.1). It was, however, suggested that a blend between the codification and personalisation approaches (hybrid approach), determined by organisational needs, should be used for optimum results (cf. 2.7.3). The KM cycle and the KM activities (knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture, and knowledge storage) were distinguished and the applicability of each within an HRD context highlighted with examples (cf. 2.8; 2.8.1; 2.8.2; 2.8.3; 2.8.4; 28.5; 2.8.6; 2.8.8; 2.8.8). For example, it was argued that *knowledge sharing* is a people-to-people process only, while *knowledge transfer* is the movement of facts (knowledge); and the dissemination and integration of knowledge from people-to-people or people-to-content. *Knowledge creation* is the KM activity that occurs when new and existing knowledge are combined. *Knowledge acquisition* is considered to take place during learning and can be acquired internally (inside the organisation) or externally to the organisation. *Knowledge capture* is the KM activity that occurs when tacit knowledge is converted into explicit form to enable the storage (retention) of such explicit knowledge (*knowledge storage)* in organisational repositories or systems for easy access to all employees. *Knowledge application* is the practice of knowledge, thus learning by doing. It was argued that HRD should ensure that learners can apply knowledge

acquired through learning interventions to realise return on investment (ROI). While all KM activities overlap, all the KM activities in the KM cycle should be part of the organisational learning cycle to ensure organisational success (cf. 2.8.8). Hence, the link between knowledge management, learning and HRD was discussed and clarified (cf. 2.9). The applicability of the learning organisation to HRD and KM was determined and motivated. Examples of learning interventions that are typically used by HRD, to create, share, and utilise knowledge to foster learning and performance, namely classroom training and facilitation, coaching and mentoring, communities of practice (CoPs), and virtual communities of practice (VCoPs), were discussed (cf. 2.9.3 cf. 2.9.3.1; 2.9.3.2; 2.9.3.3). CoPs, including VCoPs, was highlighted as an important trend to share informal and tacit learning processes online in organisations. It became evident from the discussions that HRD professionals in South Africa have a variety of roles and tasks to fulfil (cf. 2.10.1; 2.10.1.1). The roles and tasks of HRD professionals were discussed from an international (cf. 2.10.1) and national (South African) context (cf. 2.10.1.1). From an international perspective, the most recent ATD model was used to illuminate the tasks and required capabilities of HRD professionals. Within a national context, the tasks indicated in the OFO for *training and staff development professionals* were used as reference, given that the OFO does not include the term *HRD professionals*, as also alluded to and explained in chapter 1 (cf. 1.10.4) where the rationale was provided for referring to the term HRD professionals in this study (cf. 1.10.4) in line with Botha and Coetzee (2019:191-192). It was also observed that the ATD includes KM as a required professional capability for HRD professionals, but that KM was absent from the of tasks of HRD professionals, or rather training and staff development professionals, referred to in the OFO (cf. 1.10.4).

5.3.2 To what extent, if any, is knowledge management (and related activities) applied by human resource development professionals in practice within a human resource development context?

Although HRD professionals' understanding of KM, did not answer the research question, it is included here as it emerged from the findings and to ensure all the findings that resulted from chapter 4 are reported.

Most HRD professionals understood KM to be the management of knowledge for individual and organisational benefit, which is in line with the literature, that KM is "managing knowledge for individual and organisational benefit" (Dalkir, 2017:4; Serrat, cited by Girard & Girard, 20015:4) (cf. 2.5; 4.3.1). HRD professionals further understood KM to be "having the right knowledge in the right place at the right time" which was word for word in line with the definitions of O'Dell and Grayson 1998 and Carbery, 2015:90) (cf. 2.6; 4.3.1) In this regard, O'Dell and Grayson (1998), and Carbery (2015:90) define KM as "a deliberate strategy of "getting the right knowledge to the

right people at the right time" so that these people can apply this knowledge to achieve improved performance (cf. 1.10.1; 2.6). The reason why HRD professionals could provide a textbook definition for KM, is due to the fact that they were exposed to KM in the HRD curriculum during their undergraduate studies.

HRD professionals also understood KM to be the application, practice, and implementation of knowledge and as a system where knowledge is recorded and available This finding also concurs with O'Dell and Grayson (1998) (cf. 2.5; 2.5.1; 4.3.1) who indicate that KM is the practice and implementation of knowledge put into action, while some HRD professionals also understood KM to be the application of knowledge, previously indicated by Dalkir (2017:4; cf. 2.5; 2.5.1; 4.3.1).

HRD professionals understood KM to be systems where knowledge is recorded, documented, and stored (cf. 4.3.1). This is also in line with the literature (King, cited by Girard & Girard, 2015:4; Dalkir, 2017:4), which indicates, in this regard, that KM is the coordination of a system via activities such as creation, knowledge sharing and knowledge application, capturing valuable lessons learned (as new knowledge) to foster continued organisational learning, storing these lessons learned in corporate memory.

It further transpired that HRD professionals referred to KM as equipping people with everything they need to know. None of the definitions of KM in the literature, however, refers to equipping people with what they need to know (cf. 4.2.1; 4.5.2). This understanding of HRD professionals' is therefore not in line with the literature as none of the authors (in the literature) refer to "equip". The closest words used that concur with "equip" are statements by O'Dell & Grayson (1998) that refer to "getting" (cf. 2.5) the right knowledge to the people to perform and Jacobs (2014:34) "enhancing people's capacities" (cf. 1.10.2; 4.2.1).

It transpired from the evidence that HRD professionals apply the following knowledge management activities in an HRD context:

HRD professionals applied *knowledge creation* when they are involved with innovation, day-by-day engagement, and review processes where new procedures, training materials, and quality improvement manuals are developed by combining new and existing knowledge. In this regard, Tomé (2012:94) claims that the creation of knowledge takes place when people collaborate [engagement]. Farnese *et al*. (2019) concur that training processes, and the transfer thereof into organisational practices, are supported by knowledge creation. Knowledge is also created by combining new knowledge with existing knowledge (Brix 2017, 112; Ramadan *et al.*, 2017:442; KMT, 2018c). Therefore, as people collaborate and share, new knowledge is created, and

innovation occurs, which can be used to create new products such as training materials and training and quality manuals.

Knowledge acquisition, as indicated by HRD professionals, occurs when they (HRD professionals) acquire knowledge by means of training materials, curriculums, assessment procedures; research and reading; asking questions; attending workshops and HRD interventions; and through observations and peer-to-peer reviews (cf. 4.3.3). In this regard, the literature similarly indicates that knowledge acquisition involves finding knowledge from both inside the organisation and externally (Rusly *et al*., 2015:1205; Brix, 2017:115). Thus, training materials, curriculums, assessment procedures; research and reading; asking questions; attending workshops and HRD interventions; observations and peer-to-peer reviews can either be acquired internally or externally. Moreover, HRD professionals (as learning facilitators that provide learning to their learners or trainees) did not refer to how their learners or trainees acquired knowledge. However, the literature refers to knowledge acquisition as learning (Liew, 2013:51; Carbery, 2015:5, and Erasmus *et al*. (2019:98).

HRD professionals indicated that *knowledge sharing* does occurs via communities of practice (CoPs) and platforms where best practices, benchmarking, and compliance can be shared and discussed. Further to this, HRD professionals indicated that the use of *knowledge transfer* occurs via learning facilitation, classroom training, coaching, and mentoring and written (or audio-visual) (explicit means) in the form of videos and pamphlets. In this regard, Cho *et al*. 2009:264) state that HRD should create social structures or learning communities, such as CoPs, for knowledge sharing. Shabane (2017:158) also indicate that knowledge sharing is applied via coaching and mentoring, while Gangeswari *et al*. (2016:664) indicate that knowledge transfer occurs via written means (cf. 4.3.1; 2.8.1; 2.8.2).

HRD professionals used the terms *knowledge sharing* and *knowledge transfer* interchangeably. This was evident when they indicated that they share knowledge when facilitating in a classroom situation and via written modules, instead of using the term knowledge transfer (cf. 4.3.1). In this regard, Ardichvili (2017:195) also indicates that the terms knowledge sharing and knowledge transfer is often used interchangeably in the literature.

HRD professionals viewed *knowledge transfer* as taking the knowledge obtained from the learning intervention and applying this knowledge and skills in the workplace. In this regard, the literature similarly refers to knowledge transfer as the movement of knowledge from one place to another (Wang & Noe, 2009:117; Gangeswari *et al*., 2016:662-661; Ardichvili, 2017:194). *Knowledge transfer* also includes knowledge sharing, knowledge acquisition, and knowledge application. However, what HRD professionals referred to as knowledge transfer is actually

knowledge application. In this regard, knowledge application is described in the literature as the actual use and practice of knowledge (Evans *et al*., 2014:88; Dalkir, 2017:217).

HRD professionals stated that knowledge application occurs when acquired knowledge is applied in the workplace, when they produce products such as quality manuals, and when they transform the organisation for innovation. In this regard, Evans *et al*. (2014:88) and Dalkir (2017:217) state that knowledge application is the actual use or practice. Ode and Ayavoo (2019:209) state that knowledge application is necessary to transform the organisation (cf. 4.3.4). HRD professionals further indicated that application of knowledge occurs in their context through learner evaluation and assessment to provide evidence of what learners can do (apply) by demonstrating the acquired knowledge through evaluation and assessments, logbooks, simulations, discussions, and work-integrated learning; In this regard, Meyer *et al*. (2017:247) refer to the use of demonstrations, logbooks, peer and self-assessments, and simulations to assess learners/trainees.

In addition, HRD professionals indicated that knowledge is also applied in mentoring and coaching (cf. 4.3.4). Fagan (2017:46) confirms that mentoring and coaching have the potential to transfer knowledge and skill to the workplace. HRD professionals also indicated that knowledge is not always applied in the work environment – a statement that is confirmed by Raliphada *et al*. (2014:743) in their study (conducted in the South African Public Service).

HRD professionals indicated that they capture knowledge in tangible form when they are involved in compiling improvement plans, policies, standard operating procedures, and quality management systems (QMSs), and by making videos from engagement and innovation. The literature (Magalhães, 2015; Malamed, 2020; cf. 4.3.5) similarly refers to dealing with customer complaints, procedures to simplify a job, journals, storytelling, and lessons learned as ways to capture knowledge. It appears from the data that HRD professionals perceive these KM activities (knowledge capture and knowledge storage) as one concept when they indicate that knowledge is recorded, therefore understanding recording (in organisational memory) as both knowledge capture and knowledge storage. However, the literature indicates that knowledge capture and knowledge storage are two different, overlapping activities (Dalkir, 2017:60), although both contribute to knowledge retention (Aggestam *et al*., 2014:560; National Academies of Sciences, Engineering and Medicine, 2017). Moreover, HRD professionals alluded to the struggle to obtain knowledge that they needed when they started working as new employees. Pandey (2016:37, cf. 4.3.5) indicated, in this regard, that knowledge storage should be easily accessible, retrieved or located. One HRD professional also clearly distinguished between knowledge and information in reference to knowledge storage. This finding is in line with Patel and Jain (2018:542), and Fricke

(2018:34) who also differentiated between information and knowledge by stating that knowledge is not information, but that information leads to knowledge.

What is interesting is that HRD professionals in their recommendations (cf. 4.5.1) indicated the importance of two specific activities, namely knowledge capture and knowledge sharing. Therefore, seems that HRD professionals view these two activities (knowledge capture and knowledge sharing) as the most important KM activities in HRD.

5.3.3 What roles, if any, do human resource development professionals fulfil concerning knowledge management in South African organisations?

HRD professionals indicated that in their roles as *assessors and moderators* they are involved with knowledge application, in dealing with mentoring and coaching, learner evaluation and assessment, including demonstrations, and keeping logbooks of performance (cf. 4.3.4). As assessors and moderators, HRD professionals acquire knowledge in the form of training materials, curriculums, assessment procedures, observations, and peer reviews (cf. 4.3.3). This is in line with the literature findings by Meyer *et al*. (2017:247) that HRD assessment is a form of measurement by demonstrations, logbooks, portfolios, practical exercises, questionnaires, roleplays, self, and peer assessments or simulations to determine knowledge application.

As *learning facilitators*, HRD professionals applied the following KM activities: knowledge sharing, knowledge transfer and knowledge acquisition when facilitating learning interventions and classroom training (cf. 4.3.1; 4.4.1). The role of the learning facilitators, sometimes referred to as trainers (Meyer & Sloman, 2014:101), is included as part of the HRD professional's roles (Stuart, cited by Meyer & Sloman, 2014:101; DHET, 2019).

HRD professionals further indicated that they fulfil roles as quality coordinators and compliance managers, training material designers and developers, and skills development facilitators (cf. 4.4.1). As quality coordinators and compliance managers they are involved in knowledge sharing (via platforms such as Sector Education and Training Authority (SETA) and Mining Qualifications Authority (MQA) and knowledge application (producing quality manuals). HRD professionals are also involved in knowledge creation when they review processes, quality improvement cycles, and processes. The DHET (2019) states, in this regard, that quality coordinators and compliance managers are responsible for the monitoring, evaluation, and verification of the quality and effectiveness of training and learning interventions.

HRD professionals are also involved with capturing knowledge in policies and processes. Knowledge sharing and knowledge creation are applied in their roles as training material designers and developers. As skills development facilitators, they share knowledge, and capture

and store (explicit) knowledge. In this regard, the OFO (DHET, 2019) and Kiley and Coetzee (2019:310) indicate that the roles of South African HRD professionals include training, delivering [facilitation], assessment, moderation, coaching, quality coordination, compliance, skills development, and training material design and development. The Association for Skills Development in South Africa (ASDSA) (2021) confirms that the roles of skills development professionals include facilitators assessors, and moderators.

From the findings discussed above, it became evident that HRD professionals apply that KM and KM activities (knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture and knowledge storage) in their roles as assessors, moderators, learning facilitators, quality coordinators, compliance managers, training material designers and developers and skills development facilitators (SDFs) within a South African HRD context (cf. 4.4.1).

It was also observed that there appears to be a disparity between the roles of HRD professionals in practice; that which is indicated in the OFO; and South African training/learning and development textbooks. More specifically, HRD professionals in South Africa perform a wide variety of tasks and fulfil various roles, although knowledge management is not mentioned in the OFO. However, the ATD (2021) includes knowledge management (amongst others) as an essential professional capability for HRD professionals to foster learning, maximise performance, and develop employees' capacity. Therefore, in contrast to the national (South African) OFO and in line with the international ATD, the findings indicated that KM is applied by HRD professionals in their roles in South Africa.

5.3.4 What recommendations do human resource development professionals suggest regarding the application of knowledge management within a human resource development context?

In this section, the recommendations that HRD professionals provided, will be presented to answer the last empirical research question.

HRD professionals recommended that knowledge should be recorded in systems and processes to be retained for easy access. This is in line with the literature by Virkus (2011), The National Academies of Sciences, Engineering and Medicine (2017:2), and KMT (2018e) that holds that knowledge should be captured and recorded for retention and easy access.

Another recommendation that HRD professionals made is that HRD should be situated on strategic level in organisations to drive KM and to add value by not only focussing on the "'bottom line" alone. In this regard, Alagaraja (2013:118) and Gubbins *et al*. (2018:2-3) similarly indicated

the importance of HRD to be situated on strategic level to leverage employee-related abilities, knowledge, and skills.

HRD professionals also recommended that opportunities for knowledge sharing should be created. In this regard, Wilson (2012:7) indicates that HRD professionals are responsible for improving individual, group, and organisational effectiveness by developing the knowledge, skills, and competencies of employees. Therefore, opportunities to share that knowledge and skills in platforms for sharing (training and CoPs) should be created as indicated by Cho *et al*. (2009:264).

HRD professionals, furthermore recommended that people should be rewarded for sharing knowledge. This concurs with the literature (Jacobs & Roodt; Bello & Oyekunle cited by Shabane 2017:160), which contends that knowledge sharing should be rewarded. Govender *et al*. (2018:6) adds that “proper reward systems encourage knowledge exchange”.

HRD professionals confirmed that they believe that HRD should be involved in KM (cf. 4.5.1; 4.5.2) This is in line with literature by McGoldrick *et al*. (2002); Blankenship and Ruona (2009); Cho *et al*. (2009); Mankin (2009); McGuire (2014); Ardichvili (2017); and Caruso (2017) who previously argued that HRD has an important role to play in KM.

HRD professionals added that HRD should be involved, not only in KM, but also in KM activities, namely knowledge sharing (cf. 2.8.1), knowledge transfer (cf. 2.8.2), knowledge acquisition (cf. 2.8.4), and knowledge capture (cf. 2.8.6). Knowledge creation, knowledge acquisition, and knowledge storage might have been omitted in the recommendations as HRD professionals may not know the specific names for the KM activities, although the findings indicated that they also apply the other knowledge management activities, namely knowledge creation, knowledge acquisition, and knowledge storage.

5.4 RECOMMENDATIONS

In this section, the researcher will provide recommendations resulting from the research findings and recommendations for future research.

5.4.1 Recommendations resulting from the findings:

In this section, recommendations applicable to the findings will be provided:

- HRD professionals indicated that they apply KM and related activities, however, they did not identify all the related KM activities by name. As HRD professionals do apply KM and related KM activities, they should be informed of all the KM activities, their meanings, and its use in an HRD context. By being informed and knowledgeable about KM and related

activities, HRD can ensure improved performance and competitive advantage in organisations in South Africa. It is therefore recommended that KM in an HRD context should be included in the Human Resource Development curriculum (cf. 3.5.1).

- It transpired from the findings that HRD professionals fulfil a variety of roles (cf. 4.4.1). However, it was also observed that, the OFO does not classify these roles under the term HRD professionals but as training and development professionals. Therefore, it is recommended that the roles of HRD professionals that transpired from this research inform the OFO as well as South African textbooks, to include their roles as assessors, moderators, learning facilitators, quality coordinators, compliance managers, training material designers and developers, and skills development facilitators. It is further recommended that the roles of HRD professionals are updated in South African textbooks and HRD curricula to include KM activities related to each role.
- An interesting finding was that HRD professionals recommended (cf. 4.6.1) *knowledge capture* (cf. 2.8.6) to be used to retain knowledge in systems and processes for easy access and *knowledge sharing* to make tacit knowledge explicit for innovation and improved performance (cf. 2.8.1). It is recommended that both knowledge capture and knowledge sharing together with the other KM activities (knowledge transfer, knowledge creation, knowledge acquisition, knowledge storage) be incorporated into the HRD curriculum to enhance HRD professionals' knowledge and understanding of KM as it also became evident that KM and associated activities are part of their roles (cf. 4.4.1). Strategies and practices that can be utilised when implementing these KM activities in practice could also be included in the HRD curriculum.
- HRD professionals indicated that they should be situated on strategic level to effectively manage knowledge (cf. 4.5.1). They also indicated that organisations should not only focus on the bottom line, but on the value that training and development (and knowledge) can add. Therefore, practice should take note of the important role that HRD and HRD professionals fulfil regarding KM and associated activities to ensure competitive advantage. Based on this recommendation, it is recommended that HRD should preferably be situated on strategic management level in organisations and their involvement as strategic business partners acknowledged.
- It became evident from the literature that no definition of KM in an HRD context exists. In chapter 1 (cf. 1.10.1) a definition of KM in an HRD context was created for the use of this study. However, from the literature study in chapter 2 it became clear that none of the literature on KM or HRD refers to the term "equip" or "equipping" people with the knowledge that they need to perform optimally. Consequently, it is recommended that KM in an HRD context, should be defined as follows: "*HRD's management of systematic*

processes, equipping people with and nurturing knowledge to create, share, transfer, acquire, apply, capture, and store knowledge on individual, group, and organisational levels to enhance continuous employee and organisational learning and performance that can be used in an HRD context in practice and to inform the HRD curriculum. This definition could be included in HRD textbooks to inform academics and professionals of the tasks and roles that HRD has to fulfil in terms of KM.

- Based on the recommendation made by HRD professionals that HRD should be situated on strategic level of organisations, it is recommended that all HRD professionals equip themselves with the required knowledge to be able to perform on strategic level of their organisations to drive KM. If HRD professionals are not educated to perform on a senior level, such as the strategic level, HRD will not be taken seriously, neither will HRD professionals be able to make a strategic contribution to add value to organisations.

5.4.2 Recommendations for future research

Prior to this study, no studies concerning the application of KM and KM activities in an HRD context had been conducted. Therefore, the following recommendations are made for future research:

- The utilisation of CoPs and types of CoPs by HRD professionals in practice should be further explored with a focus on knowledge sharing and KM.
- The differences between knowledge sharing, knowledge creation, and knowledge transfer within South African HRD practice could be investigated, as HRD professionals seem to use these terms interchangeably.
- As the use of technology is increasing and HRD professionals must deal with training and development online, KM, KM activities and strategies for implementation used in a technological, virtual world could be further explored.
- No prior studies that explored interventions and tools utilised by HRD professionals in the application of various KM activities in a South African context could be found. Therefore, future studies could investigate the use of these tools and interventions in practice.
- HRD professionals indicated that knowledge acquired in the learning process is not always applied in practice. Reasons why knowledge is not applied in South African organisations could be investigated to explore strategies that HRD can utilise to ensure knowledge application.
- In addition to the previous recommendation (regarding reasons why knowledge is not applied), further studies can be conducted to explore appropriate reward systems that HRD can employ to reward knowledge sharing and knowledge application.

- The literature indicates different terms for the same concept (knowledge application), namely knowledge application, learning transfer, and training transfer. Further studies could be conducted to determine the differences (if any) between knowledge application, learning transfer, and training transfer.
- There is a difference between tacit and explicit knowledge, but also between tacit and implicit knowledge. Implicit knowledge was not covered in this study. Future studies could explore the differences between tacit and implicit knowledge.
- The role of organisational culture in applying KM and KM activities for HRD professionals could be further explored,
- HRD professionals recommended that people be rewarded for sharing their knowledge. Therefore, based on this recommendation further studies could be undertaken to determine reasons why people are not sharing knowledge, in addition to appropriate rewards that HRD can employ for sharing knowledge.

5.5 LIMITATIONS OF THIS STUDY

The following aspects had a limiting effect on this study:

- The study was conducted within a South African HRD context only using data from HRD professionals that were enrolled in the only undergraduate HRD programme in South Africa. If more undergraduate HRD degrees were available, more participants who have completed undergraduate HRD degrees at other South African universities could have been included.
- This study was conducted using a qualitative research approach. A mixed method study that included quantitative findings may have strengthened the findings.
- Limited research questions (only four) were asked to obtain data from practice. More questions could have been asked to explore the various strategies and tools used to apply each KM activity, although it would have broadened the study.

5.6 EXPECTED CONTRIBUTION OF THIS STUDY

Jacobs (2017:198) commented that “it is difficult to believe that such a critical issue [knowledge management] in organizations has not yet been fully embraced by HRD”. Subsequently, this study made a theoretically contribution to the HRD literature by contributing to the science of KM and knowledge (cf. 3.1.1) from an HRD perspective. Tome (2012:96) indicted, in this regard, that HR [in particular, HRD] needs to ensure the transfer and leverage of knowledge to assist in achieving their organisations’ goals by [re]defining core competencies, [such as application, creation, and sharing] of knowledge.

This study made a practical contribution by informing both academics and professionals that KM (and its related activities) are indeed a function of HRD as claimed by many HRD scholars and the ATD (professional organisation). The findings of this study indicate that KM and applicable KM activities are indeed applied by HRD professionals. These findings inform practice about the role that HRD professionals have to fulfil concerning KM.

The lack of empirical studies on KM within an HRD context, was also identified as a gap in the body of scholarship (cf. 1.4). Therefore, this study also made an empirical contribution as empirical (qualitative) research was conducted.

HRD as an applied field and emerging academic discipline is in dire need of research to inform both theory and practice (Ross *et al*., 2019:1-2). Therefore, the findings from this study (research on HRD practice from HRD professionals' perspectives) informed HRD theory, and simultaneously the practice and HRD as an academic discipline, thereby completing the theory-practice-development cycle alluded to by Swanson and Holton (1997:4; 2001:65-66), and more recently also by Ross *et al*. (2019:1-2).

5.7 FINAL CONCLUSION

From this study, it became evident that both KM and HRD evolved in parallel over the past three decades and that both deal with knowledge and learning, and both envision the improvement of performance to gain competitive advantage. Therefore, there is a clear link between KM and HRD. HRD professionals mostly understood KM in line with the literature. Based on this data collected from HRD professionals, and by exploring the literature, a definition for KM within an HRD context was created (as none existed). HRD professionals further indicated that they apply KM activities in practice, although it appeared that they were not sure of the correct terminology and meanings of the KM activities. What is interesting is that the findings of this study shed light on the roles that South African HRD professionals fulfil concerning KM, however, no previous literature exists that directly links all the KM activities to HRD, as in this study. Finally, HRD professionals made recommendations that knowledge must be captured for future use and that people should be rewarded for sharing knowledge. HRD professionals further recommended that HRD should be situated on strategic level to drive KM. HRD professionals confirmed that they belief that HRD should be involved in KM.

Therefore, in line with the definitions for KM in an HRD context developed for this study, the findings confirmed that the role of HRD in KM is to equip people with knowledge by applying KM activities, such as knowledge sharing, knowledge transfer, knowledge creation, knowledge acquisition, knowledge application, knowledge capture and knowledge storage (cf. 1.4). This is achieved through the involvement of HRD professionals in various roles such as assessors,

moderators, learning facilitators, quality coordinators, compliance managers, training material designers and developers, and skills development facilitators.

5.8 SUMMARY

In this final chapter a summary of all the chapters was provided. Thereafter the findings that resulted from this study were discussed and corroborated by the literature, where applicable. Based on the findings of this study, recommendations that could be applied in HRD practice were briefly discussed. Recommendations for future research were also provided. The findings confirmed that HRD and HRD professionals indeed apply knowledge management and associated activities in their various roles within a South African HRD context.

REFERENCE LIST

Aggestam, L., Durst, S. & Persson, A. 2014. Critical success factors in capturing knowledge for retention in IT-supported repositories. *Information*, 5:558-569. doi:10.3390/info5040558

Ahmed, G., Ragsdell, G. & Olphert, W. 2014. Knowledge sharing in project teams: a research model underpinned by action learning. In: Rooney, J. & Murthy, V., eds. *Conference proceedings*. Proceedings of the 11th International Conference on Intellectual Capital, Knowledge Management and Organisational Learning (ICICKM, 2014), 6-7 November, Sydney: Australia. pp. 455-464.

Akdere, M. 2009. The role of knowledge management in quality management practices: achieving performance excellence in organizations. *Advances in Developing Human Resources*, 11(3):349-361. doi:10.1177/1523422309338575

Alagaraja, M. 2012. HRD and HRM: perspectives on organizational performance: a review of the literature. *Human Resource Development Review*, 12(2):117-143. doi:10.1177/1534484312450868

Alavi, M. & Leidner, D.E. 1999. Knowledge management systems: issues, challenges, and benefits. *Communications of the Association for Information Systems*, 1(7):1-37. doi: 10.17705/1CAIS.00107

Alavi, M. & Denford, J. 2011. Knowledge management: process, practice, and Web 2.0. In: Easterby-Smith, M. & Lyles, M.A., eds. *Handbook of organizational learning and knowledge management*. 2nd ed. West Sussex, UK: Wiley. pp. 105-124.

Alavi, M. & Leidner, D.E. 2001. Review: knowledge management and knowledge management systems: conceptual foundations and research issues. *Management Information Systems (MIS) quarterly*, 25(1):107-136. doi:10.2307/3250961

Alexander, R. 2018, 16 January. *Different types of knowledge: implicit, tacit and explicit* [Blog post]. https://bloomfire.com/blog/implicit-tacit-explicit-knowledge/ Date of access: 11 Jun. 2021.

Aliaga, O.A. 2000. Knowledge management and strategic planning. *Advances in Developing Human Resources*, 2(1):91-104. doi:10.1177/152342230000200108

Aljuwaiber, A. 2021. Technology-based vs. face-to-face interaction for knowledge sharing in project teams. *International Journal of Project Organisation and Management*, 11(3):227-242. doi:10.1504/IJPOM.2019.10024599

Allais, S. 2012. Will skills save us? Rethinking the relationship between vocational education, skills development policies, and social policy in South Africa. *International Journal of Educational Development*, 32(2):632-642. doi:10.1016/j.ijedudev.2012.01.001

Anastasiou, M. 2017. Exploring theory application in management research: the knowledge-based theory of the firm. *The Larnaca College Review,* 1(1):13-24.

Anderson, V., Fontinha, R. & Robson, F. 2020. *Research methods in human resource management: investigating a business issue*. 4th ed. London: CIPD.

Appelbaum, S.H. & Gallagher, J. 2000. The competitive advantage of organizational learning. *Journal of Workplace Learning*, 12(2):40-56. doi:10.1108/136656200010316000

Ardichvili, A. 2002. Knowledge management, human resource development, and internet technology. *Advances in Developing Human Resources*, 4(4):451-463. doi:10.1177/152342202237522

Ardichvili, A. 2008. Learning and knowledge sharing in virtual communities of practice: motivators, barriers and enablers. *Advances in Developing Human Resources*, 10(4):541-554. doi:10.1177/1523422308319536

Ardichvili, A., Page, V. & Wentling, T. 2003. Motivation and barriers to participation in virtual knowledge-sharing communities of practice. *Journal of Knowledge Management*, 7(1):64-77. doi:10.1108/13673270310463626

Ardichvili, A. & Yoon, S.W. 2009. Designing integrative knowledge management systems: theoretical considerations and practical applications. *Advances in Developing Human Resources*, 11(3):307-319. doi:1177/1523422309337593

Ardichvili, A. 2017. IHRD and managing knowledge. In: Garavan, T., McCarthy, A. & Carbery, R., eds. *Handbook of international human resource development, context, processes and people*. Cheltenham: Edward Elgar Publishing Limited. pp. 194-210.

Armstrong, P. 2010. *Bloom's taxonomy*. https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/ Date of access: 14 Apr. 2021.

ASDSA (Association for Skills Development in South Africa). 2021. *Skills development*. http://www.asdsa.org.za/about/ Date of access: 01 Nov. 2021.

ATD (Association for Talent Development). 2021a. *Capability model*. https://tdcapability.org/#/personal/emotional-intelligence-decision-making Date of access: 8 May 2021.

ATD (Association for Talent Development). 2021b. *Talent Development Capability model*. https://capability.td.org/#/ Date of access: 31 Jul. 2021.

Babbie, E. 2010. *The practice of social research*. 12th ed. Belmont, CA: Wadsworth Cengage learning.

Baguma, S. 2016. *Knowledge retention in national agricultural research organisations: the case of Uganda*. England: Loughborough University. (Thesis – PhD).

Baloh, P., Desouza, K.C. & Paquette, S. 2011. The concept of knowledge. In*:* Desouza, K.C. & Paquette, S. eds. *Knowledge management: an introduction*. NY: Neal-Schuman Publishers, Inc. pp 35-71.

Barker, R. 2014. Management of knowledge creation and sharing to create virtual knowledge-sharing communities: a tracking study. *Journal of Knowledge Management*, 19(2):334-350. doi:10.1108/JKM-06-2014-0229

Barney, J.B., Della Corte., V., Sciarelli, M. & Arikan, A. 2012. The role of resource-based theory in strategic management studies: managerial implications and hints for research. In: Dagnino, G.B., ed. *Handbook of research on competitive strategy*. Cheltenham: Edward Elgar Publishing Limited. pp. 109-146.

Basten, D. & Haamann, T. 2018. Approaches for organizational learning: a literature review. *SAGE Open*, Jul.-Sept:1-20. doi:10.1177/2158244018794224

Becerra-Fernandez, I. & Sabherwal, R. 2015. *Knowledge management: systems and processes*. 2nd ed. New York, NY: Routledge.

Bennett, E.E. 2009. Virtual HRD: the intersection of knowledge management, culture, and intranets. *Advances in Developing Human Resources*, 11(3):362-374. doi:10.1177/1523422309339724

Berends, H., Van der Bij, H., Debackere, K. & Weggeman, M. 2006. Knowledge sharing mechanisms in industrial research. *R&D Management*, 36(1):85-95. doi:10.1111/j.1467-9310.2005.00417.x

Beyerlein, M., Collins, R., Jeong, S., Phillips, C., Sunalai, S. & Xie, L. 2017. Knowledge sharing and human resource development in innovative organizations. In: Mohiuddin, M, ed. *Knowledge management strategies and applications*. Croatia: InTech. pp. 25-45.

Bizon, W. & Lubińska, N. 2018. Development of knowledge in the pre-industrial era – a historical perspective. Paper delivered at the 10th Jubilee Scientific Conference – InfoGlob. *SHS Web of Conferences*, 57, art. #01005. doi:10.1051/shsconf/20185701005

Blaikie, N. & Priest, J. 2019. *Designing social research: the logic of anticipation*. 3rd ed. Cambridge, UK: Wiley.

Blankenship, S.S. & Ruona, W.E.A. 2009. Exploring knowledge sharing in social structures: potential contributions to an overall knowledge management strategy. *Advances in Developing Human Resources,* 11(3):290-306. doi:10.1177/152322309338578

Blankley, W.O. & Booyens, I. 2010. Building a knowledge economy in South Africa. *South African Journal of Science,* 106(11/12):1-6. doi:10.4102/sajs.v106i11/12.373

Bliss, L. 2016. Phenomenological research: inquiry to understand the meanings of people's experiences. *International Journal of Adult Vocational Education and Technology,* 7(3):14-26. doi:10.4018/IJAVET.2016070102

Bolisani, E. & Bratianu, C. 2018. *Emergent knowledge strategies: strategic thinking in knowledge management*. Available from Springer eBook Collection: https://doi-org.nwulib.nwu.ac.za/10.1007/978-3-319-60657-6 Date of access: 20 Aug. 2021.

Bolisani, E., Padova, A. & Scarso, E. 2020. The continuous recombination of codification and personalisation KM strategies: a longitudinal study. *Electronic Journal of Knowledge Management*, 18(2):185-195. doi:j10.34190/EJKM.18.02.008

Boreum, J.J. 2018. The roles of the psychology, systems and economic theories in human resource development. *Electronic Journal of Training and Development*, 43(1/2):132-152. doi:10.1108/EJTD-02-2018-0020

Botha, D.F. 2005. Towards an instrument for surveying knowledge management practices. *SA Journal of Business Management*, 36(1):1-6. doi:10.4102/sajbm.v36i1.615

Botha, D.F. & Fouchè, B. 2002. Knowledge management practices in the South African business sector: preliminary findings of a longitudinal study. *Journal of Business management*, 33(2):13-19. doi:10.4102/sajbm.v33i2.698

Botha A., Kourie, D. & Snyman, R. 2008. *Coping with continuous change in the business environment: knowledge management and knowledge management technology*. Witney, Oxford: Chandos Publishing Limited.

Botha, J.A. & Coetzee, M. 2019. The psychology of learning, employee motivation and performance. In: Coetzee, M., ed. *Practising learning and development in South African organisations*. 3rd ed. Juta: Cape Town. pp. 99-137.

Brelade, S. & Harman, C. 2006. *A practical guide to knowledge management*. London: Thorogood.

Briner, R. 2016, 23 Aug. Knowledge sharing canvas: feedback. https://medium.com/ks-c/feedback-c69ea886a8ab Date of access: 27 Jul. 2021.

Brix, J. 2017. Exploring knowledge creation processes as a source of organizational learning: a longitudinal case study of a public innovation project. *Scandinavian Journal of Management*, 33:113-127. doi:10.1016/j.scaman.2017.05.001

Buckley, P. & Majumdar, R. 2018. *The services powerhouse: increasingly vital to world economic growth*. https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/trade-in-services-economy-growth.html Date of access: 01 Jun. 2021.

Burke, L.A. & Hutchins, H.M. 2007. Training transfer: an integrative literature review. *Human Resource Development Review*, 6(3):263-296. doi:10.1177/1534484307303035

Burrell, G. & Morgan, G. 1979. *Sociological paradigms and organisational analysis: elements of the sociology of corporate life*. Burlington: Ashgate.

Carbery, R. 2015. Introduction to HRD. In: Carbery, R. & Cross, C., eds. *Human resource development: a concise introduction*. London: Palgrave. pp. 1-28.

Career One Stop. 2021. *Fastest-growing industries*. https://www.careeronestop.org/Toolkit/Industry/fastest-growing-industries.aspx Date of access: 20 Jul. 2021.

Caroline, K.S., Mugun, B.J. & Loice, M. 2015. Knowledge storage, retrieval and employee performance: the moderating role of employee engagement. *International Journal of Small Business and Entrepreneurship Research*, 3(6):1-13.

Caruso, S.J. 2017. A foundation for understanding knowledge sharing: organizational culture, informal workplace learning, performance support, and knowledge management. *Contemporary Issues in Education Research,* 10(1):45-52. doi:10.19030/cier.v10i19879

CFI (Corporate Finance Institute). 2021a. *Competitive advantage*. https://corporatefinanceinstitute.com/resources/knowledge/strategy/competitive-advantage/ Date of access: 11 Oct. 2021.

CFI (Corporate Finance Institute). 2021b. *Knowledge economy*. https://corporatefinanceinstitute.com/resources/knowledge/other/knowledge-economy/ Date of access: 28 May 2021.

Chagada, J. & Ngulube, P. 2015. Knowledge-management practices at selected banks in South Africa. *SA Journal of Information Management,* 17(1):1-10. doi:10.4102/sajim.v17i1.634

Chan, R.C.H., Chu, S.K.W., Lee, C.W.Y., Chan, B.K.T. & Leung, C.K. 2013. Knowledge management using social media: a comparative study between blogs and Facebook. *Proceedings of the American Society for Information Science and Technology*, 50(1):1-9. doi:10.1002/meet.14505001069

Chandavimol, P., Natakuatoong, O. & Tantrarungroj, P. 2013. Knowledge management and action learning in blended training activities. *Creative Education*, 4(9):51-55. doi: 10.4236/ce.2013.49B010

Charband, Y. & Navimipour, N.J. 2018. Knowledge sharing mechanisms in the education. A systematic review of the state of the art literature and recommendations for further research. *Kybernetes*, 47(7):1456-1490. doi:10.1108/K-06-2017-0227

Cho, Y., Cho, E. & McLean, G. 2009. HRD's role in knowledge management. *Advances in Developing Human Resources*, 11(3):263-272. doi:10.1177/1523422309337719

Choo, C.W. 2001. The knowing organization as learning organization. *Education + Training*, 43(4/5):197-205. https://doi.org/10.1108/EUM0000000005482

Choi, H.J., Ahn, J.C., Jung, S.H. & Kim, J.H. 2019. Communities of practice and knowledge management systems: effects on knowledge management activities and innovation performance. *Knowledge Management Research & Practice*, 18(1):53-68. doi:10.1080/14778238.2019.1598578

CIPD (Chartered Institute of Personnel and Development). 2017. *Human capital theory: assessing the evidence for the value and importance of people to organisational success, technical report (May)*. https://www.cipd.co.uk › Images › human-capital. https://www.cipd.co.uk/Images/human-capital-theory-assessing-the-evidence_tcm18-22292.pdf Date of access: 1 Jun. 2021.

Coetzee, M. & Botha, J.A. 2019. Managing learning and development in the workplace. In: Coetzee, M., ed. *Practising learning and development in South African organisations*. 3rd ed. Juta: Cape Town. pp. 113-128.

Coetzee, M. & Truman, K. 2019. The South African learning and development landscape. In: Coetzee, M., ed. *Practising learning and development in South African organisations*. 3rd ed. Juta: Cape Town. pp. 2-98.

Collins, H. 2010. *Tacit and explicit knowledge*. Chicago, IL. The University of Chicago.

Conley, C.A. & Zheng, W. 2009. Factors critical to knowledge management success. *Advances in Developing Human Resources*, 11(3):334-348. doi:10.1177/1523422309338159

Córdova, F.M. & Gutiérrez, F.A. 2018. Knowledge management system in service companies. *Procedia*, 139:392-400. doi:10.1016/j.procs.2018.10.275

Creswell, J.W. & Creswell, J.D. 2018. *Research design: qualitative, quantitative & mixed methods design*. 5th ed. Thousand Oaks, CA: Sage.

Creswell, J.W. & Poth, C.N. 2018. *Qualitative inquiry and research design: choosing among five approaches*. 4th ed. Thousand Oaks, CA: Sage.

Cristea, D.S. & Căpaţînă, A. 2009. Perspectives on knowledge management models. *Economics and Applied Informatics*, 2:355-366.

Curtis, M.B. & Taylor, E.Z. 2018. Developmental mentoring, affective organizational commitment, and knowledge sharing in public accounting firms. *Journal of Knowledge Management*, 22(1):142-161. doi:10.1108/JKM-03-2017-0097

Cypress, B.S. 2017. Rigor or reliability and validity in qualitative research: perspectives, strategies, reconceptualization, and recommendations. *Dimensions of Critical Care Nursing*, 36(4):253-263. doi:10.1097/DCC0000000000000253

Dalkir, K. 2017. *Knowledge management in theory and practice*. 3rd ed. Cambridge, MA: MIT Press.

Darling, K. 2014. Learning as knowledge creation: learning for, and from all. *Education in the North*, 21:21-37.

Darroch, J. & McNaughton, R. 2002. Examining the link between knowledge management practices and types of innovation. *Journal of Intellectual Capital*, 3(3):210-222. doi:10.1108/14691930210435570

De Alvarenga Neto, R.C.D., Souza, R.R., Queiroz, J.G. & Chipp, H. 2009. Knowledge management implementation: a process design proposition at Brazil's ONS (National Operator of the Interconnected Power System). *Electronic Journal of Knowledge Management*, 7(5):593-604.

Buckley, P. & Majumdar, R. 2018. 2018. *The services powerhouse: increasingly vital to world economic growth*. https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/trade-in-services-economy-growth.html Date of access: 01 Jun. 2021.

Desouza, K.C. 2011. An introduction to knowledge management. In: Desouza, K.C. & Paquette, S. eds. *Knowledge management: an introduction*. NY: Neal-Schuman Publishers, Inc. pp. 3-32.

Dewah, R. 2014. A survey of information and communication technologies as enablers of knowledge capture and retention in three South Africa Development Community (SADC) public broadcasting corporations. *SA Journal of Libraries and Information Science*, 80(1):8-17. doi:10.7553/80-1-179

Dewhurst, M., Hancock, B. & Ellsworth, D. 2013. Redesigning knowledge work. *Harvard Business Review,* Jan-Feb. https://hbr.org/2013/01/redesigning-knowledge-work Date of access: 25 Aug. 2021.

DHET (Department of Higher Education and Training). 2013. *OFO guidelines*. https://www.dhet.gov.za/Publications/OFO%20Guideline%20-%202013.pdf Date of access: 15 May 2021.

DHET (Department of Higher Education and Training). 2019. *OFO Version 2017*. https://www.dhet.gov.za/SitePages/SkillsDevelopmentNew.aspx Date of access: 01 Jun. 2020.

DHET (Department of Higher Education and Training). 2019. *National Skills Development Plan (NSDP) 2030*. https://www.gov.za/sites/default/files/gcis_document/201903/ 42290gon375.pdf Date of access: 8 May 2021.

Dickson, D., Noveski, I. & Hamidi, H. 2011. HRD domain in the service science discipline: developing interdisciplinary professionals. *Journal of European Industrial Training*, 35(6):540-557. doi:10.1108/03090591111150086

Dixon, N. 2009, 2 May. Re: *Where knowledge management has been and where it is going – part one* [Blog]. https://www.nancydixonblog.com/2009/05/ where-knowledge-management-has-been-and-where-it-is-going-part-one.html Date of access: 7 Apr. 2021.

Dixon, N. 2018. The three eras of knowledge management. In: Girard, J.P. & Girard, J.L., eds. *Knowledge management matters: words of wisdom form leading practitioners.* Macon, GA: Sagology. pp. 19-47.

Dowling-Hetherington, L. 2015. Individual-level learning. In: Carbery, R. & Cross, C., eds. *Human resource development: a concise introduction.* London: Palgrave Macmillan. pp. 63-83.

Downe, A.G. & Loke, S.P. 2008. *The agenda for the new service workforce: attract, engage and retain young professionals in today's booming services market*. *A manpower Malaysia White Paper*. https://candidate.manpower.com/wps/wcm/connect/d766e8004ec2f3b0b12af1ee16aecd97/The+Agenda+for+the+New+Service+Workforce.pdf?MOD=AJPERES Date of access: 11 Jul. 2019.

DST (Department of Science and Technology). 2008. *Ten-year plan for science and technology – Green Fund.* https://www.sagreenfund.org.za/wordpress/wp-content/uploads/2015/04/10-Year-Innovation-Plan.pdf Date of access: 28 May 2021.

Dunn, R. 2021. *The three sociological paradigms and perspectives*. https://socialsci.libretexts.org/Bookshelves/Sociology/Book%3A_Minority_Studies_(Dunn)/08%3A_The_Three_Sociological_Paradigms/8.01%3A_The_Three_Sociological_Paradigms_and_Perspectives Date of access: 13 Apr. 2021.

Du Plessis, M. 2007a. Knowledge management: what makes complex implementations successful? *Journal of Knowledge Management*, 11(2):91-101. doi:10.1108/13673270710738942

Du Plessis, M. 2007b. The role of knowledge management in innovation. *Journal of Knowledge Management*, 11(4):20-29. doi:10.1108/13673270710762684

Du Plessis, T. & Du Toit, A.S.A. 2005. Survey of information and knowledge management in South African law firms. *South African Journal of Information Management*, 7(1):1-13. doi:10.4102/sajim.v7i1.252

Edwards, H. 2021. Skills development in practice [Personal interview]. 9 Aug., Potchefstroom.

Elcom. 2012, 6 June. *Content management glossary*. [Blog post]. https://www.elcom.com.au/resources/blog/glossary#knowledge-management Date of access: 8 May 2021.

El-Den, J. & Sriratanaviriyakul, N. 2019. The role of opinions and ideas as types of tacit knowledge. *Procedia Computer Science*, 161:23-31. doi:10.1016/j.procs.2019.11.095

Elezi, E. & Bamber, C. 2018. Understanding the role of knowledge management in higher education partnerships through experts. *Proceedings of the European Conference on Knowledge*

Management, ECKM, 1:225-234. https://www-scopus-com.nwulib.nwu.ac.za/record/display.uri?eid=2-s2.0-85055542443&origin=inward&txGid=d484628ca388ddcde7fa947aa85ca179 Date of access: 11 Jun. 2021.

Employment Equity Act 55 of 1998.

Erasmus, B., Loedolf, J., Du Plessis, M., Mda, T. & Nel, P. 2019. *Managing training and development*. 8th ed. Cape Town: Oxford University Press.

Etikan, I., Musa, S.A. & Alkassim, R.S. 2016. Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1):1-4. doi:10.11648/j.ajtas.20160501.11

Evans, M.M., Dalkir, K. & Bidian, C. 2014. Holistic view of the knowledge life cycle: the knowledge management cycle (KMC) model. *Electronic Journal of Knowledge Management,* 12(2):85-97.

Fagan, S. 2017. *Trainees' perceptions on supervisor factors that influence transfer of training*. Minneapolis, MN: Walden University (Dissertation – PhD). https://www.proquest.com/docview/2002064512?accountid=12865 Date of access: 30 Oct. 2021.

Faherty, V. 2010. *Wordcraft: applied qualitative data analysis (QDA): tools for public and voluntary social services*. Thousand Oaks, CA: Sage.

Farnese, M.L., Barieri, B., Chirumbolo, A. & Patriotta, G. 2019. Managing knowledge in organizations: a Nonaka's SECI model operationalization. *Frontiers in Psychology*, 10:2730. doi:10.3389/fpsyg.2019.02730

Finestone, N. & Snyman, R. 2005. Corporate South Africa: making multicultural knowledge sharing work. *Journal of Knowledge Management*, 9(3):128-141. doi:10.1108/13673270510602827

Fombad, M.C. & Onyancha, O.B. 2017. Knowledge management for development: rethinking the trends of knowledge management research in South Africa. *Journal of Information & Knowledge Management*, 16(3), e1750021. doi: 10.1142/S0219649217500216

Forbes. 2018. *The skills you need to succeed in 2020*. https://www.forbes.com/sites/ellevate/2018/08/06/the-skills-you-need-to-succeed-in-2020/?sh=12f2ffc6288a Date of access: 01 Jun. 2021.

Forbes Coaches Council. 2018. *Put it into practice: 14 actionable ways to implement your learning*. https://www.forbes.com/sites/forbescoachescouncil/2018/01/16/put-it-into-practice-14-actionable-ways-to-implement-your-learning/?sh=999f4e065ed8 Date of access: 30 Oct. 2021.

Fouché, C.B. & Chubb, L.A. 2021. Research dissemination and impact. In: Fouché, CB, Strydom, H. & Roestenburg, W.J.H*. Research at grass roots.* 5th ed. Pretoria: Van Schaik. pp. 137-154.

Fricke, M. 2018. The knowledge pyramid: the DIKW hierarchy. *Knowledge Organization*, 46(1):33-46. doi:10.5771/0943-7444-2019-1-33

Fullwood, R. & Rowley, J. 2021. The role of knowledge sharing in volunteer learning and development. *Nonprofit Management and Leadership*, 32(1):121-139. doi:10.1002/nml.21466

Gaffoor, S. & Cloete, F. 2010. Knowledge management in local government: the case of Stellenbosch municipality. *SA Journal of Information Management*, 12(1), art. #422. doi:10.4102/sajim.v12i1.422

Galdas, P. 2017. Revisiting bias in qualitative research: reflections on its relationship with funding and impact. *International Journal of Qualitative Methods*, 16:1-2. doi:10.1177/1609406917748992

Galeazzo, A. & Furlan, A. 2019. Good problem solvers? Leveraging knowledge sharing mechanisms and management support. *Journal of Knowledge Management*, 23(6):1017-1038. doi:10.1108/JKM-05-2018-0290

Galleli, B., Fischer, A.L., Marques, M.F., Melo, M. & Pilli, L.E. 2018. The linkage between individual, group and organizational learning at a hospital. *Revista de Administração da Universidade Federal de Santa Maria*, 11(5):1198-1221. doi:10.5902/ 19834659 17672

Gangeswari, T., Rasdi, R.M., Samah, A. & Ismail, M. 2016. Knowledge sharing is knowledge transfer: a misconception in the literature. *Journal of Knowledge Management*, 20(4):653-670. doi:10.1108/JKM-11-2015-0427

Gao, T., Chai, Y. & Liu, Y. 2018. A review of knowledge management about theoretical conception and designing approaches. *International Journal of Crowd Science*, 2(1):42-51. doi:10.1108/IJCS-08-2017-0023

Garavan, T., McCarthy, A. & Carbery, R. 2017. International HRD: context, processes and people – introduction. In: Garavan, T., McCarthy, A. & Carbery, R., eds. *Handbook of international human resource development, context, processes and people*. Cheltenham: Edward Elgar Publishing Limited. pp. 194-210.

Gautam, A. 2020. *Future of workplace learning and development: thriving in 2021 and beyond*. https://elearningindustry.com/future-workplace-learning-and-development-thriving-2021-beyond-trends Date of access: 01 Jun. 2021.

Geyer, L.S. 2021. Interviews as data collection method. In: Fouché, C.B., Strydom, H. & Roestenburg, W.J.H., eds. *Research at grass roots*. Pretoria: Van Schaik. pp. 355-378.

Ghosh, R., Kim, M., Kim, S. & Callahan, J.L. 2013. Examining the dominant, emerging, and waning themes featured in select HRD publications: is it time to redefine HRD? *European Journal of Training and Development*, 38(4):302-322. doi:10.1108/EJTD-02-2013-0012

Girard, J. & Girard, J. 2015. Defining knowledge management: toward an applied compendium. *Online Journal of Applied Knowledge Management*, 3(1):1-20.

Gosney, M. & Hughes, C. 2016a. Human resource development as a knowledge-management system: the importance of bridging the scholar-practitioner gap. In: Hughes, C., ed. *Bridging the scholar-practitioner gap in human resource development*. Hershey: IGI Global. pp. 1-19.

Govender, L.N., Perumal, R. & Perumal, S. 2018. Knowledge management as a strategic tool for human resource management at higher education institutions. *SA Journal of Information Management*, 20(1), a966. doi:10.4102/sajim.v20i1.966

Gourlay, S. 2000. *Frameworks for knowledge: a contribution towards conceptual clarity for knowledge management*. Paper delivered at the Knowledge management: concepts and controversies Conference, BPRC, Warwick University, 10-11 February 2000. https://eprints.kingston.ac.uk/id/eprint/3221/1/Gourlay%202000%20Frameworks.pdf Date of access: 23 Nov. 2021

Gourlay, S. 2001. Knowledge management and HRD. *Human Resource Development International*, 4(1):27-46. doi:10.1080/13678860121778

Grant, R.M. 1996. Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17:109-122.

Grant, R. 2018. Knowledge management theories. In: Augier, M. & Teece, D., eds. *The Palgrave encyclopedia of strategic management*. London: Palgrave Macmillan: pp. 839-842. doi:10.1057/978-1-137-00772-8

Gray, P.H. 2001. The impact of knowledge repositories on power and control in the workplace. *Information Technology & People*, 14(4):368-384. doi:10.1108/09593840110411167

Gubbins, C., Harney, B., Van der Werff, L. & Rousseau, D.M. 2018. Enhancing the trustworthiness and credibility of HRD: evidence-based management to the rescue? *Human Resource Development Quarterly*, 29(3):193-202. doi:10.1002/hrdq.21313

Gubbins, C. & Dooley, L. 2021. Delineating the tacit knowledge-seeking phase of knowledge sharing: the influence of relational social capital components. *Human Resource Development Quarterly*, 32(3):319-348. doi:10.1002/hrdq.21423

Hackbarth, G. & Grover, V. 1999. The knowledge repository: organizational memory information systems. *Information Systems Management*, 16(3):21-30. doi:10.1201/1078/43197

Hamlin, B. & Stewart, J. 2010. What is HRD? A definitional review and synthesis of HRD domain. *Journal of European Industrial Training*, 35(3):199-220. doi: 10.1108/03090591111120377

Han, S.H., Chae, C., Han, S.J. & Yoon, S.W. 2017. Conceptual organization and identity of HRD: analyses of evolving definitions, influence, and connections. *Human Resource Development Review*, 16(3):294-319. doi:10.1177/1534484317719822

Hansen, M.T., Nohria, N. & Tierney, T. 1999. “What’s your strategy for managing knowledge?” *Harvard Business Review*, 77(2):106-116.

He, P. 2014. Counter cyber attacks by semantic networks. In: Akhgar, B. & Arabnia, H.R., eds. *Emerging trends in ICT security*. Waltham, MA: Elsevier. pp. 455-467. Heale, R. & Forbes, D.

2013. Understanding triangulation in research. *Evidence-based Nursing*, 16(4):98. doi:10.1136/eb-2013-101494

Helms, R., Cranefield, J. & Van Reijsen, J. 2017. Social media and knowledge management: a perfect couple. In: Helms, R., Cranefield, J. & Van Reijsen, J. eds. *Social knowledge management in action: applications and challenges*. Cham, Switzerland: Springer. pp. 1-13.

Hislop, D., Bosua, R. & Helms, R. 2018. *Knowledge management in organizations: a critical introduction*. 4th ed. Oxford: Oxford University Press.

Hornsby, A.S., Deuter, M., Bradbery, J. & Turnbull, J., eds. 2015. *Oxford advanced learner's dictionary of current English*. Oxford, UK: Oxford University Press.

Hoque, M.E. 2017. Three domains of learning: cognitive, affective and psychomotor. *The Journal of EFL Education and Research, 2(2):45-52.*

Hou Hong Ng, A., Yip, M.W., Din, S.B. & Abu Baker, N. 2012. Integrated knowledge management strategy: a preliminary literature review. *Procedia – Social and Behavioral Sciences*, 57:209-214. doi:10.1016/j.sbspro.2012.09.1176

HR Vision. 2021. *10 Job skills you'll need in 2020 and beyond*. https://www.hrvisionevent.com/content-hub/10-job-skills-youll-need-in-2020-and-beyond/ Date of access: 01 Jun 2021.

Hua, Z. 2016. Identifying research paradigms. In: Hua, Z., ed. *Research methods in intercultural communication: a practical guide*. West Sussex, UK: Wiley. pp. xxii-xliii.

Huang, J.L., Blume, B.D., Ford, J.K. & Baldwin, T.T. 2015. A tale of two transfers: disentangling maximum and typical transfer and their respective predictors. *Journal of Business and Psychology*, 30(4): 709-732.

IGI (Global). 2021a. Knowledge application. https://www.igi-global.com/dictionary/eservice-learning/35298 Date of access: 22 May 2021.

IGI (Global). 2021b. Knowledge extraction. https://www.igi-global.com/dictionary/knowledge-discovery/16314 Date of access: 10 Jun. 2021.

IGI (Global). 2021c. *Knowledge generation*. https://www.igi-global.com/dictionary/customers-as-external-sources-of-knowledge-to-foster-innovation/45440 Date of access: 22 May 2021.

IGI (Global). 2021d. *Knowledge leverage.* https://www.igi-global.com/dictionary/knowledge-management-organizational-strategy/36268 Date of access: 10 Jun. 2021.

IGI (Global). 2021e. *Knowledge mapping.* https://www.igi-global.com/dictionary/the-tacit-knowledge-and-the-knowledge-management-processes/16402 Date of access: 10 Jun. 2021.

IGI (Global). 2021f. *What is knowledge transfer?* https://www.igi-global.com/dictionary/transnational-knowledge-transfer/16477 Date of access: 13 May 2021.

Ipe, M. 2003. Knowledge sharing in organizations: a conceptual framework. *Human Resource Development Review,* 2(4):337-359. doi:10.1177/1534484303257985

Jacobs, R.L. 2014. Systems theory and HRD. In: Chalofsky, N.E., Rocco, T.S. & Morris, M.L., eds. *Handbook of human resource development.* Hoboken, NJ: Wiley. pp. 21-39.

Jacobs, R.L. 2017. Knowledge work and human resource development. *Human Resource Development Review,* 16(2):176-202. doi:10.1177/1534484317704293

Jasinskas, E., Svagzdiene, B. & Simanavicius, A. 2015. The influence of knowledge management on the competitive ability of Lithuanian enterprises. *Procedia – Social and Behavioral Sciences,* 191:2469-2475. doi:10.1016/j.sbspro.2015.04.305

Jelavic, M. & Ogilvie, K. 2010. Knowledge management views in Eastern and Western cultures: an integrative analysis. *Journal of Knowledge Globalization*, 3(2):51-69.

Johannessen, J.A. 2019. *The emergence of the fourth industrial revolution: an historical introduction to knowledge management and the innovation economy*. Bingley, UK: Emerald.

Johnson, B. & Christensen, L. 2012. *Educational research.* 4th ed. Los Angeles, CA: Sage.

Jørgensen, K.M. & Keller, H.D. 2008. The contribution of communities of practice to human resource development: learning as negotiating identity. *Advances in Developing Human Resources,* 10(4):525-540. doi:10.1177/1523422308320374

Ju, B. 2018. The roles of psychology, systems and economic theories in human resource development. *European Journal of Training and Development*, 43(1/2):132-152. doi:10.1108/EJTD-02-2018-0020

Kaba, A. & Ramaiah, C.K. 2019. Measuring knowledge acquisition and knowledge creation: a review of the literature. *Library Philosophy and Practice*, art # 4723.

Karacay, G. 2018. Talent development for industry 4.0. In: Ustundag, A. & Cevikcan, E., eds. *Industry 4.0: managing the digital transformation*. Cham, Switzerland: Springer. pp. 123-136.

Kiley, J. & Coetzee, M. 2019. Delivering learning and development interventions. In: Coetzee, M., ed. *Practising learning and development in South African organisations*. 3rd ed. Juta: Cape Town. pp. 296-349.

Kivunja, C. & Kuyini, A.B. 2017. Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, 6(5):26-41. doi: 10.5430/ijhe.v6n5p26

KMT (Knowledge Management Tools). 2018a. *Introducing organizational knowledge*. http://www.knowledge-management-tools.net/introducing-organizational-knowledge.html Date of access: 7 Nov. 2019.

KMT (Knowledge Management Tools). 2018b. *Knowledge acquisition*. https://www.knowledge-management-tools.net/knowledge-acquisition.php Date of access: 28 Dec. 2019.

KMT (Knowledge Management Tools). 2018c. *Knowledge creation*. https://www.knowledge-management-tools.net/knowledge-creation.php Date of access: 28 Jul. 2021.

KMT (Knowledge Management Tools). 2018d. *Knowledge discovery*. http://www.knowledge-management-tools.net/knowledge-discovery-and-detection.php Date of access: 19 May 2021.

KMT (Knowledge Management Tools). 2018e. *Organisational memory.* https://www.knowledge-management-tools.net/organizational-memory-and-knowledge.php Date of access: 20 May 2021.

KMT (Knowledge Management Tools). 2018f. *Knowledge retention*. http://www.knowledge-management-tools.net/kr.html Date of access: 22 May 2021.

KM World. 2020b. *The trend setting products in knowledge management 2020*. https://www.kmworld.com/WhitePapers/KMWhitePaper/10221-The-Trend-Setting-Products-in-Knowledge-Management-2020.htm Date of access: 01 Jun. 2021.

Kongpichayanond, P. 2009. Knowledge management for sustained competitive advantage in mergers and acquisitions. *Advances in Developing Human Resources*, 11(3):375-387. doi:10.1177/1523422309339725

Korstjens, I. & Moser, A. 2017. Practical guidance to qualitative research. Part 4: trustworthiness and publishing. *European Journal of General Practice*, 24(1):120-124. doi:10.1080/13814788.2017.1375092

Koskinen, K.U. 2003. Evaluation of tacit knowledge utilization in work units. *Journal of Knowledge Management*, 7(5):67-81. doi:10.1108/13673270310505395

Kruger, C.J. & Johnson, R.D. 2009. Principles in knowledge management maturity: a South African perspective. *Journal of Knowledge Management*, 14(4):540-556. doi:10.1108/13673271011059518

Kruger, C.J. & Johnson, R.D. 2013. Knowledge management according to organisational size: a South African perspective. *SA Journal of Information Management*, 15(1), art. #526. doi:10.4102/sajim.v15i1.526

Kruger, C.J. & Snyman, M.M.M. 2005. Formulation of a strategic knowledge management maturity model. *South African Journal of Information Management*, 7(2), a3. doi:10.4102/sajim.v7i2.261

Kumar, J.A. & Ganesh, L.S. 2010. Balancing knowledge strategy: codification and personalization during product development. *Journal of Knowledge Management*, 15(1):118-135. doi:10.1108/13673271111108738

Kumar, R. 2014. *Research methodology: a step-by-step guide for beginners*. 4th ed. Los Angeles, CA: Sage.

Lambert, V.A. & Lambert, C.E. 2012. Qualitative Descriptive research: an acceptable design. *Pacific Rim International Journal of Nursing Research*, 16(4):255-256.

Li, J. & Herd, A.M. 2017. Shifting practices in digital workplace learning: an integrated approach to learning, knowledge management and knowledge sharing. *Human Resource Development International*, 20(3):185-193. doi:10.1080/13678868.2017.1308460

Li, G., Liu, H., Shang, Y. & Xi, Y. 2014. Leader feedback and knowledge sharing: a regulatory focus theory perspective. *Journal of Management & Organization*, 20(6):749-763. doi:10.1017/jmo.2014.53

Liew, A. 2013. DIKIW: data, information, knowledge, intelligence, wisdom and their interrelationships. *Business Management Dynamics*, 2(10):49-62.

Ling, L. & Ling, P. 2017. *Methods and paradigms in education research*. Hershey, Pennsylvania: IGI Global.

Liu, W. 2006. Knowledge exploitation, knowledge exploration, and competency trap. *Knowledge and Process Management*, 13(3):144-161. doi:10.1002/kpm.254.

Liu, Y., Pucel, D.J. & Bartlett, K.R. 2006. Knowledge transfer practices in multinational corporations in China's information technology industry. *Human Resource Development International*, 9(4):529-552. doi:10.1080/13678860601032635

Magalhães, I.L. 2015. Tacit & explicit knowledge. https://www.linkedin.com/pulse/tacit-explicit-knowledge-ivan-luizio-magalh%C3%A3es/ Date of access: 30 Jul. 2021.

Maguire, M. & Delahunt, B. 2017. Doing a thematic analysis: a practical, step-by-step guide for learning and teaching scholars. *All Ireland Journal of Teaching and Learning in Higher Education*, 8(3):3351-33514

Malamed, C. 2020. Strategies for tacit knowledge transfer. https://theelearningcoach.com/learning/tacit-knowledge-transfer/ Date of access: 30 Jul. 2021.

Mankin, D. 2009. *Human resource development*. Oxford: Oxford University Press.

Maree, K. 2020. Planning a research proposal. In: Maree, K., ed. *First steps in research*. 3rd ed. Pretoria: Van Schaik. pp. 26-47.

Maree, K. & Pietersen, J. 2020. Sampling. In: Maree, K., ed. *First steps in research*. 3rd ed. Pretoria: Van Schaik. pp. 192-202.

Marginson, S. 2017. Limitations of human capital theory. *Studies in Higher Education*, 44(2):287-300. doi:10.1080/03075079.2017.1359823

Martins, E.C. & Meyer, H.W.J. 2012. Organizational and behavioural factors that influence knowledge retention. *Journal of Knowledge Management*, 16(1):77-96. doi:10.1108/13673271211198954

Mašić, B., Nešić, S., Nikolić, D. & Dželetović, M. 2017. Evolution of knowledge management. *Industrija,* 45(2):127-147. doi:10.5937/industrija45-13201

Matsuo, M. 2015. Human resource development programs for knowledge transfer and creation: the case of the Toyota Technical Development Corporation. *Journal of Knowledge Management,* 19(6):1186-1203. doi:10.1108/JKM-03-2015-0108

Mauthner, N.S. 2018. Toward a posthumanist ethics of qualitative research in a big data era. *American Behavioral Scientist*, 63(6):669-698. doi:10.1177/0002764218792701

Mayes, R., Tamez, R. & Allen, J. 2017. Literature overlaps and gaps between the fields of knowledge management and human resource development. In: Alemneh, D.G., Allen, J. & Hawamdeh, S., eds. *Conference proceedings*. Knowledge discovery and data design innovation: proceedings of the International Conference on Knowledge Management (ICKM 2017), Dallas, Texas, 25-26 October. Hackensack, NJ: World Scientific. pp. 265-281.

McGoldrick, J., Stewart, J. & Watson, S. 2002. Understanding HRD: a research-based approach. *International Journal of Human Resource Development and Management*, 2(1/2):17-30 doi:10.1504IJHRDM.2002.001014

McGuire, D. 2014. *Human resource development*. 2nd ed. London: Sage.

McIntosh, C. 2019a. Cambridge advanced learner's dictionary & thesaurus. https://dictionary.cambridge.org/dictionary/english/explore Date of access: 19 Dec. 2019.

McLean, G. & McLean, L. 2001. If we can't define HRD in one country, how can we define it in an international context? *Human Resource Development International*, 4(3):313-326. doi: 10.1080/13678860110059339

McLean, G.N. & Jiantreerangkoo, B. 2020 The role of national HRD in an era of COVID-19. *Human Resource Development International*, 23(4):418-426 doi:10.1080/13678868.2020.1780066

Mehta, S. 2011. Human resource development for competitive advantage. *International Journal of Multidisciplinary Research*, 1(1):1-13. doi:10.13140/RG.2.1.4512.6009

Memon, M.A., Mangi. R.A. & Rohra, C.L. 2009. Human capital a source of competitive advantage "ideas for strategic leadership". *Australian Journal of Basic and Applied Sciences*, 3(4):4182-4189.

Merriam, S.B. & Tisdell, E.J. 2016. *Qualitative research: a guide to design and implementation*. 4th ed. San Francisco, CA: Jossey-Bass.

Merriam Webster Inc. 2019a. *Merriam-Webster dictionary*. https://www.merriam-webster.com/dictionary/competence Date of access: 12 Dec. 2019.

Merriam Webster Inc. 2019b. *Merriam-Webster dictionary*. https://www.merriam-webster.com/dictionary/explore Date of access: 12 Dec. 2019.

Merriam Webster Inc. 2019c. *Merriam-Webster dictionary*. https://www.merriam-webster.com/dictionary/intelligence Date of access: 1 Dec. 2019.

Meyer, H. & Sloman, M. 2014. What's keeping you awake at night? Challenges facing trainers in South Africa. *Human Resource Development International*, 17(1):98-109. doi: 10.1080/13678868.2013.812316

Meyer, M., Orpen, M. & Rajaram, S. 2017. *Occupationally-directed education, training and development practices*. 3rd ed. Durban: LexisNexis.

Mir, F., Rasheed, H. & Gul, W. 2017. Integrating knowledge management and human resource development: a knowledge based HRD process model. *Journal of Management and Research*, 4(2):87-115. doi:10.29145/jmr/42/040204

Misch, A. & Tobin, P.K.J. 2006. Knowledge management and cognitive theory: an African case study. *Acta Commercii*, 6(1):133-146. doi:10.4102/ac.v6i1.103

Mishra, B. & Bhaskar, U.A. 2011. Knowledge management process in two learning organizations. *Journal of Knowledge Management*, 15(2):344-359. doi:10.1108/13673271111119736

Mitchell, R. & Boyle, B. 2010. Knowledge creation measurement methods. *Journal of Knowledge Management*, 14(1):67-82. doi:10.1108/13673271011015570

Morse, J. 1991. On the evaluation of qualitative proposals. *Qualitative Health Research*, 1(2):147-151. doi:10.1177/104973239100100201

Morse, J.M., Barrett, M., Mayan, M., Olson, K. & Spiers, J. 2002. Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, 1(2):13-22. doi:10.1177/160940690200100202

Muchaonyerwa, N. & Mutula, S. 2018. Knowledge sharing strategies among library staff at selected university libraries. *Mousaion*, 35(3):1-24. doi:10.25159/0027-2639/2003

Mulder, R.H. 2021. The impact of new technologies on work and its implications for human resource development research. *Human Resource Development Quarterly*, 32(2):105-109.

Mutamba, C. 2017. The inter-relationship of organizational learning, learning organizations, virtual technology, and virtual communities of practice. *New Horizons in Adult Education & Human Resource Development*, 29(3):4-14. doi:10.1002/nha3.20186

Nafukho, F.M., Alfred, M., Chakraborty, M., Johnson, M. & Cherrstrom, C.A. 2017. Predicting workplace transfer of learning: a study of adult learners enrolled in a continuing professional education training program. *European Journal of Training and Development*, 41(4):327-353. doi:10.1108/EJTD-10-2016-0079

Naicker, V., Le Roux, S., Bruwer, J. & Bruwer, J.P. 2017. Knowledge sharing as a value-adding initiative for South African SMME sustainability: a literature review. *Expert Journal of Business and Management*, 5(2):51-60.

Natarajan, M. 2020. Exploring knowledge sharing over social media. In: Information Resources Management Association., ed. *Information diffusion management and knowledge sharing: breakthroughs in research and practice*. Hershey, PA: IGI Global. pp. 726-744.

National Academies of Sciences, Engineering and Medicine. 2017. *Knowledge management resource to support strategic workforce development for transit agencies*. Washington, DC: The National Academies Press. https://doi.org/10.17226/24961

National Government of South Africa. 2021. *SETAs*. https://nationalgovernment.co.za/units/type/8/seta Date of access: 20 Jul. 2021.

National Qualifications Framework Act 67 of 2008.

Ndlela, L.T. 1999. *Establishing knowledge management for competitive advantage in an enterprise*. Johannesburg: RAU. (Dissertation – Master's).

Ndlela, L.T. & Du Toit, A.S.A. 2000. Corporate culture as a foundation for successful knowledge management. *South African Journal of Information Management*, 1(4), a70. doi:10.4102/sajim.v1i4.70

Nieuwenhuis, J. 2019a. Qualitative research designs and data-gathering techniques. In: Maree, K., ed. *First steps in research*. 2nd ed. Pretoria: Van Schaik. pp. 72-102.

Nieuwenhuis, J. 2019b. Analysing qualitative data. In: Maree, K., ed. *First steps in research*. 2nd ed. Pretoria: Van Schaik. pp. 104-131.

Nkabinde, S. 2020. *Learning and development practitioners should accelerate their own learning journeys*. https://chro.co.za/articles/learning-development-practitioners-should-accelerate-their-own-learning-journeys/ Date of access: 20 Jul. 2021.

Nonaka, I. & Takeuchi, H. 1995. *The knowledge creating company: how Japanese companies create the dynamics of innovation*. New York: Oxford University Press.

Nonaka, I., Von Krogh, G. & Voelpel, S. 2006. Organizational knowledge creation theory: evolutionary paths and future advances. *Organization Studies*, 27(8):1179-1208. doi:10.1177/0170840606066312

Nonaka, I. & Von Krogh, G. 2009. Tacit knowledge and knowledge conversion: controversy and advancement in organizational knowledge creation theory. *Organization Science*, 20(3):635-652. doi:10.1287/orsc.1080.0412

Nonaka, I. & Takeuchi, H. 2019. *The wise company: how companies create continuous innovation*. NY: Oxford University Press.

Nowell, L.S., Norris, J.M., White, D.E. & Moules, N.J. 2017. Thematic analysis: striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16:1-13. doi:10.1177/1609406917733847

NQF (National Qualifications Framework) Act 67 of 2008.

NQF (National Qualifications Framework) Act 12 of 2019.

NQF (National Qualifications Framework). 2021. What is the national Qualifications Framework (NQF)? https://www.saqa.org.za/faq/what-national-qualifications-framework-nqf?language_content_entity=en Date of access: 27 May 2021.

Nthongoa, R.M. 2014. *Knowledge management as a tool for talent retention in the pharmaceutical industry*. Pretoria: UP. (Dissertation – Master's). http://hdl.handle.net/2263/45930

NSA (National Skills Authority). 2021. SETAs. https://www.nationalskillsauthority.org.za/roles-and-functions/setas/ Date of access: 02 Jun. 2021.

NWU (North-West University). 2019. *Training and development*. http://commerce.nwu.ac.za/hrd Date of access: 10 Oct. 2019.

Ode, E. & Ayavoo, R. 2019. The mediating role of knowledge application in the relationship between knowledge management practices and firm innovation. *Journal of Innovation & Knowledge*, 5:209-217. doi:10.1016/j.jik.2019.08.002

O'Dell, C. & Grayson, C.J. 1998. If only we knew what we know. *California Management Review*, 40(3):154-174. doi:10.2307/41165948

O'Neill, A. 2022. *South Africa: distribution of employment by economic sector from 2009 to 2019*. https://www.statista.com/statistics/578944/employment-by-economic-sector-in-south-africa/ Date of access: 2 March 2022.

OECD (Organisation for Economic Co-operation and Development). 2021. *Trade in services*. https://data.oecd.org/trade/trade-in-services.htm#indicator-chart Date of access: 01 Jun. 2021.

Olomolaiye, A. & Egbu, C. 2005. *Tacit vs. explicit knowledge – the current approaches to knowledge management*. Paper delivered at the 2nd Scottish Conference for postgraduate researchers of the Built and Natural Environment (PRoBE), 16th-17th November, Glasgow Caledonian University, Scotland, UK. https://www.irbnet.de/daten/iconda/CIB10682.pdf Date of access: 20 Nov. 2021.

Ordoñez, M. & Serrat, O. 2017. Disseminating knowledge products. In: Serrat, O., ed. *Knowledge solutions: tools, methods and approaches to drive organizational performance*. Singapore: Springer. pp. 871-878.

Pandey, K.N. 2016. *Paradigms of knowledge management: with systems modelling case studies*. India: Springer.

Papa, A., Santoro, G., Tirabeni, L. & Monge, F. 2018. Social media as tool for facilitating knowledge creation and innovation in small and medium enterprises. *Baltic Journal of Management*, 13(3):329-344. doi:10.1106/BJM-04-2017-0125

Parise, S. 2007. Knowledge management and human resource development: an application in social network analysis methods. *Advances in Developing Human Resources*, 9(3):359-383. doi:10.1177/1523422307304106

Patel, A. & Jain, S. 2018. Formalisms of representing knowledge. *Procedia Computer Science,* 125:542-549.

Parise, S. 2007. Knowledge management and human resource development: an application in social network analysis methods. *Advances in Developing Human Resources*, 9(3):359-383. doi:10.1177/1523422307304106

Paulin, D. & Suneson, K. 2012. Knowledge transfer, knowledge sharing and knowledge barriers – three blurry terms in KM. *Electronic Journal of Knowledge Management*, 10(1):81-91.

Perez, J.R. & de Pablos, P.O. 2003. Knowledge management and organizational competitiveness: a framework for human capital analysis. *Journal of Knowledge Management*, 7(3):82-91. doi:101108/13673270310485640

PermataBank. 2021. *5 Must have work competencies to master in the new normal*. https://www.permatabank.com/en/article/5-kompetensi-kerja-yang-wajib-dikuasai-saat-new-normal- Date of access: 4 Jun. 2021.

PHPKB. 2015. *Role of knowledge management in the service industry*. https://www.knowledgebase-script.com/kb/article/role-of-knowledge-management-system-in-service-industry-233.html Date of access: 01 Jun. 2021.

Ployhart, R.E., Nyberg, J.A., Reilly, G. & Maltarich, M.A. 2014. Human capital is dead; long live human capital resources! *Journal of Management*, 40(2):371-398. doi: 10.1177/0149206313512152

Polanyi, M. 1959. *Personal knowledge: towards a post-critical philosophy*. London: Routledge.

Ponelis, S. & Fairer-Wessels, F.A. 1998. Knowledge management: a literature overview. *South African Journal of Libraries and Information Science*, 66(1):1-9. doi:10.7553/66-1-1449

Poojitha, V. & Devi, V.R. 2012. HRD – a source for competitive advantage. *Review of Research*, 1(VII):1-4.

Pook, K. 2011. Getting people involved: the benefit of intellectual capital management for addressing HR challenges. *Journal of European Industrial Training*, 35(6):558-572. doi:10.1108/03090591111150095

QCTO (Quality Council for Trades and Occupations). 2021. *QCTO home page*. https://www.qcto.org.za/ Date of access: 8 May 2021.

Radjenovic, T. & Krstic, B. 2017. Intellectual capital in the theory of the firm. *Ekonomika*, 63(4):13-27. doi:10.5937/ekonomika1704013R

Raguž, I., Zekan, S.B. & Peronja, I. 2017. Knowledge as a source of competitive advantage in knowledge-based companies. DIEM: Dubrovnik International Economic Meeting, 3(1):533-544.

Raliphada, N., Coetzee, J. & Ukpere, W.I. 2014. Organisational factors affecting learning transfer in the South African Public Service. *Mediterranean Journal of Social Sciences*, 5(2):743-754. doi:10.5901/mjss.2014.v5n2p743

Ramadan, B.M., Dahiyat, S.E., Bontis, N. & Al-dalahmeh, M. 2017. Intellectual capital, knowledge management practices and firm performance. *Journal of Intellectual Capital*, 18(2):437-462. doi:0.1108/JIC-06-2016-0067

Rehman, A.A. & Alharthi, K. 2016. An introduction to research paradigms. *International Journal of Educational Investigations*, 3(8):51-59.

Reynolds, J. 2017. *4 Tips for quality qualitative research questions*. https://www.actionable.com/blog/4-tips-for-quality-qualitative-research-questions Date of access: 8 Aug. 2021.

Rowley, J. 2001. Knowledge management in pursuit of learning: the learning with knowledge cycle. *Journal of Information Science*, 27(4):227-237.

Ruona, W.E.A. & Lynham, S.A. 2007. A philosophical framework for thought and practice in human resource development. *Human Resource Development International*, 7(2):151-164. doi:10.1080/13678860310001630665

Ruona, W.E.A. 2016. Evolving human resource development. *Advances in Developing Human Resources*, 18(4):551-565. doi:10.1177/1523422316660968

Rusly, F.H., Peter, Y.T.S. & Corner, J.L. 2015. Change readiness: creating understanding and capability for the knowledge acquisition process. *Journal of Knowledge Management*, 19(6):1204-1223. doi:10.1108/JKM-02-2015-0092

Salis, S. & Williams, A.M. 2010. Knowledge sharing through face-to-face communication and labour productivity: evidence from British workplaces. *British Journal of Industrial Relations*, 48(2):436-459. doi:10.1111/j.1467-8543.2009.00762.x

Sandelowski, M. 2009. What's in a name? Qualitative description revisited. *Research in Nursing & Health*, 33:77–84. doi:10.1002/nur.20362

SAQA (South African Qualifications Authority). 2014. *National Policy and criteria for designing and implementing assessment for NQF qualifications and part qualifications and professional designations in South Africa.* https://www.saqa.org.za/sites/default/files/2019-11/Nationa%20pol%20crite.pdf Date of access: 8 May 2021.

SAQA (South African Qualifications Authority). 2020. *What is the South African Qualifications Authority?* https://www.saqa.org.za/about-saqa Date of access: 8 May 2021

Saru, E. 2007. Organisational learning and HRD: how appropriate are they for small firms? *Journal of European Industrial Training*, 31(1):36-51. doi: 10.1108/03090590710721727

Shabane, T.S. 2017. *The integration of talent management and knowledge management in the South African public service*. Pretoria: UNISA. (Dissertation – Master's). http://uir.unisa.ac.za/handle/10500/23108

Shelton, R. 2001. Helping a small business owner to share knowledge. *Human Resource Development International*, 4(4):429-450. doi:10.1080/13678860127226

Schenk, H. 2016. Career management and performance. In: Meyer, M. *ed. Managing human resource development: a strategic learning approach*. 5th ed. Durban: LexisNexis. pp. 407-40.

Schwab, K. 2016. The Fourth Industrial Revolution: what it means, how to respond. https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/ Date of access: 7 March 2022.

Short, D.C. & Shindell, T.J. 2009. Defining HRD Scholar-Practitioners. *Advances in Developing Human Resources*, 11(4):472-485. doi:10.1177/1523422309342225

South Africa Government. 2009. *Human resource development strategy for South Africa, 2010-2030*. https://www.gov.za/documents/human-resource-development-strategy-south-africa-hrdsa-2010-2030# Date of access: 8 May 2021.

Skills Development Act 97 of 1998.

Skills Development Levies Act 9 of 1999.

Smith, H. & Schurink, W. 2005. The interface between knowledge management and human resources: a qualitative study. *SA Journal of Human Resource Management*, 3(1):6-13. doi:10.4102/sajhrm.v3i1.58

Song, J.H. & Kolb, J.A. 2009. The influence of learning culture on perceived knowledge conversion: an empirical approach using structural equation modelling. *Human Resource Development International*, 12(5):529-550. doi:10.1080/13678860903274505

Stemler, S. 2001. An overview of content analysis. *Practical Assessment, Research & Evaluation*, 7(17):1-10. doi:10.7275/n3pv-tx27

Sterling, K. 2015. *7 Ways powerful leadership and motivational speakers can drive profitability to your company*. https://trainingindustry.com/articles/leadership/7-ways-powerful-leadership-and-motivational-speakers-can-drive-profitability-to-your-company/ Date of access: 11 Jun. 2021.

Steyn, P.D. & Du Toit, A.S.A. 2007. Perceptions on the use of a corporate business incubator to enhance knowledge management at Eskom. *SA Journal of Economic and Management Sciences*, 10(1):33-50. doi:10.4102/sajems.v610i1.535

Straw, E.M. 2013. *Construction of a conceptualization of personal knowledge within a knowledge management perspective using grounded theory methodology*. Florida: Nova Southeastern University (Dissertation – Phd).

Sveiby, K.E. 2001. A knowledge-based theory of the firm to guide in strategy formulation. *Journal of Intellectual Capital*, 2(4):344-358. doi:10.1108/14691930110409651

Swanson, R.A. & Holton III, E.F. 1997. Human resource development research handbook: linking research and practice. San Francisco, CA: Berrett-Koehler.

Swanson, R.A. & Holton III, E.F. 2001. *Foundations of human resource development*. San Francisco, CA: Berrett-Koehler.

Thomas, D. R. 2006. A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2):237-246. doi:10.1177/1098214005283748

Tobin, P.K.J. & Volvasek, P. 2006. Knowledge management measurement in South African organisations. *Mousaion*, 24(1):96-118.

Tomé, E. 2011. Human resource development in the knowledge based and services driven economy: an introduction. *Journal of European Industrial Training*, 35(6):524-539. doi:10.1108030905911115007

Tomé, E. 2012. Knowledge management. In: Wilson, J.P., ed. *International human resource development: learning, education and training for individuals and organizations*. London: Kogan Page. pp. 93-111.

Torraco, R.J. 2000. A theory of knowledge management. *Advances in Developing Human Resources*, 2(1):38-62. doi:10.1177/152342230000200105

Torraco, R.J. & Lundgren, H. 2020. What HRD is doing – what HRD should be doing: the case for transforming HRD. *Human Resource Development Review*, 19(1):39-65. doi:10.1177/1534484319877058

Training Material Development. 2021. Your partner in sustainable training and development solutions. https://www.trainingmaterials.co.za/ Date of access: 11 Jun. 2021.

Tufford, L. & Newman, P. 2010. Bracketing in qualitative research. *Qualitative Social Work*, 1-17. doi: 10.1177/1473325010368316

Turner, J.R., Zimmerman, T. & Allen, J.M. 2012. Teams as a sub-process for knowledge management. *Journal of Knowledge Management*, 16(6):963-977.

Tzortzaki, A.M. & Mihiotis, A. 2014. A review of knowledge management theory and future directions. *Knowledge and Process Management*, 21(1):29-41. doi:10.1002/kpm.1429

Valamis. 2019. *Organizational learning*. https://www.valamis.com/hub/organizational-learning. Date of access: 11 Apr. 2021.

Valamis. 2021. Knowledge management. https://www.valamis.com/hub/knowledge-management Date of access: 29 Jul. 2021.

Van Assen, M.F. 2021. Training, employee involvement and continuous improvement – the moderating effect of a common improvement method. *Production Planning & Control*, 32(2):132-144. doi:/10.1080/09537287.2020.1716405

Van Buuren, R. 2012. *Knowledge management as competitive advantage*. Tilburg: Tilburg University (PhD – Thesis).

Van den Berg, H. 2003. Managing tacit knowledge in the corporate environment: communities of practice. *SA Journal of Information Management*, 5(4), a3. doi:10.4102/sajim.v5i4.376

Virkus, S. 2011. *Knowledge capture*. https://www.tlu.ee/~sirvir/Information%20and%20Knowledge%20Management/Framework%20for%20IKM/knowledge_management_processes_knowledge_capture.html Date of access: 23 Jul. 2021.

Virkus, S. 2014a.*Tacit and explicit knowledge*. https://www.tlu.ee/~sirvir/Information%20and%20Knowledge%20Management/Key_Concepts_of_IKM/tacit_and_explicit_knowledge.html Date: 23 Jul 2021.

Virkus, S. 2014b. *Theoretical models of information and knowledge management*. http://www.tlu.ee/~sirvir/IKM/Theoretical_models_of_Information_and_Knowledge_Management/the_nonaka_and_takeuchi_knowledge_spiral_model.html Date of access: 4 Nov. 2018.

Von Krogh, G. & Roos, J. 1995a. A perspective on knowledge, competence and strategy. *Personnel Review*, 24(3):56-76. doi:10.1108/00483489510089650

Von Krogh, G. & Roos, J. 1995b. *Organizational epistemology*. Basingstoke, Hampshire: Macmillan Press LTD.

Von Krogh, G., Ichijo, K. & Nonaka, I. 2000. *Enabling knowledge creation: how to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford: Oxford University Press.

Wallace, S., ed. 2014. A dictionary of education. https://www.oxfordreference.com/view/10.1093/acref/9780199212064.001.0001/acref-9780199212064-e-477?rskey=uqsrMf&result=461 Date of access: 08 Nov. 2021.

Wang, G.G., Werner, J.M., Sun, J.Y., Gilley, A. & Gilley, J.W. 2017. Means vs ends: theorizing a definition of human resource development. *Personnel Review*, 46(6):1165-1181. doi:10.1108/PR-11-2015-0306

Wang, S. & Noe, R.A. 2009. Knowledge sharing: a review and directions for future research. *Human Resource Management Review*, 20(2):115-131. doi:10.1016/j.hrmr.2009.10.001

Wells, J. 2020. *Knowledge management and the impact of COVID-19*.https://www.kmworld.com/Articles/Editorial/ViewPoints/Knowledge-management-and-the-impact-of-COVID-19-140784.aspx Date of access: 3 Jun. 2021.

Werner, J.M. 2017. *Human resource development*. 7th ed. Boston, MA: Cengage Learning.

Whitecraft, M.A. 2013. Understanding the acculturation of women in science: *the interplay of episteme, techne, & phronesis in retaining females in undergraduate science*. Ithaca, NY. Cornell University. (Dissertation – PhD). https://ecommons.cornell.edu/handle/1813/33897 Date of access: 15 Nov. 2021.

Whyte, G. & Classen, S. 2012. Using storytelling to elicit tacit knowledge from SMEs. *Journal of Knowledge Management*, 16(6):950-962. doi:10.1108/13673271211276218

Wiig, K.M. 1993. *Knowledge management foundations: thinking about thinking: how people and organizations create, represent, and use knowledge*. Arlington, TX: Schema Press.

Wiig, K.M. 1995. *Knowledge management methods: practical approaches to managing Knowledge*. Arlington, Texas: Schema Press Ltd.

Wiig, K.M. 1997. Knowledge management: where did it come from and where will it go? *Journal of Expert Systems with Applications*, 13(1):1-14. doi:10.1016/S0957-4174(97)00018-3

Wilson, J.P. 2012. International human resource development. In: Wilson, J.P., ed. *International human resource development: learning, education and training for individuals and organizations*. London: Kogan Page. pp. 3-21.

Worthington, M. 2010. *Differences between phenomenological research and a basic qualitative research design*. http://a1149861.sites.myregisteredsite.com/DifferencesBetweenPhenomenologicalResearchAndBasicQualitativeResearchDesign.pdf Date of access: 26 Nov. 2019.

Xue, C.T.S. 2017. A literature review on knowledge management in organizations. *Research in Business and Management*, 4(1):30-41. doi:10.5296/rbm.v4i1.10786

Yang, B. 2003. Toward a holistic theory of knowledge and adult learning. *Human Resource Development Review*, 2(2):106-129. doi:10.1177/1534484303254027

Yang, B., Zheng, W. & Viere, C. 2009. Holistic views of knowledge management models. *Advances in Developing Human Resources*, 11(3):273-289. doi: 10.1177/1523422309338584

Yoon, S.W., Song, J.H., Lim, D.H. & Joo, B.K. 2010. Structural determinants of team performance: the mutual influences of learning culture, creativity, and knowledge. *Human Resource Development International*, 13(3):249-264. doi:10.1080/13678868.2010.483815

Zavyalova, E. & Kosheleva, S. 2013. Assessing the efficiency of HRD practices in knowledge-intensive firms. *Human Resource Development International*, 16(5):590-598. doi:10.1080/13678868.2013.851322

Zhang, J. & Wu, W. 2017. Leveraging internal resources and external business networks for new product success: a dynamic capability perspective. *Industrial Marketing Management*, 61:170-181. doi:10.1016/jindmarman,2016.06.001

ANNEXURES

5.8.1 Annexure A: Ethical Clearance and Monitoring Report

Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 086 016 9698
Web: http://www.nwu.ac.za/

North-West University Education, Management and Economic Sciences, Law. Theology, Engineering and Natural Sciences Research Ethics Office (NWU-EMELTEN-REC)

Tel: +2718 299 4707
Email: lukas.meyer@nwu.ac.za

15 June 2020

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the North-West University Education, Management and Economic Sciences, Law. Theology, Engineering and Natural Sciences Research Ethics Committee (NWU-NWU-EMELTEN-REC) on 15 June 2020, the NWU-EMELTEN-REC hereby approves your study as indicated below. This implies that the NWU-EMELTEN-REC grants its permission that, provided the general and specific conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Exploring the application of knowledge management within a South African human resource development context

Principal Investigator/Study Supervisor/Researcher: Dr. H.W. Meyer

Student: Mrs. P Smith

Ethics number:

N	W	U	-	0	0	5	4	3	-	1	9	-	A	2
Institution				Study Number						Year			Status	

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Application Type: Single study
Commencement date: 20/05/2020
Expiry date: 19/05/2021

Risk: Minimal

Approval of the study is provided for a year, after which continuation of the study is dependent on receipt and review of a twelve-monthly monitoring report and the concomitant issuing of a letter of continuation.

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The principal investigator/study supervisor/researcher must report in the prescribed format to the NWU-EMELTEN-REC:*
  - *twelve-monthly on the monitoring of the study, whereby a letter of continuation will be provided annually, and upon completion of the study; and*
  - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the principal investigator/study supervisor/researcher must apply for approval of these amendments at the NWU-EMELTEN-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: +2718 299-1111/2222
Web: http://www.nwu.ac.za

North-West University Education, Management and Economic Sciences, Law, Theology, Engineering and Natural Sciences Research Ethics Office (NWU-EMELTEN-REC)

Tel: +2718 299 4707
Email: lukas.meyer@nwu.ac.za

4 May 2021

Dear Dr Meyer

FEEDBACK ON NWU-EMELTEN-REC MONITORING REPORT NWU-00543-19-A2

*We would like to thank you for submitting the monitoring report for your project entitled, **"Exploring the application of knowledge management within a South African human resource development context"*** to the North-West University Education, Management and Economic Sciences, Law, Theology, Engineering and Natural Sciences Research Ethics Committee in a timely manner.

Please find below the decision of the NWU-EMELTEN-REC regarding the continuation of your project.

Classification	Mark with X	Comment
Clarification		
Completion (Final report)		
Suspended		
Continuation	X	Date of next monitoring report: 30 April 2022
Termination		
Withdrawal		

Should you have any further queries, please feel free to contact Ms Villera le Roux at your earliest convenience (E-mail: Ethics-EMELTEN-mon@nwu.ac.za ; Tel: 018 299 4707).

We wish you well in your future research endeavours.

Yours sincerely,

5.8.2 Annexure B: Informed Consent

Private Bag X1290, Potchefstroom
South Africa 2520
Tel: +2718 299-1111/2222
Fax: +2718 299-4910
Web: http://www.nwu.ac.za

The Faculty of Health Sciences Ethics Office of the North-West University is acknowledged for the use of their document with minor adjustments made by the North-West University Education, Management and Economic Sciences, Law, Theology, Engineering and Natural Sciences Research Ethics Committee (NWU-EMELTEN-REC).

NWU-EMELTEN-REC Stamp

INFORMED CONSENT DOCUMENTATION FOR HUMAN RESOURCE DEVELOPMENT (THIRD YEAR) STUDENTS

TITLE OF THE RESEARCH STUDY: Exploring the application of knowledge management within a South African human resource development context

ETHICS REFERENCE NUMBERS:

PRINCIPAL INVESTIGATOR: Dr HW Meyer

POST GRADUATE STUDENT: Mrs P Smith

ADDRESS: 11 Wynne Park, 120 Wynne Street, Bailliepark, Potchefstroom, 2531

CONTACT NUMBER: 018 299 1207

You are being invited to take part in a research study that forms part of a Masters study conducted by Mrs Petro Smith. Please take some time to read the information presented here, which will explain the details of this study. Please ask the person explaining the research to you any questions about any part of this study that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how you might be involved. Also, your participation is entirely voluntary, and you are free to say no to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part now.

5.8.3 Annexure C: Ethics Application

Research Data Gatekeeper Committee (RDGC) Permission Application Form

Applicant Contact Information

Date of Application	Name of Institution
10/04/2020	North West Universtiy

Title	Role in Application	If Other - please complete
Mrs	Master's Student Investigator	

First Name	Last Name
Petro	Smith

E-mail Address	Phone
petro.smith@nwu.ac.za	0182991207

Title of study

Exploring the application of knowledge management within a South African human resource development context.

Supervisor/Promoter/Researcher Information (if applicable)

Title

Dr

First Name	Last Name
Helen	Meyer

E-mail Address	Phone
Helen.Meyer@nwu.ac.za	0182852573

5.8.4 Annexure D: Formal Invite to Participant in the Study

Dear Student,

Master Study: Exploring the application of knowledge management within a South African human resource development context.

Researcher: Mrs P Smith

Study Leader: Dr H Meyer

Your Human Resource Development (HRD) knowledge and experience is valued. You are the experts in the field of HRD and can contribute to the expansion of the field. You are hereby invited to participate in the above mentioned study namely: Exploring the application of knowledge management within a South African human resource development context.

Before you make a decision, find important information below:

- Interviews will be conducted face to face during your study school in February 2020.
- Each interview should not take more than 60 to 90 minutes.
- A video recording will be made during the interview which will be viewed only by Mrs. Smith and Dr Meyer.
- Your participation is voluntarily.
- Your identity will be kept strictly confidential (this include video recordings and transcribed data).
- All information you provide will be kept confidential and will only be available to the researcher, Mrs. P Smith and her study leader Dr H Meyer.
- Your name will not be disclosed at any time during any of the stages nor the final report (you will be assigned a symbol, e.g. participant A.)
- You may withdraw from participation at any time without providing a reason for doing so.
- If you do decide to participate in this study, you will be requested to sign an informed consent form.

5.8.5 Annexure E: Interview Schedule

DATE	TIME	PARTICIPANT
Venue		
24/08/2020	16:00-17:00	Participant A
	17:00-18:00	Participant B
	18:00-19:00	Participant C
25/08/2020	16:00-17:00	Participant D
	17:00-18:00	Participant E
	18:00-19:00	Participant F
26/08/2020	16:00-17:00	Participant G
	17:00-18:00	Participant H
	18:00-19:00	Participant I
27/08/2020	16:00-17:00	Participant J
	17:00-18:00	Participant K
	18:00-19:00	Participant L

5.8.6 Annexure F: Solemn Declaration and Permission to Submit

NWU Higher Degrees Administration

SOLEMN DECLARATION AND PERMISSION TO SUBMIT

1. Solemn declaration by student

I, **Petro Smith**

declare herewith that the thesis/dissertation/mini-dissertation/article entitled (**exactly as registered/approved title**),

Exploring the application of knowledge

which I herewith submit to the North-West University is in compliance/partial compliance with the requirements set for the degree:

Master of Education in Training and Development

is my own work, has been text-edited in accordance with the requirements and has not already been submitted to any other university.

LATE SUBMISSION: If a thesis/dissertation/mini-dissertation/article of a student is submitted after the deadline for submission, the period available for examination is limited. No guarantee can therefore be given that (should the examiner reports be positive) the degree will be conferred at the next applicable graduation ceremony. It may also imply that the student would have to re-register for the following academic year.

Ethics number: 00543-19-A2

ORCiD: 0000 - 0002 - 5260 - 4573

Signature of Student: Petro Smith — Digitally signed by Petro Smith Date: 2021.11.26 08:38:51 +02'00'

University Number: 24728893

Signed on this 26 day of November of 20 21

2. Permission to submit and solemn declaration by supervisor/promoter

The undersigned declares that the thesis/dissertation/mini-dissertation/article:

- ✓ complies with the A-rules and the technical requirements provided for in the Manual for Master's and Doctoral studies and in faculty rules;
- ✓ has been checked by me for plagiarism (by making use of TurnItIn software for example) and a satisfactory report has been obtained;
- ✓ and that the work was language edited before submission for examination.

Faculty specific requirements as per A-rules: 1.3.2, 433, 4.2.4, 4.10.4, 5.3.2

- ✓ complies with regards to faculty rules on submission or acceptance by an accredited scientific journal;
- ✓ complies with regards to faculty rules on peer reviewed conference proceedings;

✓ the student is hereby granted permission to submit his/her article/mini-dissertation/ dissertation/thesis for examination.

Signatures of supervisor(s) and Promoter(s): (only compulsory in cases where there are co- or assistant- supervisor(s/promoters)

Dr Helen Meyer — Digitally signed by Dr Helen Meyer Date: 2021.11.29 11:24:38 +02'00'

Co-Supervisor/Co-Promoter

Assistant -Supervisor Assistant-Promoter

Original details: Marietjie Ackermann(10512187) M:\SDN\HDA-HGA\HDA Toolbox\Forms\13.SOLEMN DECLARATION AND PERMISSION TO SUBMIT.docm 1 Oct 2019.

File reference: 7.1.11.3.2(3)

5.8.7 Annexure G: Language Editing Confirmation

• PO Box 10148, Henbyl, 1906 South Africa • Mobile: +27 (0)83 304 1006 •
• E-mail: elizezywot631@gmail.com • Website: http://ezlang.wix.com/ezcommslang •

Declaration

I, the undersigned, hereby confirm that I have language edited the dissertation entitled *Exploring the application of knowledge management within a South African human resource development context* by Petro Smith for the degree Magister of Education in Training and Development.

The responsibility of implementing the recommended changes and corrections rests with the author of the dissertation.

Elize Zywotkiewicz
Language Editor and Translator

2021-11-29