



Faculteit Letteren en Wijsbegeerte  
Departement Taalkunde

## **Metacognition in healthcare communication training: a critical analysis of blended second language learning**

Metacognitie in communicatietraining voor de gezondheidszorg:  
een kritische analyse van blended vreemdetaalleren

Proefschrift ingediend tot het behalen van de graad van Doctor in de Taalkunde  
aan de Universiteit Antwerpen te verdedigen door

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The diversity of learning needs among the members of any professional group of second language users is often under-estimated. By blending conventional classroom teaching with online learning, the linguistic needs of learners can seem scattered and beyond the teacher's ability to address. However, for healthcare professionals, communication training in a second language is crucial, as sound communication between patient and healthcare provider is associated with improved patient health outcomes.

Consequently, my thesis wants to demonstrate how to optimise communication training for healthcare purposes via a blended learning platform by facilitating and supporting learner metacognition. The literature shows that attention spent on metacognition is known to improve learning outcomes independent of learner intelligence. Though often neglected in existing research, this thesis emphasises that metacognition only manifests when learners have the opportunity to exercise both declarative and procedural knowledge, which in a language learning environment translate as awareness of and reflection on learning a language (declarative knowledge) and the skill to implement this knowledge as engagement with learning via interaction (procedural knowledge). Apart from exploring learner metacognition, this thesis also explores the principles underlying the curriculum and syllabus design process as meta-metacognition, where needs analysis and evaluation can be defined as declarative insights that feed into implementation during the pedagogical phases of teaching and learning (procedural knowledge).

The research context of this thesis spans two continents, with the main studies conducted amongst (1) medical students at the University of Stellenbosch, South Africa, and (2) pre-professional nurses studying at Artesis-Plantijn Hogeschool in Antwerp, Belgium. To validate and compare results, data were also obtained from (3) a group of medical professionals in Gothenburg, Sweden, studying Swedish as a second language via an online platform, and (4) first and second year majors of English at the University of Antwerp, Belgium. The core syllabi for the medical as well as nursing training were based on the online modules *Medics on the Move* and *Nursing on the Move*, which were developed along the same foundations.

A multi-methods research approach was opted for in order to gain a comprehensive understanding of the metacognitive processes in the different blended learning contexts and the research approach taken was mainly qualitative as the research purpose was to investigate the nature and impact of metacognition in a healthcare community, rather than to test a theory or measure variables. The research designs of enquiry varied slightly between the different phases of the research. Quantitative data were collected via questionnaires containing Likert (type) scale items, for example, in the usability study adopted in a logframe model, as well as by tracking students' online learning behaviour. Qualitative data were collected by means of transcribed focus group discussions, Facebook posts and open-ended questions and analysed according to the principles of grounded theory.

The results from the data analysis were organised in four parts to address the research question.

The first focal point of the research question is on the foundations of curriculum and syllabus design, where the first foundation entails a process of on-going needs analyses among stakeholders. This in turn should feed into the syllabus, as the next foundation. The syllabus should be functional, while relying on relevant scenarios to support communication. The third foundation refers to the task-based pedagogy underlying the course and realistically reflecting the activities to be undertaken in a healthcare context. Both teacher and learner should each take responsibility for learning during task performance. The fourth foundation then refers to stakeholder evaluations feeding continuously and systematically into the on-going development of the materials and teaching approach. Both the needs analyses and reflections function as declarative insights, which, when implemented, represent procedural knowledge. As the overall regulatory process, curriculum and syllabus design can be coined 'meta-metacognition', which will remain pro-active in delivering a relevant and meaningful learning experience.

The second part of the research focuses on the dynamic nature of learning support that results from the meta-metacognitive processes (needs analyses and evaluation) and the reciprocal relationship between curriculum components and the stakeholders' input (procedural knowledge).

The third part studies the nature of declarative and procedural knowledge, which stretches over three knowledge fields, namely (1) the self as a learner, (2) the task of learning a new language for healthcare purposes, and (3) strategies to support this learning process. Results indicate that collaborative learning in a social network fosters true peer interaction, while learners at the same time gain confidence in using the second language. Furthermore, the safe environment of the closed group makes it possible for learners to validate aspects of their identities as learners in a second language. Declarative knowledge (reflection) and procedural knowledge (interaction, validation) enable learners to take part in the on-going process of identity formation, which is necessary for their personal wellbeing. Results regarding the nature of language learning indicate that tasks should be interactive, relevant and personalised in order to support learning. Finally, results regarding learning strategies indicate that learning is ultimately an individualised process and that the blended learning approach offers learners a variety of strategies to choose from. The results furthermore indicate that there may be a discrepancy between a learner's declarative and procedural knowledge, which can point towards unvoiced learner/learning needs.

Finally, based on a systematic review of all the analyses undertaken, this thesis produces a taxonomy of learner metacognition, a model of the meta-metacognitive processes and a set of guidelines to optimise healthcare communication training courses by facilitating meta-metacognition and learner-metacognition. In doing so, I hope to deliver a defensible curriculum and syllabus that can meet the diverse and fluctuating needs of the healthcare learner with a pro-active approach.

**KEYWORDS:**

*metacognition, blended learning, communication training, health-literacy, online learning, vocational training, collaborative learning, meta-metacognition*

# Samenvatting

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De verscheidenheid van leernoden bij leden van een professionele groep die een tweede of vreemde taal gebruiken, wordt vaak onderschat. Door de traditionele onderwijsaanpak te vermengen met online leren (*blended learning*) lijken de taalnoden van leerders nog meer verbrokkeld te worden en buiten het bereik van de leraar die ze moet aanpakken. Niettegenstaande deze problemen, is communicatietraining in een tweede taal voor gezondheidswerkers van cruciaal belang, omdat een 'gezonde' communicatie tussen patiënt en zorgverstreker leidt tot een verhoogde gezondheid bij de patiënt.

Vanuit dit uitgangspunt wil mijn thesis aantonen hoe communicatietraining voor de gezondheidszorg geoptimaliseerd kan worden door het faciliteren en ondersteunen van de metacognitie van de leerder in *blended learning*. De literatuur leert ons dat aandacht voor metacognitie de leeruitkomsten bevordert onafhankelijk van de intelligentie van de leerder. Dit proefschrift benadrukt dat metacognitie zich enkel manifesteert als leerders de mogelijkheid hebben om zowel declaratieve als procedurale kennis te trainen, wat zich in een taallercontext vertaalt als bewustwording van en reflectie over het eigen taalleren (declaratieve kennis) en de vaardigheid om deze kennis om te zetten naar een engagement met interactief leren (procedurale kennis). Naast leerdermetacognitie bestudeert deze thesis de onderliggende principes voor curriculum- en syllabusontwikkeling als meta-metacognitie, waarbij behoefteanalyse en evaluatie gedefinieerd worden als declaratieve inzichten die de implementatie voeden gedurende de pedagogische fases van het onderwijs- en leerproces (procedurale kennis).

De onderzoekscontext van mijn thesis bestrijkt twee continenten: de hoofdstudies vonden plaats bij (1) medische studenten aan de Universiteit van Stellenbosch in Zuid Afrika en (2) pre-professionele verpleegkundigen van de Artesis-Plantijn Hogeschool in Antwerpen, België. Om de resultaten te valideren werden er ook data verzameld bij (3) een groep medische professionals die (puur online) Zweeds als tweede taal studeerden in Göteborg, Zweden, en (4) eerste- en tweedejaars studenten Engels aan de Universiteit van Antwerpen, België. De kernsyllabi voor het medische zowel als verpleegkundige luik zijn gebaseerd op de online modules ontwikkeld voor *Medics on the Move* en *Nursing on the Move*, die een gelijkaardig fundament hebben.

Er werd gekozen voor een multimethode onderzoeks-aanpak om inzicht te verwerven in de metacognitieve processen in verschillende *blended* leercontexten. De onderzoeksmethodologie was overwegend kwalitatief, aangezien het onderzoeksdoel erin bestond om de aard en impact van cognitie in de gezondheidszorg te bestuderen, eerder dan een theorie te testen of variabelen te meten. Het onderzoeksdesign varieerde lichtjes in de verschillende fases van het onderzoek. Kwantitatieve data werden verworven via vragenlijsten die *Likert*-schaal items bevatten, zoals bijvoorbeeld in het logframe model van de gebruikersstudie, maar ook door het online leergedrag van studenten te tracken. Kwalitatieve data werden verzameld door middel van getranscribeerde focusgroep discussies, Facebook posts en open vragen. Deze data werden geanalyseerd volgens de principes van *grounded theory*. De resultaten van de analyses worden in vier delen gerapporteerd in antwoord op de onderzoeksvraag.

Het eerste kernpunt van de onderzoeksvraag betreft de fundamenten van curriculum- en syllabusontwikkeling, waar het eerste fundament een proces van continue behoefteanalyses onder de betrokkenen (*stakeholders*) betreft. Dit proces moet op haar beurt de syllabus ondersteunen als het volgende fundament. De syllabus moet functioneel zijn en steunen op relevante scenario's die communicatiebevorderend werken. Het derde fundament verwijst naar de taak-gebaseerde pedagogie waarop de cursus gebouwd is en die op realistische wijze de activiteiten reflecteert die gebruikers in de gezondheidszorg moeten ondernemen. In deze fase moeten zowel leraar als leerder hun verantwoordelijkheid voor het leren opnemen. De vierde krachtlijn verwijst naar de evaluatie door *stakeholders* die continu en systematisch teruggeploegd moet worden in het ontwerpproces van materialen en onderwijsaanpak. Zowel behoefteanalyses als reflecties functioneren als declaratieve inzichten, die, van het moment dat ze geïmplementeerd worden, procedurale kennis vertegenwoordigen. Als overkoepelend regulerend proces kan curriculum- en syllabusontwikkeling gevat worden onder de nieuwe term, 'meta-metacognitie', dat proactief blijft bij het genereren van een relevante en zinvolle leerervaring.

Het tweede deel van het onderzoek focust op het dynamische karakter van leerondersteuning als gevolg van de meta-metacognitieve processen (behoefteanalyse en evaluatie) en de wederkerige relatie tussen curriculumcomponenten en de input van alle betrokkenen (*stakeholders*) (dit is procedurele kennis).

Het derde deel onderzoekt in meer detail de kenmerken van declaratieve en procedurale kennis die drie kennisvelden bestrijkt, namelijk (1) het *zelf* als leerder, (2) de taak van een nieuwe taal leren om te kunnen functioneren in de gezondheidszorg en (3) strategieën die het leerproces kunnen ondersteunen. De resultaten tonen dat collaboratief leren in een sociaal netwerk echte peerinteractie bevordert, terwijl leerders tezelfdertijd zelfvertrouwen winnen in het gebruik van de tweede taal. Verder maakt de veilige omgeving van de gesloten groep het mogelijk voor leerders van een vreemde taal om aspecten van hun leerderidentiteit te valideren. Declaratieve kennis (reflectie) en procedurale kennis (interactie, validering) maken het mogelijk voor de leerder om deel te nemen aan het continue proces van identiteitsvorming, dat noodzakelijk is voor hun persoonlijk welbevinden. De resultaten met betrekking tot de aard van taalleren tonen aan dat taken interactief, relevant en gepersonaliseerd moeten zijn opdat ze het leren ondersteunen. Finaal tonen de resultaten met betrekking tot leerstrategieën aan dat leren uiteindelijk een geïndividualiseerd proces is en dat de aanpak van gemengd leren (*blended learning*) aan leerders de mogelijkheid biedt om te kiezen uit een variëteit van strategieën. De resultaten tonen ook dat er een discrepantie kan zijn tussen de declaratieve en procedurale kennis van een leerder, wat een indicatie kan zijn van onuitgesproken leerder- en leernoden.

Tenslotte, gebaseerd op een systematische studie van alle analyses, rondt dit proefschrift af met een taxonomie van leerdermetacognitie, een model van meta-metacognitieve processen en een reeks richtlijnen. Ze beogen samen de training in gezondheidscommunicatie te optimaliseren door het bevorderen van meta-metacognitie en leerder-metacognitie. Hiermee hoop ik een stapje gezet te hebben in de richting van een verdedigbaar curriculum en een verdedigbare syllabus, die gedragen door een proactieve aanpak beantwoorden aan de diverse en wisselende noden van pre-professionals in de gezondheidszorg.

**KERNWOORDEN:**

*metacognitie, blended leren, gemengd leren, communicatietraining, gezondheidsgeletterdheid, online leren, beroepsgericht trainen, collaboratief leren, meta-metacognitie*

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# 1 LIST OF PUBLICATIONS

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## *Research articles*

### **Fourie, 2015a**

Fourie, C. (2015a). Lowering the threshold for online learning with Facebook: A South African pilot study. *Dutch Journal of Applied Linguistics*, 4(2), 154-173.

### **Fourie, 2015b**

Fourie, C. (2015b) Putting a face on the dynamic nature of tasks. In Colpaert, J. (Ed.) *Conference Proceedings: Task design and CALL* (242-248). Tarragona: Universitat Rovira I Virgili.

### **Fourie, 2017**

Fourie, C. (2017). Facing (and facebooking) authentic tasks in a blended learning environment: metacognitive awareness demonstrated by medical students - Chapter in book, *Collaborative Language Learning and New Media: Insights into an Evolving Field*, Ludwig, C. & Van de Poel, K. (eds.) Peter Lang. 151-176.

### **Fourie, 2018a**

Fourie, C. (2018a). Metacognition and the complex process of developing identities via a second language: addressing the challenges healthcare professionals are facing in a multilingual context. Submitted for publication

### **Fourie, 2018b**

Fourie, C. (2018b). Declarative and procedural knowledge in healthcare communication training: The dynamic relationship between metacognitive awareness and skill in blended healthcare communication training. Submitted for publication

## *Collaborative studies*

### **Van de Poel & Fourie, 2013**

Van de Poel, K. & Fourie, C. (2013). A critical approach to the development of blended medical communication training materials. *Stellenbosch Papers in Linguistics Plus*, 42, 1-19.

### **Van de Poel, Fourie, & Seberechts, 2013**

Van de Poel, K., Fourie, C. & Seberechts, K. (2013). Medics on the Move South Africa: Access to medical words. *Studies in Self-Access Learning Journal*, 4(4), 338-351.

### **Peeters & Fourie, 2016**

Peeters, W. & Fourie, C. (2016). Academic acculturation in language learning through Facebook. *English Text Construction*, 9(2), 292-316.

### **Van de Poel & Fourie, 2016**

Van de Poel, K. & Fourie, C. (2016). Guidelines to foster metacognitive skills in online professional communication training. In *EDULEARN16. Proceedings of 8th International Conference on Education and New Learning Technologies* (pp. 672-681). Barcelona: IATED.

## 2 INTRODUCTION

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With an increasing number of people crossing borders between countries and continents, linguistic and cultural barriers expose the need for professional communication training to ensure equal access to services. In professional health care contexts and subsequently in higher education and vocational training institutions, the need to effectively communicate in a multilingual environment is evident, as there is a corresponding relationship between provider and patient communication on the one hand, and patient health outcomes on the other hand. (Singh, Evans, Williams, Sezginis & Baryeh, 2017; Thornton, Powe, Roter, & Cooper, 2011; Buller & Buller, 1987; Stewart, 1995).

### **2.1 Literature review on the healthcare context and communication training**

#### **2.1.1 Health literacy matters in Applied Linguistics**

Initially, health literacy referred to a people's ability to access and understand information about their own health in order to make decisions that would meet their health needs (Parker & Ratsan, 2010). However, a more recent definition takes the complexity of the healthcare context into account and delineates health literacy as a process of information exchange at several levels, that not only refers to the traditional definition, but also to a set of functions and interactions in which healthcare providers and systems participate and to which they contribute. These include multiple discourse events, not only between the patient and healthcare professionals functioning in a variety of contexts, but also refer to the interactions between healthcare professionals (Rubin, 2014). Within the scope of this expanded definition, health literacy is considered as a significant factor in the process of reducing health disparities, and as a result health-related language services in

healthcare remain a need so that linguistic minorities will not be at a disadvantage (Hamilton & Chou, 2014; Rubin, 2014). Existing research highlights a gap between healthcare students' awareness of their own skill to communicate with a patient during a course and their experience of not being able to apply their knowledge to a real life consultation with a patient (Bombeke, Symons, Vermeire, Debaene, Schol, & De Winter, 2012). This challenge gains weight, when the healthcare professional has to communicate in a second language.

From a linguistic point of view, attaining health literacy falls under the domain of language for specific purposes. Hamilton & Chou (2014) point out that applied linguists, especially those focussing on health communication, often need to be able to work as part of interdisciplinary teams to address the issues at stake, which is, as Roberts (2005) explains, due to the fact that the curriculum of the language for specific (healthcare) purposes course is provided by the work context and its dynamics. This relationship between Linguistics and the real world context to which it is applied, is emphasised by Crystal who explains that change in Applied Linguistics is mostly based on the values and variables introduced by the context (Crystal & Brumfit, 2004; Long, 2005). Weideman (2013; 2017) underlines this intrinsic characteristic of Applied Linguistics by emphasizing that the unfolding of language course design is a connected and continuous process with small, augmented contributions that are reciprocal and that design should rely on principles.

Following in the tradition of Applied Linguistics, this thesis will explore health literacy and communication for healthcare purposes by applying existing linguistic theories and concepts and by taking the values and parameters of the healthcare context, as well as other relevant fields, such as linguistics, pedagogy, educational psychology and psychology into account. To this end the topic of *metacognition* was

suggested by the data from this research and confirmed by the literature as a vehicle to establish positive intervention in healthcare communication training.

### **2.1.2 Metacognition as a vehicle to establish positive intervention**

Educational psychology's interest in metacognition is rooted in the findings that higher levels of metacognition are not directly related to cognitive ability and that metacognition will improve learning outcomes in face-to-face teaching contexts, as well as in online learning environments (Veenman, Van Hout-Wouters & Aflerbach, 2006; Veenman, 2013). However, the term *metacognition* lacks a coherent definition as the interdependence between cognition and metacognition can make it difficult to separate the two concepts and the term *metacognition* can furthermore be applied to different contexts. For the purposes of this thesis, Schraw's definition of metacognition (1998), following Flavel (1979), will be used. Accordingly, metacognition is defined as and divided into two broad types of knowledge, namely declarative knowledge and procedural knowledge.

Declarative knowledge can firstly be defined as knowledge and awareness about the self as a learner and includes awareness based on the learners' understanding, intuition or perception of their own abilities, strengths, weaknesses and motivation to learn and complete a task, as well as and self-confidence or self-efficacy (Schraw, 1998; Tarricone, 2011; Fourie, 2015a). Secondly, declarative knowledge refers to awareness about the task of learning and includes knowledge and awareness about the context of the task, task complexity, task demands and information provided by the task (Schraw, 1998; Tarricone, 2011; Veenman et al., 2006; Fourie, 2015a). Thirdly, awareness about strategies refers to different strategic features such as planning, monitoring, testing, revision, evaluation and critical reflection (Flavel, 1979, Schraw, 1998; Tarricone, 2011; Veenman et al., 2006; Pintrich, 2002; Fourie, 2015a). It is significant to note that declarative knowledge or metacognitive awareness per se

does not guarantee effective solutions to learning challenges, as procedural knowledge is necessary to control declarative knowledge (Veenman, 2013).

Procedural knowledge refers to learners' abilities to regulate their own learning activities and problem solving processes (Schraw, 1998; Tarricone, 2011; Veenman et al., 2006; Fourie, 2015a). For the purposes of this thesis, procedural knowledge will be defined as dynamic knowledge that is activated during the process of learning, when it is adjusting and controlling the interplay between the three types of declarative knowledge to solve challenges (Fourie, 2015a). This definition agrees with Veenman (2013) who explains that learners' procedural knowledge can be seen as their metacognitive skill or aptitude to regulate and control task-performance. In this regard, procedural knowledge (metacognitive skill) is declarative knowledge (metacognitive reflection and awareness) in action. Schraw (1998:114) explained that learners "with a high degree of procedural knowledge perform tasks more automatically, are more likely to possess a larger repertoire of strategies to sequence strategies more effectively and use qualitatively different strategies to solve problems." It is also significant to note that procedural knowledge is relatively fixed, but can develop and change during the process of task performance and learning (Veenman, 2013; Schraw, 1998). In communication training and second language learning environments these learning tasks are strongly influenced by the target language itself and the context where the target language will be used.

Metacognitive awareness (declarative knowledge) and metacognitive skill (procedural knowledge) are investigated and analysed by using either offline or online methods (Veenman, 2013). Metacognitive awareness can be explored by offline methods such as (written) prompts or questionnaires to reflect before, during or after task performance on how tasks were conducted (Veenman, 2013). These reflections are therefore accounted for while the student is not at the same time engaged in the task. Offline methods are generally fairly easy to administer.

However, these accounts are often mistakenly seen as evidence of metacognitive skill utilised by learners and these reports can produce validity issues as they rely on learners' perceived ideas about and memory of, for instance, strategies employed to perform tasks (Veenman, 2013). A learner can spontaneously activate execution processes and these sets of estimations and self-instructions are furthermore concealed and are happening at a meta-level. Therefore, in contrast with offline methods, online methods are based on actual learner behaviour and are sourced during task performance (Veenman, 2013). These methods typically include observational methods after which the data are coded. An example of an online method would be to track learner logs while these learners are engaging in task performance via a device-based learning platform. This method would not interfere with task performance and, depending on the program used, could provide researchers with the specific steps taken to perform a task. To ensure an accurate representation of metacognition skills utilised, tracking can coincide with further concurrent methods such as think-aloud protocols, but this could be an intrusive experience, affecting learner behaviour and altering their skill utilised (Veenman, 2013; Ericsson & Simon, 1987).

As a further indication that offline methods might not be a valid reflection of metacognition skill, research has shown that offline and online reports of metacognitive skill employed during the same task, often do not correspond and that online methods are in general better indicators of metacognitive skill and consequently also better predictors of learning outcomes (Veenman, 2013). Veenman further indicated that multi-method research to explore metacognition is lacking. The indicated need was addressed by this thesis, as a mixed method approach was utilised to explore learners' metacognition.

For this research a blended learning context was optimised to support metacognition for healthcare communication training purposes.

### **2.1.3 Blended learning as the new everyday context**

*Blended learning* has become a familiar concept in education and educational research as it is almost inevitable that learning will nowadays be blended to combine the face-to-face context of learning with appropriate use of computer mediated instruction or online learning (Ludwig & Van de Poel, 2017; Graham, 2006; Archilla, 2014; Kern, 2011). According to Kern (2011) online learning is a collective term for computer-mediated learning where software can function as a tutor to provide, for instance, instruction, information, training, testing and feedback. At the same time computer-mediated learning with access to the internet can provide learners via search engines with a wide variety of reference and research tools that can be text, graphic, audio and video based. Furthermore, web 2.0 enabled “computer-mediated communication” (Kern, 2011:201) which is possible in various formats and via various platforms, either as asynchronous or synchronous. In spite of the various interactive online platforms available, research indicates that learning that combines online with face-to-face learning, facilitates better educational outcomes than autonomous computer-mediated learning (Sato & Ballinger, 2016; Larson-Freeman, 2013).

As it seems inevitable for (language) learning to embrace some form of computer-mediated learning, this thesis explored not only a blended learning course that combined an autonomous online programme with face-to-face learning (Van de Poel & Fourie, 2013), but also the dynamics of adding a third learning platform to the blend, namely an online community of practice (Fourie, 2015a).

### **2.1.4 (Online) community of practice to support learning**

As this thesis is focussing on the benefits that improved levels of metacognition may have within a communication training context, it is significant to note that members of a community that share a collective goal and have to perform a collective task, can

also share metacognition in order to improve the outcome of collective task performance (Shea, Boldt, Bang, Yeung, Heyes & Frith, 2014).

Apart from the possibility to share metacognition, communities of practice hold many other known and well-researched advantages for its members, such as the ability to manage change, opportunities to share knowledge explicitly (for example through writing) and implicitly (through sharing experiences) opportunities to engage actively in problem solving, sharing in meaningful learning experiences, and having the opportunity to develop individual identities (Huffman & Jacobs, 2003; Wenger, McDermont & Snyder, 2002; Hara & Hew, 2007, Wenger 1998). According to the existing research, these advantages of membership develop as a result from the real nature of a community of practice, which is to provide a safe space where a group of people, sharing a common interest in a subject area, can engage with each other about that interest in order to develop solutions to problems and to support collective learning.

Communities of practice in tertiary educational settings are associated with positive learning outcomes, such as the successful completion of courses (Inkelas & Wiseman, 2003; Knight, 2003 & Stassen, 2003). These positive outcomes are due to the opportunities that exist within communities for members to be involved with learning experiences (Pike, Kuh & McCormick, 2010). This engagement in learning can manifest itself as collaboration and interaction with peers and lecturers as well as time spent on academic tasks (Inkelas & Wiseman, 2003; Pike et al., 2010).

Communities of practice tend to migrate to online platforms, due to the various social media applications that web 2.0 facilitates. These popular social network sites (SNS), such as Facebook, Twitter, LinkedIn and Whatsapp, have user-friendly interfaces and allow users to interact with each other by creating, sharing and manipulating text, image and video files. (Zourou, 2012; Ludwig & Van de Poel,

2015; Peeters, 2015; Van de Poel & Gasiorek, 2017). Continuing research is being done on the nature of interaction amongst users on these SNSs. However, Zourou (2012) warns that research done on the potential of SNS should be cautious to apply findings to SNS in general, as varied patterns of user behaviour are determined by different SNS applications, for instance a community of practice operating via LinkedIn may have different patterns of behaviour compared to a community operating via a Facebook platform. Furthermore, as technological advances are constantly made (such as with Whatsapp during the past five years with respect to the sharing of files and options available to manage closed groups) that have an impact on the functionality and use of SNS, the focus of research should be on the “learning dynamics that are enhanced by a particular use of a tool” (Zourou, 2012). In spite of widespread scepticism, new research continues to show that SNS can indeed be a space for learning and especially learning a foreign or second language, as it provides opportunities for peer and lecturer support and collaboration, learning output as text, as well as for differentiated instruction (Ludwig & Van de Poel, 2015; Peeters, 2015; Peeters & Fourie, 2016). In addition, Van de Poel and Gasiorek (2017) show that learners make use of varied collaboration and learning strategies in a blended environment.

For this study Facebook was chosen as a platform to facilitate an online community of practice through a closed group ([www.facebook.com](http://www.facebook.com)). Specific features, such as being familiar with the platform, easy access via smartphone or other devices, transparency of all posts to all members, ability of all members to post or comment on posts of others and the ability to scroll back to previous posts and multimodality of posts that include for instance text, images, audio files and emoticons) were some of the main reasons why this specific social network was opted for.

The above literature review provided an outline of the relevance of health literacy and language for specific (healthcare) purposes in a multilingual or second language

context, the possible benefits of metacognition in the language learning process and the notion of a blended learning approach that includes an online community of practice. Taking this general and theoretical context into account, the specific research context that is applicable to this thesis, will be explained in the following section.

## **2.2 Research context**

This thesis is part of an on-going research and development project in autonomous online and blended communication training for healthcare (pre-)professionals. The project originated in Belgium in 2006 as an EU-co-funded project called *Medics on the Move* (MoM) (Van de Poel & Fourie, 2013). Initially, the aim of this project was to develop an online communication training tool for mobile medical professionals who were facing linguistic and cultural barriers at work. The original MoM syllabus was transferred to six European languages with translation support for six other languages.

South Africa, the rainbow nation, is facing several healthcare challenges. With eleven official languages, the healthcare professionals face foreseeable communication challenges, as they have to navigate across linguistic and cultural barriers.

Furthermore, the South African healthcare context is restrained by an under-representation of doctors. Recent newspaper articles on the topic (Child, 2018) still refer to reports (Econex, 2015) based on a census conducted in 2013, as no official and more current numbers are available, though expectations are that the healthcare professional-patient ratio is worse. According to these reports South Africa in 2013 had an average of 60 doctors per 100,000 citizens, while for the same year the world average was 152 doctors per 100,000 citizens.

In order to address the communication challenges faced by the healthcare section, the Faculty of Medicine and Health Sciences at Stellenbosch University in the Western Cape, together with the *Medics on the Move* (MoM) team from Belgium and the Language Centre at Stellenbosch University, adapted and adopted the European online MoM-course as a blended course in Afrikaans for the South African context (MoM-SA). As Afrikaans is one of the three dominant languages in the area, it was required of all students to do a communication training course in their weakest language – which per definition was either Afrikaans or Xhosa, as basic English proficiency was assumed. By implementing this course the hope was to take a small step alongside various other efforts towards addressing health disparities in the country by supporting communication between doctor and patient as well as between healthcare professionals (McNamee, 2015).

These materials were piloted from February to April 2013 with a group of 30 first year medical students, who were beginners or false beginners of Afrikaans (for a more comprehensive overview of the needs analysis and how the blended course content and presentation were adapted, see Chapter 1). From this study a significant recommendation arose for the next study, being “students should be given appropriate support to become computer literate and aware of how to (optimally) use the programme’s online materials” as they seemed hesitant to do so. Further pedagogical recommendations were that students should be guided to be more aware of their own learning needs and how course materials could meet these needs so that they could take ownership of their own learning processes (Van de Poel & Fourie, 2013: 16).

A group of first year medical students (N=36), similar to the 2013 group, followed the MoM-SA course in March 2014. In order to address the recommendations pointed out after the previous course, a closed Facebook group was introduced to lower the threshold for online learning. The results from the study indicated that the

Facebook group made online learning more accessible by raising students' metacognitive awareness. For a detailed discussion of this process, see Chapter 2. A group of senior medical students (N=10) who had studied medicine in Spanish in Cuba (see Chapter 4 for background information on these students) also upon return to South Africa took part in the MoM-SA blended communication training course. Based on a needs analysis carried out with a similar group in 2012, a multi-lingual pocket-size dictionary was co-developed as part of the course and introduced to support the blended learning environment (see Chapter 4).

In 2016 the online blend in the MoM-programme was further explored and supported with a Facebook community of good practice. During this research phase the focus was on a group of medical doctors and specialists who had all immigrated (mainly from Syria) to Sweden where it was compulsory for them to learn Swedish. The students participated in a face-to-face communication course in Swedish (taught by a Swedish tutor). In order to optimise the materials and learning, the autonomous online MoM-programme for Swedish was made available to these students. A closed Facebook group was run to support their online learning where English was used as the lingua franca. This Facebook group utilised the frameworks and outcomes of the preceding studies, in order to support metacognition. Although there was brief contact with the Swedish communication teacher, the lecturer-researcher who facilitated the Facebook community had no knowledge about the content of the contact course. The autonomous online behaviour of these students was tracked and discussed in a comparative study documented (as described in Chapter 10).

Based on further research and needs analyses, a tool was developed along the same foundations as MoM, but restricted to the nursing profession, *Nursing on the Move* (NoM). NoM was coordinated by the University of Antwerp and resulted in online materials for six European languages. This tool was first pre-piloted in Antwerp, Belgium, in 2016 amongst a group of Dutch speaking care workers who were part of

a bridging programme leading to a BA in Nursing. The NoM-communication course in English (their second language) was an elective. Both the MoM and NoM modules have been redeveloped over time and adapted to new needs, new environments, new audiences, new stakeholders, and they are currently being managed by the charitable organisation *InterCulturate* ([www.interculturate.org](http://www.interculturate.org)).

### **2.3 Research approach, design and procedures**

In this PhD a multi-methods research approach was opted for in order to gain a comprehensive understanding of metacognitive processes in different blended learning contexts in healthcare settings. The approach taken for this thesis was mainly qualitative as the research purpose was to investigate the nature and impact of metacognition in a healthcare community, rather than to test a theory or measure variables (Dörnyei, 2007). Accordingly, the research method in every study follows an inductive style, inferring meaning and concepts by starting from particular pieces of information while taking the complexity of the context into account and deriving theoretical understanding from it.

To complement the approach, a mixed method design was followed. The research designs of enquiry varied slightly between the different phases of the research. Quantitative data were, for instance, collected via questionnaires containing Likert (type) scale items (for example, in the usability study) adopted in a logframe model (originally developed by Entente UK in 2008 for the purpose of quality assurance of the MoM-project), as well as by tracking students' online learning behaviour. Qualitative data were collected by means of transcribed focus group discussions, Facebook posts and open-ended questions and analysed according to the principles of grounded theory (Charmaz, 2014).

More detailed descriptions of research design and procedures are embedded in the different chapters.

## **2.4 Research focus and organisation of the thesis**

As pointed out earlier, this thesis takes into account that there is a corresponding relationship between improved doctor-patient communication and patient health results (Singh et al., 2017; Thornton et al., 2011; Buller & Buller, 1987; Stewart, 1995) and furthermore that improved health literacy is considered as a significant factor in the process of reducing health disparities. Consequently, the need for language services in healthcare is implied (Hamilton & Chou, 2014; Rubin, 2014). Within this context two online healthcare communication training courses were adapted for blended learning by including face-to-face teaching activities and introducing an online (Facebook) community of practice alongside the existing online learning platform for autonomous learning. The **purpose** of this blending was to optimise the participants' learning experience by exploring how to support the development of their metacognition. The reasoning behind this blend was that higher levels of metacognition will improve learning outcomes independent of intellectual and cognitive abilities in face-to-face teaching contexts, as well as in online learning environments (Veenman, Van Hout-Wouters & Aflerbach, 2006; Veenman, 2013). To this end a series of studies were conducted at various stages of the research project. They resulted in a variety of academic papers (see List of Publications), the research focus of which has been subdivided and organised into the four parts of the thesis:

- PART ONE - Meta-metacognition: Delving into needs and design
- PART TWO - Learner metacognition and support
- PART THREE - The dynamic nature of metacognition in blended learning
- PART FOUR - Guidelines and principles to support meta-metacognition and metacognition

## **PART ONE – Meta-metacognition: Delving into needs and design**

This part introduces the concept of meta-metacognition by identifying and describing the learners' and their learning needs, leading to an inventory of the requirements for an optimised learning design.

Chapter one is based on a co-published article by Van de Poel & Fourie in 2013 (see List of Publications) and was presented at the 2013 SAALA conference in Stellenbosch. It reflects my first steps on the research catwalk and discusses the development of a blended learning syllabus for the South African healthcare context as a principled process that depends on a comprehensive needs analysis. As the article provides the detail of the underlying principles on which the remainder of the research intervention is based, it is added here in full. My contribution to this article has been that of a participant-observer who not only took part in the process of adapting the course material to the South African context, but also performed as the teacher during the full South African pilot project. I provided the South African background and analysed the data before joint discussions took place.

As explained in the Literature Review (see Introduction 1.2) the learning process can be enhanced if learner metacognition is supported. This thesis claims that the determining concepts underlying learner metacognition and the actuation of these concepts can also be applied to the process of curriculum and syllabus design in order to enhance the teaching and learning process. From this point of view, meta-metacognition refers to the declarative knowledge (reflection and awareness) as well as the procedural knowledge (skill) that are imperative to support and sustain the teaching and learning process. As with learner metacognition, there is a dynamic and reciprocal relationship between the declarative and procedural aspects of curriculum and syllabus design. Within this context, declarative knowledge can refer to the needs analyses and evaluation processes done by all stakeholders during curriculum and syllabus design, while procedural knowledge refers to how the

input from needs analyses and evaluation processes manifests in the teaching and learning process.

## **PART TWO – Learner metacognition and support**

In Part Two the focus shifts from meta-metacognition to learner metacognition and support implemented for the learner. Not only does Part Two contain a proper description of how learner needs are addressed in the blended environment by adapting the tasks and learning platform, it also points back to Part One through highlighting how curriculum and syllabus design is enhanced when needs feed into the design process on a continuous basis.

Chapter 2 studies how metacognition manifested itself during the pilot phase of a medical communication training course, and outlines aspects of a learning environment that support actual learning and metacognition. It furthermore contains an overview of how declarative and procedural knowledge, as the fundamental aspects of learner metacognition, can be facilitated via a Facebook community of practice and how the experience of being a community member can support blended learning by lowering the threshold of online learning. This chapter has been published as “Lowering the threshold for online learning with Facebook” (Fourie, 2015a; see List of Publications).

In Chapter 3 the Facebook community of practice introduced in Chapter 2 is compared to activities generated by a Facebook community created for first year English major students studying at the University of Antwerp. Although the academic profile of the learners is different in both studies, the aim of the learning, which is language learning for specific purposes, is not. The analysis provides an outline of how collaboration via appropriation of a Facebook community of practice can support the acculturation process, i.e. the students have to acculturate to the blended learning environment, the programme’s objectives and outcomes, the

(content of) language learning, as well as peer support and collaborative learning. This co-written article has been published as ‘Academic acculturation in language learning through Facebook’ by Peeters & Fourie, 2016 after presenting it at the 2015 BAAHE conference in Antwerp. My contribution to this study was the literature review, analysis and discussion of the South African data, whereas the comparison of the data was a joint venture. This article has been included here since the findings provide a relevant backdrop for the rest of this thesis’ argumentation.

Introducing the community of practice into the online learning environment has proven to be a beneficial approach to teaching and learning. Chapter 4 studies another way into supporting the metacognitive and collaborative learning process. It is a co-written article that describes the introduction of a paper-based, pocket-size dictionary as support towards entitlement in a blended learning environment and reflects a collaborative endeavour by course participants. The project was published with the title, “Medics on the Move South Africa: Access to medical words” (Van de Poel, Fourie & Seberechts, 2013; see List of Publications) and resulted from attending the SIG conference on learner Autonomy in Hannover (Learner autonomy in second language pedagogy and research - challenges and issues) where I presented a paper entitled *Challenges in learner autonomy in a South African medical communication context*. My contribution to the article sprouted from my status as participant-researcher and teacher of the course described.

### **PART THREE – The dynamic nature of metacognition in blended learning**

In this part we are moving away from syllabus and material design to the process of learning. Learner metacognition is being discussed from three angles by considering the repercussions of metacognition on three knowledge fields, namely the self (Chapter 5), the task of learning a new language (Chapters 6 and 7) and strategies used for learning a new language (Chapter 8).

Chapter 5, “Metacognition and the complex process of developing identities via a second language: addressing the challenges healthcare professionals are facing in a multilingual context” (Fourie, 2018a), discusses the complex process of developing identities via a second language and the role of metacognition to address the challenges healthcare professionals are facing in a multilingual context. A balanced view on the self will have repercussions for learners’ well-being and well-feeling as professionals. In a context of lifelong learning attention on identity development may have an effect on job satisfaction and dissatisfaction (or even burnout) (Van Bogaert, 2009; Pung & Goh, 2017).

Chapters 6 and 7 are focusing on learner metacognition with reference to the tasks associated with learning a language. The research behind these chapters have been reported upon at the SAALA conference in Potchefstroom (2015) CALL conference in Tarragona (2015) as well as the LASIG conference in Antwerp (2016). Chapter 6, “Facing (and facebooking) authentic tasks in a blended learning environment: metacognitive awareness demonstrated by medical students”, describes learners’ metacognitive awareness about the tasks that are included in communication training, and how this awareness informs their learning experience (see Fourie, 2017 in List of Publications). In Chapter 7, “Putting a face on the dynamic nature of tasks”, focus is on an investigation of how different complex contexts result in different manifestations of the teacher’s voice in blended learning and the impact hereof on the declarative knowledge encouraged by the tasks (see Fourie, 2015b in List of Publications).

Chapter 8, entitled “Declarative and procedural knowledge in healthcare communication training: The dynamic relationship between metacognitive awareness and skill in blended healthcare communication training” (Fourie, 2018b in List of Publications), highlights how pre- and post-course reflection (declarative knowledge) on learning needs and learning experiences can correspond with skill

and actual online behaviour (procedural knowledge) and subsequently, the chapter delineates what these corresponding and/or diverging data sets suggest about students' declarative and procedural metacognition.

As with Part Two, the focus of each chapter in Part Three is on learner metacognition. In this part, especially Chapter 6, the responsibility of the learner to become co-owner of the learning and metacognitive processes, is emphasized. Chapter 8 also highlights the dynamic and often unpredictable nature of metacognition. From a meta-metacognition point of view this suggests that programme and material design should be responsive to changes and that there should be a reciprocal relationship between stakeholders.

#### **PART FOUR – Guidelines and principles to support meta-metacognition and metacognition**

Having moved from programme and material design (meta-metacognition) to the process of metacognition in learning and the facilitation of learner metacognition, the final part of this thesis will focus on both learner metacognition and meta-metacognition by outlining how the data are able to inform the pedagogics and didactics of vocation foreign language learning.

Part four, therefore, contains a set of pedagogically informed guidelines to support learner metacognition and meta-metacognition. Chapter 9, builds on a data-driven study, the findings of which were presented during a NoM-project meeting (April 2016) and, as such, were intended to trigger participants' engagement after the pre-pilot to amend the materials. The study was then reworked into a poster for the final meeting and conference (June 2017), after being presented at the Edulearn conference in Barcelona (2016) and published in collaboration with the project coordinator both in the Edulearn conference proceedings as well as on the project

website as “Guidelines to foster metacognitive skill in online communication training” (Van de Poel & Fourie, 2017).

The guidelines from Chapter 9 were systematised and presented in Chapter 10 as a taxonomy of metacognition, building on data gathered from several communication courses for healthcare purposes over the past five years. The taxonomy goes hand in hand with a final set of guidelines supported by principles and based on a systematic review of data and publications to address the focus of the research. Alongside a comprehensive model that visualises the guidelines to support meta-metacognition and learner metacognition, the taxonomy forms the keystone to this thesis and brings together all reflections and findings.

## **2.5 Delineation of research focus**

The main research question underlying all of the studies introduced above is how a blended learning experience for healthcare communication purposes can be optimised by supporting the learners’ metacognition, while incorporating both declarative and procedural knowledge. To this end, metacognition was studied in relation to the learner and their learning experiences, while the role of meta-metacognition (as a newly coined term) was studied in the process of curriculum and syllabus design. The focus was narrowed down to the following questions, which coincide with the four parts of the thesis (see each chapter for a more detailed and focussed research question):

1. From a meta-metacognitive perspective, what are the principles and practices underlying curriculum and syllabus design in a blended learning context for healthcare purposes?
2. What are the intrinsic values of collaborative support in blended learning to overcome learning challenges with a linguistic focus?

3. What is the nature of declarative and procedural metacognition in vocational blended language learning and how can it support learner identity formation processes, learner task performance and strategic approaches to engage with communication training challenges?
4. What are the underlying guidelines and principles that support both metacognition and meta-metacognition in blended learning context for healthcare purposes?

## **2.6 Participants in the different studies**

In the above it was already indicated that different –not totally unrelated– learners have taken part in the different studies.

The table below gives an overview of the research phases with reference to participants.

Table 1: Overview of research phases

Date	Number of participants	Subject/course & educational institution	Level of qualification & experience	Language of instruction at institution	Target language and level
Febr-April 2013	30	Medical communication training at the University of Stellenbosch (US)	1st year Medicine	English	Afrikaans (beginners and false beginners)
July – Aug 2013	10	Medical communication training at US	6th year of medical training (after 5 years training in Cuba)	English (Spanish previously)	Afrikaans (beginner and false beginners)
March – April 2014	36	Medical communication training at US	1st year Medicine	English	Afrikaans (beginner and false beginners)
2013-2014	119 -1 <sup>st</sup> year,  109 -2 <sup>nd</sup> year	English Proficiency,  University of Antwerp (UA)	1 <sup>st</sup> year linguistics and literature  2 <sup>nd</sup> year linguistics and literature	Dutch	English (advanced)
Febr-April 2016	25	Swedish for medical purposes	Qualified (or specialised) medical doctors	English	Swedish (beginner)
Febr-March 2016	23	Healthcare communication training at Artesis Plantijn Hogeschool, Antwerp	Diploma in care and various years of professional experience	Dutch	English (beginner & intermediate)



### *Meta-metacognition: delving into needs and design*

*This article explains how a principled approach to syllabus and course material development manifested in practice, while different stakeholders' needs were taken into account. The Medics on the Move (MoM) online programme was initially developed as an autonomous learning tool to support language-discordant medical professionals in a European context by addressing mainly oral and aural communication, while accommodating paralinguistic information in authentic scenarios (Van de Poel 2011; 2013). The materials were adapted to the context and needs of South African (pre-)professional medical students (a different region with different multiple linguistic and cultural requirements and a slightly different audience). The development and implementation of the material for this context represent the initial stages of the recorded research for this thesis.*

*The description of this principled process and the principles guiding the process provides an outline of and practical perspective on the unfolding of curriculum and syllabus design. The significance of this process is*

*first embedded in the fact that an existing and sound programme with materials was adapted and adopted to suit the needs of another context. The second aspect, which is noteworthy for this thesis, is that the syllabus of an autonomous online programme was adapted to function as materials to suit a dynamic blended learning approach to teaching and learning. Thirdly, it is significant to note the responsible methodology employed in developing a “defensible” (Brown, 1995:86) programme, especially as the reality in linguistic design is for innovation to happen with gradual increase (Weideman, 2013; 2017).*

*Although not explained as such in the following chapter, the process of curriculum and syllabus design, refers to how meta-metacognition can support the teaching and learning process. It is the reciprocal relationship between needs analyses and course evaluation (declarative knowledge) on the one hand and the actual implementation of this gained awareness in the teaching and learning process (procedural knowledge) on the other hand, that allows for the defensible and responsible approach to curriculum and syllabus design suggested by Brown (1995), Crystal and Brumfit (2004) and Weideman (2017) amongst others. The model at the end of Part One (see Figure 1) provides an overview of how meta-metacognition is applied to curriculum and syllabus design. In Part Four of this thesis the model is expanded to combine the support for curriculum and syllabus design meta-metacognition with the support for learner metacognition. As seen above, the term meta-metacognition is used to refer to the declarative knowledge (reflection and awareness) as well as the procedural knowledge (skill) that are imperative to support and sustain the teaching and learning process.*

### **3.1 CHAPTER ONE:**

**A critical approach to the development of blended medical communication training materials**

Van de Poel, K. & Fourie, C. (2013). A critical approach to the development of blended medical communication training materials. *Stellenbosch Papers in Linguistics Plus*, 42. 1-19.

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## **Abstract**

Effective communication between doctors and patients improves patient health outcomes (Hewett et al. 2009; Stewart 1995; Watson et al. 2012), and communication skills courses have become an integrated component of the medical curriculum. However, language-discordant contexts are not fully provided for yet, since “[l]anguage support guides (such as the Calgary-Cambridge guides; Silverman et al. 2005) generally target native speakers rather than language learners, and typically mention the use of a second or foreign language as just one of many issues in cross-cultural communication without providing any solutions or prescriptions to address ensuing communication problems” (Gasiorek & Van de Poel 2012:372). In a South African professional healthcare context, communication challenges are manifold because of the number of languages and cultures involved and because of the diverse views on the nature of a medical encounter. South African public healthcare is further hampered by a lack of doctors (KZN Department of Health 2013). Given the need for tailored communication materials, a new vocational training course in Afrikaans as a second language was introduced for first-year medical students at one South African university applying a blended learning approach (i.e. restricted contact teaching and autonomous online learning). To facilitate the development and implementation process, the European project Medics on the Move (MoM) was adapted and adopted as a communication tool. This paper addresses principles and practices underlying the MoM materials as part of the process of adapting the vocational training concept to the specific South African context, needs and learners.

The development process is presented as an integral part of a comprehensive needs analysis (Brown 1995), at the end of which new questions and needs are identified. The results corroborate that MoM-SA is a dynamic and effective teaching/learning tool which functions as a language support system that helps build skills for a multilingual professional environment.

**Keywords:** *medical communication, vocational training, autonomous online learning, language support system, needs analysis*

### **3.1.1 Introduction**

#### **3.1.1.1 Medical communication challenges in South Africa**

Research has shown that the quality of doctor-patient and doctor-colleague communication directly influences the quality of patient care (see Hewett et al. 2009, Watson et al. 2012 for examples). Moreover, effective physician-patient communication significantly improves patient health outcomes (Stewart 1995:1423). Inspired by these findings, communication training worldwide has become an integrated component of the medical curriculum. However, language-discordant communication in which doctors and patients have different cultural backgrounds has not yet been fully integrated into the agenda and language support guides (such as the Calgary-Cambridge guides; Silverman et al. 2005) “typically mention the use of a second or foreign language as just one of many issues in cross-cultural communication without providing any solutions or prescriptions to address ensuing communication problems” (Gasiorek and Van de Poel 2012:372). Nevertheless, in contexts where medical professionals are in contact with different languages and cultures, i.e. where language-discordant and multicultural encounters are the order of the day, special attention should be paid to the professionals’ communication training.

In a South African (SA) professional healthcare context, communication challenges are manifold, first and foremost because of the number of languages involved and because of diverse views on the nature of the medical encounter. Although not all 11 official languages are used equally frequently in professional contexts, medical professionals are recurrently “on the move” between languages and culture. Moreover, they have to adapt to different medical contexts and approaches and have to understand often conflicting, culturally-determined ideas, concerns and expectations. SA public healthcare is further hampered by an underrepresentation of

doctors, with on average one doctor for every 4219 inhabitants (KZN Department of Health 2013).

Given these challenges, in 2012-2013 the Faculty of Medicine and Health Sciences at Stellenbosch University, in collaboration with the Language Centre and the Medics on the Move (MoM) team<sup>1</sup>, redesigned the existing communication training programme in Afrikaans as a second language for first-year medical students. The new programme adopted a blended learning approach consisting of (limited) contact teaching (20 hours) and autonomous online learning (20 hours). To facilitate the development and implementation process, the European MoM<sup>2</sup> was adapted and adopted and renamed MoM-SA. MoM as well as MoM-SA are meant for (pre-)professionals to use autonomously as a communication tool in clinical settings, but they can also be used as a learning tool in training and teaching contexts<sup>3</sup>.

### **3.1.1.2 Programme foundations**

Given the specificities of the SA vocational training context as outlined above, it was necessary to systematically reflect on:

The nature of a professional communication policy and how it should be embedded in the curriculum to reflect internationally-validated and locally viable political, socio- psychological and teaching trends;

The required level of planning and how it should translate as a syllabus or backbone of the envisaged teaching and training programme, and

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<sup>1</sup> The South African MoM-team is led by Kris Van de Poel and Tobie van Dyk. The project is undertaken with financial support from ICELDA and the research unit for Applied Language Studies at the University of Antwerp in Belgium

<sup>2</sup> The development of the original MoM syllabus started in 2006 as an EU-co-funded project and has since developed into an online/mobile tool for medical communication in six European languages at beginner and advanced levels with, with translated support for six more languages.

<sup>3</sup> In 2010-2011, teaching and coaching with MoM materials were piloted in Sweden and Denmark as part of MoM evaluation.

Reliable practice and principles and how they should fuel the course content, materials and methodology or approach.

For MoM-SA, this means that the communication-training programme has to reflect the curricular foundations of the Faculty of Medicine and Health Sciences. Therefore, the general medical orientation is patient-centered, an approach common in the West, and thus considers not only the doctor's perspective but also the patient's (Mishler 1984, Campion et al. 1992, Epstein 2000). In other words, this approach discusses and understands a condition both within a disease framework and an illness framework (Levenstein et al. 1989, Silverman et al. 2005, Stewart et al. 2003, Tate 2007). A second characteristic is that the communication strand – supporting the university's multilingual education policy and plan (Stellenbosch University 2004 and 2010) – is firmly embedded in the medical curriculum and is gradually built up across the different years of study (Universiteit Stellenbosch, Fakulteit Geneeskunde en Gesondheidswetenskappe, 2008) as communication is one of the five curricular foundations. In teaching, medical communication skills are the central focus of attention, and they should preferably be addressed and trained in authentic contexts, i.e. contexts that realistically reflect the students' later professional contexts. A large number of universities have therefore established communication skills labs as part of a set of multidisciplinary educational resources at healthcare students' disposal to enhance their clinical skills training. Finally, because quite a number of medical course programmes suffer from being overloaded, a blended learning approach is being adopted; this relatively new approach that "combine[s] face-to-face instruction with computer-mediated instruction" (Graham 2006:5) fosters the learners' autonomy and makes them co-owners of the teaching and learning process.

MoM is inspired by what the users need and want to learn based on linguistic, psychological and educational assumptions. The communicative needs of the MoM

users have been established through an in-depth analysis of a representative sample of the target group and observations by supervisors and trainers (Gasiorek and Van de Poel 2012). MoM research has established that language-discordant medical professionals are often not aware of how to appropriately engage in medical communication. Linguistically, language-discordant doctors mainly experience problems on the level of modality and politeness in patient-doctor interactions (Van de Poel and Brunfaut 2010). Culturally, quite a large number of respondents claim to feel insecure when engaged in social interactions with superiors or in situations where face threat is involved (Gasiorek and Van de Poel 2012). Therefore, MoM aims to facilitate cross-cultural communication (even when using a lingua franca) and to enhance delicate patient-doctor relationships, as well as general professional medical interactions between colleagues.

The communicative skills addressed in MoM are primarily speaking (oral communication) and listening (understanding or aural communication). However, medical communication does not function at a verbal (words) level only; non-verbal or paralinguistic information like eye contact, smiles and nods have been integrated in short authentic and contextualised scenarios. The scenarios follow the patient-doctor consultation timeline or can be situated in administrative and social contexts with colleagues or administrative staff.

MoM also takes into account the learning preferences and customs of the target audience. Medical professionals are used to a theoretically founded analytical approach relying on meta-language. However, since MoM in principle is an online, autonomous, on-the-job learning tool, a clear and unambiguous format was chosen in favour of elaborate theoretical explanations in hyperlinks or pop-ups. After all, the aim is to enhance professional communication.

### 3.1.2 MoM-SA

#### 3.1.2.1 Aim of the study

In this article, we present the principles and practice underlying MoM-SA materials as an online and blended learning tool. We further look at how the design was implemented in the SA vocational context both for online learning and contact teaching (with new pen-and-paper materials) and how it was evaluated by the end users. Since MoM-SA is in its pilot phase, we will allow for some impressionistic reflections by the lecturer too. In doing so, we will not merely report on the process of syllabus development for SA implementation, but embed the discussion in a wider context where syllabus design is systematically fed with reflections from needs analysis, development of material and approach, testing, teaching and learning and programme evaluation.

We start from the premise that the quality of the medical communication tool has to meet the expectations of stakeholders (hospitals, management, lecturers, teachers) and beneficiaries ((pre-)professionals). Weideman (2013) states that “[i]f there is any lesson to be learned from failed language policies, plans and strategies, such as those at some nominally multilingual South African universities, it must be that there must be sufficient participation by those who will be affected, which in turn means that the accessibility of information and the accountability of the language management solution proposed are crucial”. Thus, the needs analysis includes an evaluation of the product as well as the process, and the outcomes will be used to motivate the stakeholders to adapt the programme to new challenges and incentives (Brown 1995). Below we will elaborate on the features of good practice and principles while describing the programme in more detail.

### 3.1.2.2 Methodology: A comprehensive needs analysis

In order to generate a systematic and “defensible” programme (Brown 1995:86), we collected different types of data. First, a context analysis was carried out. On the basis of the available documents regarding curriculum, language, programmes, courses and teaching guides, intensive discussions were held with as many stakeholders as possible, such as faculty members responsible for medical communication training, the director of the Language Centre, lecturers and material developers. Students’ perceptions and evaluations were taken into account, as well as the university’s request for methodological adaptations and incorporation of new online media. Since the development process also has to be feasible, an inventory of existing materials was made and mapped onto the programme’s objectives before it was decided what materials to adopt for the teaching component, what to adapt, and what to develop. One of the most important considerations in design (see Weideman 2013) is the programme’s face validity. Consideration of this issue led to the collection of objective and subjective data to determine the beneficiaries’ needs, wants and wishes (Van de Poel & Gasiorek, 2012, Van de Poel, Seberechts & Fourie 2013).

In 2013, there was a pilot phase of three months during which the materials were used by a group of 30 first-year medical students. During this phase, the needs analysis was substantiated with test results that present a longitudinal and process picture of students’ communication development (see section 4.1 below). The test data were collected through a validated placement test of academic literacy (TAG/TALL; Weideman 2003), an aptitude test (modeled on Carroll and Sapon’s (2002) Modern Language Aptitude Test, and described in Van de Poel (1995), short diagnostic mid-term tests (after one month of instruction and learning) and a final achievement test. On the basis of beginning and end scores, the students’ and the

group's learning gains were calculated. These data complemented each other and provided a comprehensive profile of the group.

At the end of the course, a usability study was carried out in which the medical students evaluated MoM-SA in terms of its relevance, efficiency, impact, sufficiency and support (see section 4.2 for the results). The MoM-SA logframe model (initially developed by Entente UK (2008) and reported upon in Van de Poel 2011) makes use of matrix questions where respondents have to indicate the extent to which they agree with a range of statements on a four- point Likert scale (indicators are: 1 = disagree entirely; 2 = mostly disagree; 3 = mostly agree; 4 = agree entirely). At the end of the survey (see section 4.2 below for the closed section of the questionnaire), participants were given the opportunity to provide narrative comments. Structured prompts were provided in order to facilitate the comparative analysis. Example items included: what I liked about the course book, MoM online and the lessons; what I would like to see changed about the course (lessons, method and approach); etc. The evaluation data were collected to gain insights into the learners' experience of the materials and teaching/learning approach.

The data collection was concluded with some impressionistic reflections from the lecturer, collected while the new materials and approach were piloted (see section 4.3). Thus, in effect we carried out a 360-degree needs analysis which took place before, during and at the end of the first pilot with the aim of generating evaluation data from as many stakeholders as possible to be used as input for further material and method adaptations.

### **3.1.3 Material development: From MoM to MoM-SA**

#### **3.1.3.1 The process of adopting and adapting**

At the end of 2012, the existing MoM materials were transferred to an SA context for online and contact teaching and learning in Afrikaans with a team of developers, pedagogues, technicians and medical consultants<sup>5</sup>. The initial focus was on adapting the content linguistically and culturally to Afrikaans and incorporating learning activities, which were known and liked by the target audience. These activities were decided upon through elaborated semi-structured interviews with experienced language trainers who are familiar with the target group. On the basis of the interviews, the following impressionistic student profile as language learners was drawn up: the students are intelligent, focused on their vocation, motivated and ambitious, and relatively aware of the need for good communication skills in their professional context. They think analytically and expect course objectives and outcomes to be explained, and to be told why, for instance, certain types of listening are used in certain medical encounters or why imperatives and politeness markers are used when examining patients. First-year medical students like to read newspaper articles, listen to songs, talk about cartoons, and play games as long as the underlying expectations of learning gain are met. In sum, face validity is important and language learning has to take place in as authentic a medical context as possible.

Having established all the elements to take into account, material development began. Since the materials had to fulfill a variety of contextual needs – South African, vocational training, second/foreign language learners and medical communication skills – and in order to promote online learning, MoM components were adopted (e.g. the syllabus) or adapted (e.g. the grammar) as the communication tools for learning and new elements were developed (e.g. the course book). In the following

paragraphs, we will describe how the different components were incorporated in the course programme.

### 3.1.3.2 MoM-SA content

The MoM-syllabus is functional and relies on the doctor-patient consultation timeline, but it also consists of encounters between colleagues. The syllabus consists of 10 units with four training modules each and a library with reference materials.

Not all materials are available in print as well as online.

Each unit is structured in a similar way so as to facilitate learning. The 10 units cover the following topics:

*Table 1: Overview of topics in MoM English and MoM Afrikaans for basic users*

- |                                      |                                     |
|--------------------------------------|-------------------------------------|
| • <i>Greeting and saying goodbye</i> | • <i>Groet en afskeid neem</i>      |
| • <i>Examining and instructing</i>   | • <i>Kliniese ondersoek</i>         |
| • <i>History taking</i>              | • <i>Mediese agtergrond</i>         |
| • <i>Symptom analysis</i>            | • <i>Simptoom-analise</i>           |
| • <i>Case presentation</i>           | • <i>'n Mediese verslag aanbied</i> |
| • <i>Emotions</i>                    | • <i>Emosies</i>                    |
| • <i>Explaining results</i>          | • <i>Resultate bespreek</i>         |
| • <i>The management plan</i>         | • <i>Behandelingsplan</i>           |
| • <i>Planning</i>                    | • <i>Beplanning</i>                 |
| • <i>Problem solving</i>             | • <i>Probleemoplossing</i>          |

Each unit contains several scenarios, which were transferred into Afrikaans. The developer relied significantly on the Dutch MoM-text (with its similarity in grammar and vocabulary), but the English text was also consulted for reference. The gradually increasing complexity of the Dutch syllabus from scenario to scenario was mirrored to a large extent in the Afrikaans version and Afrikaans-specific differences in grammar, like the double negation (*nie ... nie*), were incorporated. The context of the scenarios was then transformed to an SA setting, for example by using SA place names such as Gauteng, Mpumalanga and Kaapstad, and SA names and surnames

such as Sipho, Fourie, Kamoetie and Le Roux. Finally, socio-cultural elements were incorporated (e.g. politeness elements or regional differences).

With the scenarios, the grammar, phonetics and word lists were developed and used as online reference tools (the library). The printed equivalents were grammar books (Van Dyk and Van de Poel 2013) and communication manuals (Van de Poel 2013).

In the next phase, the different training modules were adapted. They consisted of exercises on different linguistic items. An example of how the exercises diverged across the three languages can be seen in the following, where Afrikaans and Dutch speakers use the formal pronoun 'u' which is absent in English, and where Dutch and English distinguish between a personal and possessive form of the pronoun, but Afrikaans does not (Unit 1):

*Table 2: Example of how exercises diverge across three languages*

<p><b>AFRIKAANS</b>  <b>Voltooi: u of -?</b>  <b>Luister.</b></p>	<p><b>NEDERLANDS</b>  <b>'U' of 'uw'?</b>  <b>Luister.</b></p>	<p><b>ENGLISH</b>  <b>'You' or 'your'?</b>  <b>Listen for the correct answer.</b></p>
<p>Wil ... sit?            Dankie .....</p> <p>Is ..... die nuwe dokter? Is .... nuut?</p> <p>Verskoon my, ek het nie..... naam gehoor            nie. Kan .... dit herhaal, ..... asseblief?            Kan ..... dit vir my spel?</p> <p>Waar kom ..... vandaan? Waarin .....            spesialiseer ....?</p>	<p>Gaat ..... zitten.            Dank .....</p> <p>Bent ..... de nieuwe dokter? .....            bent nieuw?</p> <p>Excuseer, ik heb ..... naam niet            gehoord. Kunt ..... dat herhalen,            alstublieft? Kunt ..... dat voor me            spellen?</p> <p>Waar komt .....vandaan? Wat is            .....specialisatie?</p>	<p>Are ..... the new doctor?            Nice to meet ..... .</p> <p>Where do ..... come from?            What's ..... specialisation?            Excuse me, what's ..... name?            Could ..... spell that for me?</p>

### 3.1.3.3 The linguistic approach

Throughout the 10 units, the building blocks of the language are systematically introduced and studied. Each unit builds on the previous one and contains medical scenario texts with online audio and translations, as well as four training modules

(exercises with corrections and online feedback). The modules take a bottom-up approach from phonemes to word formation and meaning to sentence structure and medical communication. In the first module, the student practises new sounds in isolation, in contrast and in context. Online, the sounds are linked to videos of sound production and inventories of medical words per sound in the library. In the second module, new vocabulary is practised. Most new words are presented in interactive word families (wordmaps) and online they are linked to a glossary with explanations, audio and translation (also accessible through the library). In the new grammar module, the learner is provided with an overview of the new language structures and items relevant for the unit, which, in turn, links to a descriptive grammar in the library. Finally, the last training module deals with communication and provides the student with a platform to practise communication skills and links up to an online communication manual (in English only).

After developing and transferring the online materials from a European to an SA context, the learning materials were adapted for contact teaching. Since this is a new component to MoM, considerable time was spent on this developmental phase. The MoM-SA course book closely follows the online learning materials, but the selection of materials is adapted to classroom interaction. It is formatted as a work-book with illustrations and drawings. Each unit begins with an overview and includes space for students to make notes about their expectations and objectives for the unit. The course book also contains exercises that are not found online. These exercises are designed to be more open, addressing issues that do not always have clear-cut “correct” answers, such as differences between colloquial language use and more formal language use.

The printed grammar is a reference guide that contains an overview of Afrikaans grammar (Van Dyk and Van de Poel 2013). Full explanations of rules and exceptions are provided in Afrikaans with short, easy-to-understand summaries in English. All

the examples make use of medical vocabulary and refer to medical scenarios. For example, the following discusses how to use adjectives (13):

*Die adjektief beskryf substantiewe en pronomina. Dit gee dus meer inligting oor die substantief of die pronomene. Adjektiewe kan attributief gebruik word (voor die substantief) of predikatief (ná die substantief).*

*Die dokter gebruik 'n klein stukkie watte om die wond te ontsmet. Die stukkie watte wat die dokter gebruik om die wond te ontsmet, is klein. ... Adjectives describe (pro)nouns. They can occur before (attributive) or after (predicative) a noun. ...*

Both the course book and the grammar book were used as part of the MoM-SA pilot course. The grammar book was used as a reference when students asked specific questions regarding, for example, spelling, plurals and tenses. The English summaries served not only as translations or students with very little or no proficiency in Afrikaans, but often also as introductions to grammar concepts in English, especially for English second-language students.

Follow-up assignments, similar to what was done in class, were posted on the university's learning space (Webstudies-Blackboard) for students to complete as homework. These tasks also required students to complete specific exercises online. The following is an example from Unit 1 on greeting and saying farewell:

*There are many ways in which you can greet people. Go to online MoM-SA Unit 1 and study the wordmaps on greeting and politeness. Imagine you are welcomed in hospital by the head of department. What would you say? Record your introduction of yourself on your cellphone and make notes of words to remember in your Webstudies logbook. Bring your recorded greeting to class.*

#### **3.1.3.4 The pedagogical approach**

A blended approach to learning and teaching was adopted. In this case, the student course book, lecturer's guide and grammar book were introduced as part of the programme, but students were also given the option to engage in (autonomous) online learning via the MoM-SA learning space. This presents the learners with the freedom to choose the material and learning route, as well as follow preferred learning routines. The approach enables just-in-time learning along three dimensions: learner-control, time-independent access and place-independent access (Riel 1998). Thus, the MoM-SA tool provides a platform for systematic and gradual learning in which the learner has the option to work through course materials that gradually become more complicated, but with enough repetition and examples to reinforce what has been learned. However, the learner can also pick what is needed at a particular moment. The pedagogy underlying the course is task-based and realistically reflects the activities to be undertaken in a medical context.

After having developed the materials for the SA blended learning context, the materials were piloted and evaluated.

#### **3.1.4 Course programme evaluation**

The MoM-SA materials, as described above, were used for the first time from February to April 2013 with a group of 30 first-year medical students, most of whom were at a beginner level in terms of Afrikaans proficiency (only two of the students were not SA citizens).

##### **3.1.4.1 Learning gain**

All first-year medical students completed a (written and oral) placement test<sup>6</sup> on the basis of which two groups were distinguished. The beginners (n = 30; our focus of attention) also completed a pre-test which functioned as an aptitude test and was intended to give the lecturer an indication of grammatical knowledge, linguistic

ability, linguistic skills, creativity in language learning, problem-solving ability and analytical skills, and was primarily used for remedial coaching in class. After one month, students sat two short diagnostic tests evaluating their progress (short-term achievement).

During the 20 contact hours, a variety of materials was used, including the course book, grammar book and external didactic materials like newspaper articles, pictures of skeletons, games and songs. In the middle of the term, one hour was spent on introducing the online materials in a computer classroom. However, reference was made to online materials throughout the course. At the end of the course, the students took part in a series of short achievement tests (primarily testing communicative and oral skills as well as semantic fields predominantly used in medical settings).

The students' learning gain was first calculated using placement and achievement scores (LHUP 2013). The average learning gain for the entire class ( $n = 24$  because some students were absent at one of the test sessions) was 68% (and ranged between 56% and 89%). Given the fact that most students were beginners in Afrikaans and the gain score was expected to be high, we also calculated the gain from the first diagnostic tests (after one month or approximately eight hours of teaching) until the final achievement tests (after 20 hours of teaching). This gain score ranged between 3% and 56%, with a group mean of 33% ( $n = 30$ ; no students absent). It should be noted that the students who did well on their English placement test generally scored well on the final test (better than those who scored well on the Afrikaans placement test; note that the students study in an English medium). Given the different natures of the tests (placement vs. achievement and diagnostic vs. achievement), these data have to be approached with caution. Both developers and lecturers were more interested in how students perceived their own learning and how motivated they were to continue growing as future medical professionals.

#### 3.1.4.2 Usability study: Satisfaction and well-being

In order to acquire insight into the learning experiences of the students, a written evaluation was carried out after the final contact session<sup>9</sup>. The evaluation process used a logic framework similar to that recommended by the EU for external intervention projects. First, the students graded 34 statements on a four-point scale (1 = strongly disagree; 4 = strongly agree) grouped according to the different course components (online, class, approach and outcome) and then they were prompted to provide narrative comments on the same components. The data can be grouped in different ways to acquire insight into different aspects of learning. First, we will briefly discuss the course outcome, and then we will regroup the questions to examine usability in more detail.

When we look at how the linguistic outcome at the end of the course was evaluated, overall, the students were very positive. On average, all of the following scored highly: students indicated that their ability to understand spoken Afrikaans ( $M = 3.76$ ) and use it ( $M = 3.16$ ) had improved, and that their vocabulary ( $M = 3.72$ ) and medical vocabulary had also improved ( $M = 3.23$ ). They also stated that their understanding of language structures ( $M = 3.00$ ) had improved as well as their communication skills ( $M = 2.93$ ). Lastly, they indicated that they felt more comfortable with medical Afrikaans ( $M = 2.89$ ). The fact that there was some disparity between the learners' evaluation of receptive and productive skills (e.g. understanding vs. use) and between general and occupational language use (e.g. general vs. medical vocabulary) shows that they realistically interpreted their own learning and future professional language use. These scores indicate that the majority of students felt the programme was relevant to their needs.

In order for the stakeholders to study the programme's usability in more detail, the statements have been regrouped by the different evaluation criteria, namely support, impact, relevance, sufficiency and efficiency and mean scores have been calculated.

The evaluation criterion of support scores highly ( $M = 3.41$ ) due to a very positive evaluation of the lecturer: students indicated that they highly appreciated their lecturer's help to communicate better and become a better learner. The use of English in the grammar book is experienced as a helpline, whereas people seemed slightly less convinced of the online support. The lowest score for learning support was allocated to the course book's introduction. Since the lecturer did not go through the helplines systematically in class, we do not know whether students used what was provided as such.

Impact and relevance (also have high total scores ( $M = 3.23$  and  $M = 3.24$ , respectively), with especially high scores for the ability to understand spoken Afrikaans and the knowledge of vocabulary (a receptive and productive skill). The relatively low scores for improved communication skills in general ( $M = 2.93$ ) and medical Afrikaans in particular ( $M = 2.89$ ) can be explained by the fact that these categories refer to a broad productive skill and a professional context. The ability of the MoM-SA online materials and the assignments on Webstudies-Blackboard to support and reinforce what was learned in class is high.

The communication scenarios, exercises and grammar book are regarded as highly relevant to the learners' needs. Drawings and wordmaps also score well for relevance, but the availability of equipment to access MoM scores relatively low. Students may not have (regular) access to computers. Even though most of them have smartphones, it showed in the follow-up discussions that most of them were not aware of MoM-SA as a mobile application.

Sufficiency has a score of  $M = 3.04$ . Learners are aware of the learning that lies ahead, even though their language learning skills may benefit from some exposure to new learning routes and routines and can be improved. Students are most positive on the sufficiency of the pronunciation tool. It has to be observed that five out of 30 learners (16%) react negatively on each of the sufficiency statements.

In comparison to the other evaluation criteria, there is a lower overall score on efficiency ( $M = 2.97$ ), mainly due to low scores on the ease of use and navigation of the online materials (with 40% and 33% of learners, respectively, scoring on the negative side of the scale). The fact that only one session was available to introduce the online MoM- SA materials may explain this score.

The learners' narrative comments range from problems they have experienced when using the communication learning tool to any positive and negative aspects and improvements they would like to suggest. The comments reinforce the quantitative findings and underscore the fact that students rate the course materials and the programme highly. All in all, they would like more hours of teaching over a longer period of time and more guidance in using the online tool. The comments suggest that students need more help to understand online navigation (*where are the translations?*), online learning (*how do you use mindmaps and, in particular, wordmaps?*), using online and mobile tools (*how can I study my own speech production with the video materials?*) and understanding computer settings (*how do I switch on the voice-overs and the sound in general on my PC?*). However, comments did include appreciation that "you can work independently and you get immediate feedback".

Some students point out the need for more translations in the course book. The fact that the grammar book has three-line summaries for every grammar entry (which was very positively evaluated) may have supported this reaction. Moreover, the students are (false) beginners in Afrikaans and they are familiar with translation as a

learning support and learning routine. Nevertheless, some students see the potential of the MoM-SA approach and one student commented that “the use of Afrikaans without English translations (in instructions) made the website look more intimidating than it is”. Another student commented that the course book “was concise but had all the information that was relevant and important”. One student summed it up by saying that “everything was systematically planned and fell into place; that I liked and we had multiple resources to refer to”. A final comment from a student was: “I am grateful for such a course because it not only gets you into the mode of speaking Afrikaans but it combats fear of speaking out loud and reinstates one's self esteem”. It is striking that all students appear to enjoy the learning and called the course a “great learning experience”. As one student put it, “I personally gained a lot. I can now speak and understand a bit of Afrikaans. I am very excited about that”.

In sum, the narrative component of the evaluation supports the fact that students recognise the scenarios as part of their vocational training and professional contexts and these students acknowledge MoM-SA as a language support guide: “MoM-SA helps to improve my communication not only in terms of medicine but with peers and educators alike”. Students feel like they are taken seriously as pre-professionals and also feel intellectually stimulated because they have to engage in functional language use. In the words of one student, “it helped me get to understand what I really need to know regarding medicine”. The fact that they are made aware of the professional communication content is, in itself, experienced as motivating. However, students are not the only stakeholders in a programme; it is also important to consider instructors' experiences.

#### 3.1.4.3 The lecturer's experience

As the lecturer was one of the important stakeholders in the new programme, she kept a logbook during the course and noted down her observations about the course and its students. Since she was positively evaluated, we felt that looking into her impressions of this pilot project<sup>10</sup> may help us to better understand these learners' needs.

The lecturer's notes indicated that students were motivated to learn and voiced a need to communicate in Afrikaans within a professional context. Consequently, the students were eager to participate in learning activities in class and spontaneously asked questions related to vocabulary and grammar.

Although the course only had 20 hours of contact time, the online course content and activities provided extensive learning opportunities that far exceeded these 20 hours. Due to the systematic structure and increasing complexity of the course materials, as well as the fact that the course book is logically integrated with the online materials, it was easy for the lecturer to refer students to both online and course book material when they expressed their individual needs. In this way, learner-centred interaction was possible. For example, within a role-play situation, the lecturer could support her response to questions on the use of pronouns by referring students to further online materials and activities. For homework, students had to reflect on their own experiences, which were then discussed in class. It was thus easy to bring real-life scenarios into the class and integrate them with grammatical and structural content. The lecturer noted that this dynamic and unpredictable nature of the lessons also required her to be well prepared and to have a sound knowledge of the course's learning content.

As mentioned above, the group of students had a fairly wide range of abilities and, on the language placement tests, scored between 0% and 27% for Afrikaans and between 32% and 93% for English. Thus, several students struggled to express themselves not only in Afrikaans, but also in English – the latter being their chosen language of instruction. The following is an email received by the lecturer, which illustrates this (i.e. a student's limited knowledge of English which was his/her medium of instruction):

*Dear C, how have you been nice to hear from you, I would like to ask you something if you can help me with, you know that I am straggling with the language so please I am looking for the English course or someone who can teach me scientific language how to write report. kind regards.*

Several studies have shown that bilingualism has a positive effect on third language learning (Molnár 2010) and, indeed, the students who were more proficient in English showed a higher learning gain in Afrikaans than those who were less proficient in English.

The fact that the class consisted of first-year students entering tertiary education explains why time had to be allocated to address general academic literacy issues (such as formal academic communication) and computer literacy (such as working with the university's education software) which would not have been necessary had the students taken the course at a later stage in their academic career (the students took part in an academic writing and critical thinking course towards the end of the second semester of their first year).

Other challenges included the fact that the course books were not available in the first lesson. Students were not all computer literate and were consequently hesitant

to use MoM online. There was no internet connection in class and it was not possible for the lecturer to show students how to access MoM online.

#### **3.1.4.4 Recommendations**

The MoM-SA course was a pilot project with a small number of participants and was the lecturer's first opportunity to teach this specific course with this specific approach. Taking this into account, in addition to the results from the course evaluation and keeping in mind that innovation in linguistic design happens "in an incremental [rather] than in a spectacular fashion" (Weideman 2013), several recommendations for the next teaching period can be outlined. Firstly, future courses should take time to introduce online language learning. In order to ensure optimal accessibility of the materials and learner autonomy, students should first and foremost be given appropriate support in becoming computer literate and being aware of how to use the programme's online materials.

Secondly, paper-based learning should explicitly be introduced into future courses. From the first lesson onwards students should familiarise themselves with the course's design and define their own objectives and targets, as well as measure their own progress for every unit.

Thirdly, future courses should gradually introduce individualised language learning. With this support, students should become more aware of their own learning strategies and preferences as well as their needs, wants and desires.

Finally, future courses should systematically introduce existing helplines. Learners should be introduced to both traditional support tools as well as online tools in different ways. For instance, where to find and how to use the translations of learning content, how to use the pronunciation videos and interactive wordmaps,

how to engage in community learning, and where to find technical support should be explained to them.

Ideally, following these recommendations will result in a more holistic learning approach where students are able to reflect on their learning routines and are coached into using contextualisation instead of translation as a communication strategy. Students could also be invited to prepare the scenarios by making use of the online audio, translation and practice support before coming to class. This would ensure that the lecturer is able to play a more supportive role during discussions, thereby reinforcing the learned content whilst helping students in becoming autonomous learners.

Based on the recommendations above, there are several directions to take for future research. The present study will first be replicated with a larger group to see whether meeting the above recommendations will have an effect on learning gain and well-being. The blended learning approach will also be studied with more mature medical students, i.e. the Cuban-trained SA medical students during their intensive reintegration programme at the beginning of their sixth year, to see what effects it may have (See Chapter 4). Linguistically, it might be worth considering the students' requests for more translations (possibly in more indigenous languages) and to fully exploit the multilingual character of the support system. However, it may also be valuable to make a conscious effort to introduce a contextualisation approach and help students to overcome the immediate urge for translations (See Chapter 4 for a response to students' need for translations). Either way, the programme will support the university's multilingual policy.

### 3.1.4.5 Conclusion

This paper has addressed how the existing online communication tool MoM was turned into a dynamic and flexible teaching and learning tool called MoM-SA, which was adapted to the needs of the South African vocational learners. The adaptation process and pilot have been outlined and showed how the materials were adapted to the South African medical context with the aim of providing optimal communication support, as well as illustrating how blended learning can be introduced to balance contact teaching and online learning. Further, we have discussed how the stakeholders (lecturer and medical students) evaluated MoM-SA's success in terms of usability (support, relevance, impact, sufficiency and efficiency) and we have linked these findings to the different course components, drawing on the perceptions of the learners (usability questionnaire with narrative comments at end course), the experience of the lecturer (logbook), and pre- and post-test results. Last but not least, we have formulated some recommendations for how this project may be carried forward.

Not only did the pilot group show consistent learning gain, the learners also experienced an improvement in receptive and productive ability in both general and professional domains. They liked the materials, the content and the approach, and positively evaluated the relevance of these elements. Students experienced their learning to be a continuous but pleasant effort despite some issues with computer literacy (which future versions of the course should attempt to address).

A true multilingual South African society expects medical professionals to not only manage a second language, but also a third or fourth one. A true multicultural South African society expects medical professionals to manage culturally-determined ideas, concerns and expectations. As communication support system, MoM-SA is meant to ultimately foster and enrich a multilingual and multicultural professional

environment. Thanks to its high face validity, MoM-SA may be well on its way to doing so.



### **3.2 PART ONE in retrospect**

*Part one outlined the principles and core elements necessary for the responsible design of a curriculum and syllabus. As the focus is on healthcare pre-professionals, who have to learn a language to communicate with patients and colleagues, and who will take on the responsibility to gain health-related information from patients via communication, the significance of responsible design is more pronounced.*

*The design principles and elements are visualised in Figure 1 one below. As the stakeholders' needs and parameters determined by their context can change or evolve (also described in the preceding chapter), the process of curriculum and syllabus design has to stay alive. Meta-metacognition as a concept describes the flow of energy that is necessary to keep the connection between needs analysis, the syllabus with functional content and tasks, the teaching and learning approach and evaluation processes healthy. Syllabus content should be fed by stakeholders' regular reflection on experience and needs by means of evaluation and needs analyses (declarative knowledge). This declarative knowledge should then be implemented in the pedagogical context where the teacher and learner are the main stakeholders (procedural knowledge). The experiences generated from the pedagogical context will again feed into evaluation processes to continue the flow of meta-metacognition and to inform the syllabus. See Figure 1 below.*

*Part two will expand on this topic with examples of attempts to address learner needs.*

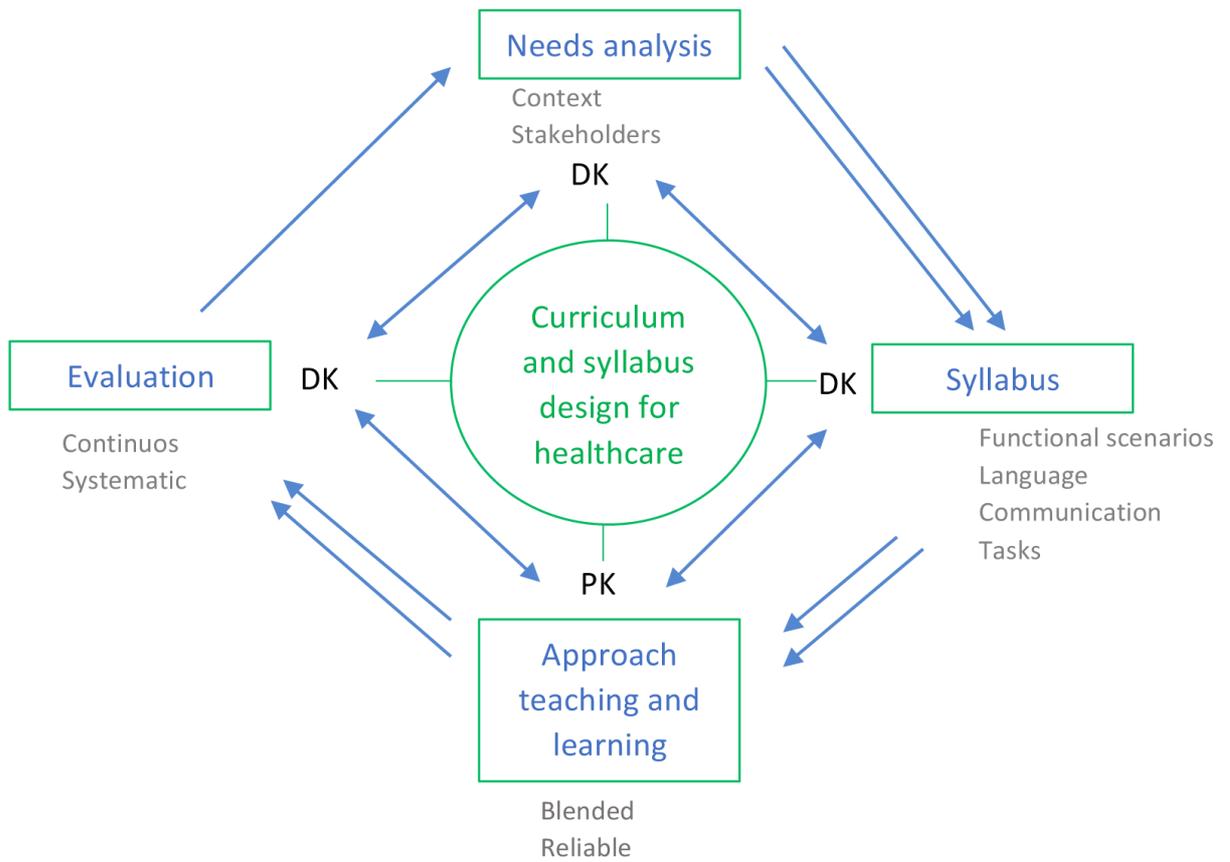


Figure 1: Curriculum and syllabus design as a meta-metacognitive process

### *Learner metacognition and support*

*In Part Two the focus shifts from meta-metacognition to learner metacognition and support implemented for the learner. Not only does Part Two contain a proper description of how learner needs are addressed in the blended environment by adapting the tasks and learning platform, it also points back to Part One through highlighting how curriculum and syllabus design is enhanced when needs feed into the design process on a continuous basis.*

*Chapter 2 studies how metacognition manifested itself during the pilot phase of a medical communication training course and how the threshold of online was lowered by introducing a Facebook community of practice as a third learning platform. Chapter 3 delineates how a Facebook community of practice can support the acculturation process by comparing a blended learning class for first year medical students with a blended learning class for first year English major students. Chapter 4 explains how a paper-based dictionary functioned as support towards entitlement in a blended learning environment for senior medical students.*



## **4.1 CHAPTER TWO:**

### **Lowering the threshold for online learning with Facebook: A South African pilot study**

#### **Introduction to Chapter Two**

*In Part Two the research focus shifts from meta-metacognition within the curriculum and syllabus design process (Part One), to learner metacognition and support for the learning process. However, as the learner is also a significant stakeholder in the curriculum and syllabus design process, the learner's role to support/take part in meta-metacognition is also outlined by means of the model at the end of Part Two.*

*The importance of maintaining needs analyses within educational contexts (as mentioned in Chapter 1), is underlined by this article in two different ways. First, this article indicates how students' understanding and awareness of their own learning needs can improve, if their metacognition is supported. Secondly, the article outlines how the need to lower the threshold of online learning (as indicated as a challenge in Chapter 1) was met by supporting the development of metacognition within the context of a closed Facebook community of practice.*

*Metacognition is defined and delineated against the background of this follow-up study, by describing how the two main aspects of metacognition, declarative knowledge and procedural knowledge, manifested within the Facebook community.*

*This study also explains how the blended learning context mentioned in Chapter 1, progressed to include a social online learning platform alongside the face-to-face and autonomous online learning experiences.*

Fourie, C. (2015a). Lowering the threshold for online learning with Facebook: A South African pilot study. *Dutch Journal of Applied Linguistics*, 4(2), 154-173.

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### **Abstract**

Students' understanding of their own learning needs can improve, if they can be made more aware of their own learning processes by supporting their metacognitive development. Research has shown that membership of online communities can positively contribute to the social acculturation process of first year students (Wohn, Ellison, Khan, Fewins-Bliss, & Gray, 2013). Moreover, these social networking sites could meet specific learning needs. A group of South African first year medical students doing a second language communication course were invited to become members of a closed Facebook group with the purpose of lowering the threshold of online learning. These students reported that their metacognitive awareness about their own learning processes was raised, which made it possible for them to progress towards and access the online learning experience. Data collected during the course were analysed following the grounded theory method and a framework for raising metacognitive awareness was created.

**Keywords:** *metacognition, language for specific purposes, social media, medical communication training, online learning, blended learning*

### **4.1.1 Introduction**

In the midst of the online revolution where we have 'on-demand access to knowledge in the collective brain of the internet' (Thompson, 2013) and where increasingly more people are connecting through social networking sites, it seems apt to extend the students' learning environment. Social networking sites can serve many functions in university students' academic careers, but should ultimately meet their unique learning needs. Several authors have pointed out the need for the design of frameworks, which can be used in teaching to support the integration of social networking sites in blended learning with the purpose of accessing the potential emotional and intellectual development that learning via social networks sites may offer (Fernández & Gil-Rodríguez, 2011; Zouhou, 2012; Greenhow & Robelia, 2009; Kimmer, Moskaliuk, Oeberst & Cress 2015).

In South Africa, a group of second language medical communication students were invited to become members of a *Facebook* group with the purpose of lowering the threshold for their online learning. In doing so, students' metacognitive awareness about their own learning processes was raised, which made it possible for them to access the online learning experience. Based on an analysis of this experience, a framework for raising metacognitive awareness was created.

The research question to be addressed in this study is: Does social networking via Facebook have an impact on the online language learning experience of medical students in South Africa? And if so, what kind of impact?

### **4.1.2 Medical communication training in South Africa: background**

South Africa has eleven official languages and even though English is the language used for government communication (South Africa Government, 2014) and widely regarded as the lingua franca, this status is not official. This multilingual society's

demanding communication scenario is also reflected in doctor-patient communication. The importance of effective medical communication has been supported by research that shows a corresponding relationship between improved doctor-patient communication and improved patient health results (Stewart, 1995). Furthermore, cultural misconceptions can result in humiliation and doctors being marginalized. (Gasiorek & Van de Poel, 2012).

Given these challenges, the Faculty of Medicine and Health Sciences at Stellenbosch University in collaboration with the Language Centre and the *Medics on the Move* (*MoM*) team in 2012-2013 redesigned the existing communication training programme in Afrikaans as a second language for first year medical students. To facilitate the development and implementation process the European project *MoM* was adapted and adopted and renamed *MoM-SA*. The development of the original *MoM* syllabus started in 2006 as an EU co-funded project and has since developed into an online/mobile tool for medical communication in six European languages at beginners and advanced level with translation support for six other languages ([www.medicmove.eu](http://www.medicmove.eu)). Using a blended approach, the *Mom-SA* medical communication training programme involves contact teaching as well as autonomous online learning (Van de Poel & Fourie, 2013).

The course was first taught in 2013 to a group of first year students and repeated in February 2014. Based on the experience of the previous year (Van de Poel & Fourie 2013; Van de Poel, Fourie & Seberechts 2013) the prediction was that students would find it challenging to use the online programme. In the first month of their university career these students are not only new to academic culture, but many also lack computer skills. In order to lower the threshold of online learning and to demystify the new *MoM* online platform, a closed Facebook group for the 2014 intake was created.

### 4.1.3 Literature Review

#### 4.1.3.1 Online and real life communities

An increasing amount of research is carried out on the impact that social networks such as *Facebook* and *Twitter* have on societies. Coviello et al. (2014:5) explain that the mood of an individual can be influenced by the social network they belong to and that 'emotions themselves might ripple through social networks to generate large-scale synchrony'. An expressed emotion is not only relevant to the psychological wellbeing of the individual, but also to the online social context of that individual (Coviello et al., 2014). Therefore, *Facebook* as an online social context provides a platform where individuals not only connect, but also have a (positive) influence on each other.

The psychological impact of social networks on groups has been analysed in detail by Henkel and Block (2013:950) who explain that peer influence in a social network is stronger 'between individuals in close (social) proximity to each other'.

Accordingly, peer influence in a local online network would be stronger than peer influence in a global online network. In other words, online individuals who share a specific social context and are grouped together, can have an impact on the collective mind-set of that group.

Wohn (2013) explains how a positive mood, such as confidence, can be encouraged for specific purposes on social networking sites. This study showed that *Facebook* can boost the confidence of first-year students, because being part of an online network could demystify the college experience as students will be able to access the experiences of others who are also first year students. Therefore, membership of the social network becomes an important contributing factor to the process of acculturation.

The research on online communities coincides with research conducted on real life (as opposed to virtual) communities where community building is seen as a successful method or plan of action to manage change (Huffman & Jacobson, 2003). It is especially the corporate world that has utilized the positive effect that communities can have on the management of change within organizations. One of the main reasons why the context can facilitate change is that within a community the members can participate in and share the advantages and difficulties associated with change (Huffman & Jacobson, 2003).

According to Wenger et al. (2002) communities of practice (defined as a group of people, sharing a common interest in a subject area, who engage with each other about that interest in order to support collective learning) are effective environments to share knowledge. Hara and Hew (2007) expound that factual knowledge might be easier to share in writing, but that people in a community of practice could also have internalized information that they might find difficult to verbalize and which can then be conveyed in the process of sharing experiences within the safe boundaries of the community. Apart from sharing these experiences and knowledge, the individual can also benefit from the actual learning process that is shared within the community. Learning within a community has an active component and it is important for members to be part of the process of learning, which they then perceive as meaningful learning experiences. Based on these experiences, members of the community will develop their individual identities as members of a specific community (Wenger, 1998).

With a more specific focus on learning communities, research has shown that these communities enhance the transition from high school to university (Inkelas; Pike et al., 2010; Weisman, 2003). Membership of learning communities at university level has also been related to desired educational outcomes (Knight, 2003; Peters & Sterns, 2003) as well as to students' persistence and graduation (Knight, 2003; Stassen, 2003).

However, research has suggested that the advantages of student learning communities may be indirectly and not directly linked to membership and that educational advantages can be encouraged by learner engagement (Pike et al. 2010).

Learner engagement refers to students' active involvement with their own learning and is broadly defined as "how students spend their time and energy" (Pike et al., 2010: 301). Learning communities may facilitate different types of engagement, such as collaboration and interaction with peers, lecturer and student interaction and time spent on academic tasks (Inkelas et al. 2003; Pike et al. 2010). Pike et al. (2010: 317) conclude that "[r]ather than directly affecting student learning, membership in a learning community appears to boost student engagement which, in turn leads to a host of educational outcomes."

#### **4.1.3.2 Metacognition**

Metacognition, a popular topic in educational psychology during the past two decades, shifts the focus from students' beneficial social position within a community to students' understanding of their own individual cognitive abilities. However, the term lacks a clear definition, which is mainly due to the fact that different perspectives are possible, depending on the context to which the concept is applied. The interdependence between cognition and metacognition can also make it difficult to separate the two concepts from each other. In general it is accepted that, from an educational point of view, the term refers to the learners' awareness about their own knowledge, the cognitive processes associated with memory (Schraw, 1998) and the regulation of this knowledge, or as Veenman et al. (2006: 6) explain, "[m]etacognition is conceived as a set of self-instructions regulating task performance".

Veenman et al. (2006) claim that there is enough evidence to suggest that metacognition is not directly related to intellectual ability, but that metacognition

can improve achievement on top of intellectual ability. Therefore it is beneficial to all learners if they can improve their metacognition.

For the purposes of this research, metacognition will be defined and divided into two broad types of knowledge. The first type denotes knowledge and awareness about the person, the task and the strategy and is usually referred to as declarative knowledge (Flavell, 1979; Schraw, 1998; Tarricone, 2011; Veenman et al., 2006). This type of knowledge is more established, and not fluctuating easily. Knowledge about the person includes amongst others learners' understanding, perceptions and intuition about his/her own knowledge and abilities as well as those of other learners (Flavell, 1979; Tarricone, 2011) knowledge about his/her own strengths and weaknesses (Pintrich, 2002); knowledge about his/her motivation to learn or complete a task (Pintrich, 2002) and knowledge about his/her sense of self-efficacy (Paris & Winograd, 1990; Pintrich, 2002; Tarricone, 2011). Knowledge about the task includes knowledge about the information provided by the task, the context of the task, awareness of task demands as well as an awareness of task complexity (Tarricone, 2011). Knowledge about strategy refers to the learner's knowledge about different strategies attributes such as planning (Shraw, 1989) monitoring, control, testing, revision, evaluation and critical reflection (Shraw, 1989; Tarricone, 2011).

The second type refers to the learners' abilities to regulate their own learning activities and problem solving processes and is usually referred to as procedural knowledge (Schraw, 1998; Tarricone, 2011; Veenman et al., 2006). For the purposes of this study procedural knowledge is described as dynamic knowledge that depends upon the interaction that occurs between knowledge about the person, the task and strategy used during the moment in which the learner is confronted with the learning activity. Procedural knowledge manifests itself in the process of learning or problem solving – it refers to the learner's skill to regulate the interaction between person, task and strategy to solve the problem and in this sense refers to the process

of implementing declarative knowledge. According to Schraw (1998) learners “with a high degree of procedural knowledge perform tasks more automatically, are more likely to possess a larger repertoire of strategies, to sequence strategies more effectively and use qualitatively different strategies to solve problems”.

The benefits of metacognition can be extended to the advantage of a community as argued by Shea et al. (2014: 186) according to whom people have the ability for “supra-personal cognitive control”. This, they claim allows for “metacognitive information to be broadcast”, which implies that people can share metacognitive information in order to coordinate a shared task and to improve the outcome of collective task performance. Their argument, even though theoretical, reinforces the notion (mentioned in 3.1) that membership of a community may hold performance benefits for its members.

#### **4.1.4 Methodology**

##### **4.1.4.1 Approach**

Since the start of the development and implementation of the *MoM-SA* program a team of researchers was involved and a mixed method approach was used, in order to gain information not only about the larger group of students, but also about the individual student. The purpose behind this approach was to do a multi-level analysis of intricate topics so that the qualitative and quantitative components of the research complement each other (Dörnyei, 2007). In order to analyse the effects of the 2014 *Facebook* addition to the learning programme, a mainly qualitative approach was used, while an emergent research design was opted for in order for the researcher to be flexible. “Emergent design involves data collection and analysis procedures that can evolve over the course of a research project in response to what is learned in the earlier parts of the study” (Morgan, 2008: 761).

During both the 2013 and 2014 communication course the researcher for this study was a participant-observer as well as the practitioner studying her own practice. Through teaching the defined learners she was trying "to understand professional action from the inside" (Waters-Adams, 2006). Some of the known advantages of action research where research is conducted by teachers are that the teacher-researcher gains a better knowledge of the teaching and learning environment which in turn supports the facilitation of change in the learning environment (Dörnyei, 2007).

The research conducted on the impact of Facebook communities on learning can be seen as ethnographic research where the target group/community is observed in order to understand their culture, practices and beliefs (Dörnyei, 2007).

Ethnographic research is particularly beneficial in order to understand and identify novel or unperceived needs. "This approach is most valuable at the beginning of a project when there is a need to understand real end user needs, or to understand the constraints of using a new product or service by a particular audience" (GOV.UK, 2013). As mentioned, the Facebook community was introduced based on the experience of the previous year when a similar group of students were struggling to use the online platform due to multiple reasons, but mainly computer literacy issues (Van de Poel & Fourie 2013; Van de Poel, Fourie & Seberechts 2013). Using the Facebook online platform alongside the *MoM*-online platform and the classroom, thus extending the learning context, was a new initiative in communication training of medical pre-professionals in South Africa. Instead of being able to make claims such as those done by quantitative studies involving data derived from large amounts of students, this exploratory study is based on a variety of data sets from one class, including the participants' self-reported statements.

#### 4.1.4.2 Participants

The participants (N = 35; 17 male and 18 female) were first year medical students, enrolled for a compulsory 16-hour (eight sessions in eight weeks) communication course in Afrikaans for medical purposes at the University of Stellenbosch, one of the three universities in the Western Cape province.

The three dominant languages in the Western Cape are English, Afrikaans and Xhosa. English was the home language of 31% of the students, while the home languages of the remainder of the students were Tsonga, North-Sotho, Zulu, South Sotho, Xhosa, Pedi and Tswana. Students at the University of Stellenbosch have to study academic literacy in their chosen language of instruction, which can either be Afrikaans or English. Placement tests in Afrikaans and English (Weideman, 2003) are sat in the beginning of the academic year and based on these results students are advised to choose their medium of instruction and accordingly have to complete a 20-hour academic literacy course in this language. However, before participating in the academic literacy course, all students have to do a communication course in one of the three languages they are least fluent in. The students that were least fluent in Afrikaans were subdivided into an intermediate and beginner group, based on the placement test and an informal follow-up oral. The participants for this study were all in the beginner group, either beginners or false beginners of Afrikaans (the average for their Afrikaans placement test was 11%) and their chosen medium of instruction was English.

During the first four weeks the beginner group was split into two groups and the researcher was teaching one of these groups, but during the second week the two groups joined in one class due to the other lecturer's absence and during the fifth (of eight sessions) session the two groups joined together for the remainder of the course since the second lecturer had relocated. Before they were combined into one

group, both groups completed all questionnaires and tests on the same dates and both groups were invited to join Facebook on the same day (third week). 91% of students had a Facebook profile before the start of the course and were using Facebook mainly for social purposes.

As mentioned above, the researcher was a participant-observer and the practitioner studying her own practice. She is South African, a native speaker of Afrikaans and fluent in English. Her involvement with medical communication training started in 2012 during the material development process when the original *MoM*-material was adapted and adopted for the South African context and she was the lecturer (as an employee of the University of Stellenbosch) during the piloting of the material in 2013 (Van De Poel & Fourie, 2013). In August 2013 she taught medical communication training via the *MoM-SA* platform to a group of Cuban trained medical students and in March 2014 she taught the third group of first year students (the current participants).

#### **4.1.4.3 The Facebook group – “Am I the only one having trouble ...?”**

The lecturer created a closed Facebook group, *Afrikaans – Medics on the Move*, for the class. A closed group on Facebook is an online group that anyone can search for and find on Facebook, while also seeing who the group members are. However, only members can contribute to and read posts. Members have to apply for membership and are admitted to the group by the person who created the group (Facebook, 2014). The purpose of the group, as it was also explained to students (see Figure 1), was for it to be a platform where medical vocabulary would be collected and at the same time a platform where students could post general comments about the course.

**Lecturer**

March 17

Goeiedag! Welkom by Afrikaans – Medics on the Move.

In this group we will be collecting vocabulary for the medical dictionary and you can give feedback on what has been going on in class.

Seen by 27

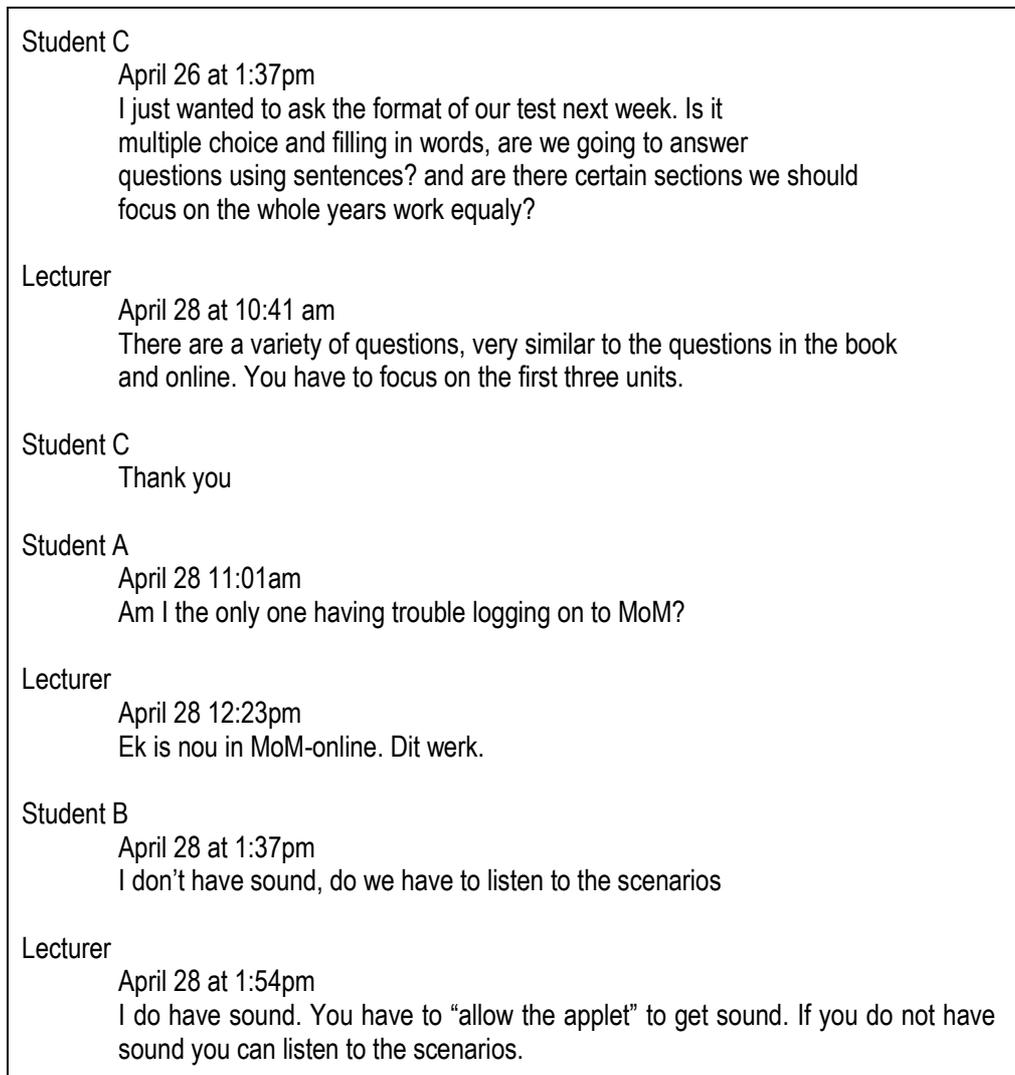
Figure 1: Lecturer introducing Facebook group using Afrikaans and English, but not as translations

The additional purpose was to create an online community with an academic focus in order to lower the threshold of online learning. The lecturer chose to be visible and recognizable, using the same discourse she was using in class, but not necessarily commenting on all student posts, unless the question/issue mentioned directly involved her. Therefore, unlike the *MoM-online* platform that is intended for autonomous learning, the Facebook learning environment was extended to include the same participants present in the classroom context.

The lecturer introduced the Facebook group during the third of eight two-hour lessons. During the fifth session the Facebook group was also shown to the class during a session in a computer laboratory with internet access.

The first task set and explained by the lecturer in class was for students to work in pairs and collect and post medical vocabulary linked to learning activities and discussions on Unit 2 of the *MoM* course. In this unit new vocabulary, linked to body parts, was introduced. For the Facebook group the students had to find additional vocabulary, also more specialized vocabulary, for instance the “lungs” and “digestive system”. The collective list was reduced, translated where necessary and discussed in class. The second task was similar but only verbs were collected. The final task was not compulsory and students were asked to briefly describe a comical medical situation in the target language, Afrikaans. Examples of these were

discussed in class. Apart from these posts based on educational incentives, students also used the Facebook platform as a noticeboard as well as a platform where technical questions regarding the MoM-online platform, or questions about homework were asked and answered (see Figure 2 for examples).



*Figure 2: Students asking for assistance on closed Facebook group*

The use of target language, Afrikaans, was limited. The lecturer did not expect or require students to use Afrikaans, because for students new to Afrikaans that would have been challenging and restricting the purpose of lowering the threshold of online learning.

## 4.1.5 Data

### 4.1.5.1 Collection Instruments

A variety of data sets have been collected by the team of researchers doing research on the blended learning platform for medical students in South Africa. For the purpose of this study specific data relevant to the research question (Does social networking via Facebook have an impact on the online language learning experience of medical students in South Africa? And if so, what kind of impact?) have been selected, which include the following:

1. Pre-course questionnaire on availability of and access to computers and internet (self-reporting on technical facilities);
  2. Pre-course questionnaire with Likert scale and open questions on the languages students speak, how confident they feel using these as well as the frequency hereof and what they think would be the best way to learn a new language (bio-data and language learning data);
- Usability study following a Logic Framework (Van De Poel and Fourie, 2013) - apart from answering a set of matrix questions, students also had the opportunity to provide structured narrative comments on their learning experiences;
  - Post-course questionnaire that included an open question that required students to evaluate the use of Facebook as part of the course
  - Recorded and transcribed post course focus group discussion on students' transition from school to university; whether they think it is necessary to speak a language other than English in a professional medical environment and how they think a new language should be learned
  - Entries/posts by students on closed Facebook group.

#### **4.1.5.2 Data collection**

The questionnaires were completed individually on paper during the first and final lessons of the course, as well as during an evaluation session that took place after the final lesson. The focus group interviews were also conducted and recorded during this final evaluation session. The text (all posts) of the online Facebook group was copied and saved.

#### **4.1.5.3 Data handling procedure**

All the data collected as text were analysed according to the principles of grounded theory that distinguishes between three phases of coding (Dörnyei, 2007). Through the process of several readings the text is first broken into chunks (open coding). This initial coding process is descriptive and relates strongly to the data and not on preconceived hypotheses (Charmaz, 2014). Then more abstract connections are made to resemble concepts and subcategories (theoretical coding) and finally a core category (or categories) are identified that becomes a/the focal point of the research (selective coding). Grounded theorists aim to code the meaning suggested by the data (Charmaz, 2014).

#### **4.1.5.4 Data handling**

The answers to the questionnaires were submitted to Survey Monkey Gold ([www.surveymonkey.net](http://www.surveymonkey.net)) as separate sets of data. The focus group interviews were transcribed and submitted to Survey Monkey Gold as another set of data.

In Survey Monkey Gold the open questions were selected and tagged to classify comments according to predetermined metacognitive categories. This process required three to four readings per set of data. The categories are based on the definition for metacognition, but refer also to the process of learning a new language and not only learning in general. From the metacognitive categories reflected in the open questions, the following were also reflected in the Facebook related data:

interaction; confidence; time; medical (specific) purpose; teacher; pronunciation; conditional; informal; community; identity; motivation; language barrier; feedback; information; verifying; assistance; user-friendliness; structured learning. Next, the data were exported per category to Excel – for example, all the data within one question, tagged as “Time” were exported in one list to Excel. Based on these spread sheets the categories were refined to be representative of the examples. For example, the data tagged as “Time” were summarized as students’ need for and awareness of how to do *Time management*.

The posts on Facebook were also coded and tagged according to the metacognitive categories. Thus, to summarise, students’ actual posts and Facebook activities (how they were using Facebook) were tagged as well as students’ reflections on the use of Facebook in learning (from the open questions and questionnaires).

Tagged data from the two different data sets were grouped together and a preliminary table was compiled. For instance, the tags that refer to students’ awareness about, need for and strategies regarding time management, were grouped together. See Table 1 below.

Table 1: Preliminary collection of data related to students' metacognitive awareness

Time management	<p><b>Data from questionnaires and focus group interviews</b></p> <p><i>Time management is important because of increased workload:</i></p> <p>“I have to have very big problem because amount of the workload here is much more compared to what I was used to at school.”</p> <p><i>Facebook saves time because messages are sent and responded to in a short period of time:</i></p> <p>“Yes, because if you have an urgent message to deliver you can post it on facebook page and the message will spread quickly”</p> <p>“Yes, one is constantly on facebook thus getting information will be easier and quicker”</p>
	<p><b>Data from actual Facebook posts</b></p> <p><i>Students used the Facebook platform as a strategy to save time getting information:</i></p> <p>Students post on homework (21 April) for next lesson, this is responded to within 40 minutes and seen by 25 other students</p>

During the final processing phase the data were organized according to the definition of metacognition (see Section 3.2) resulting into a framework for metacognitive awareness raising.

#### 4.1.6 Data and results

##### 4.1.6.1 Data and results related to declarative knowledge

The final processing phase resulted in a framework for raising the metacognitive awareness of students with Facebook as the vehicle.

The data were first organised into the three categories of declarative knowledge: The first category refers to the learners' process of gaining knowledge about themselves as language learners or communicators in order to work towards the learners' (new) identity as a medical student. Category number two refers to the process of gaining knowledge about the task of learning medical communication in Afrikaans and the

learners' goal of becoming increasingly more effective as learners. Lastly, the third category refers to the learners' process of gaining knowledge about language learning strategies in order to be continuously more efficient as a learner. For each of these categories the metacognitive components and their descriptors are given, with reference to the relevant Facebook related data (see Tables 2, 3 and 4).

*Table 2: Overview of how using Facebook raised students' metacognitive awareness themselves as learners in the process of learning a language for medical purposes: students progressed towards a new identity by developing the metacognitive components that are described.*

Metacognitive awareness raising			
Targets	Components	Descriptors	Facebook related narrative data
<b>Gaining knowledge and skills about oneself as a (language) learner or communicator</b>			
<b>Identity</b>	Gaining motivation	Enjoyment	Experiencing communication and tasks as fun and enjoyable
		Interest	Experiencing communication and tasks as interesting
		Involvement	Engaging with tasks, peers and lecturer
	Gaining confidence	Comfort	Closing close the gap between the 'abstract' academic world and real life social situations
		Overview and perspective	Gaining perspective by having an overview of peers' contributions Verifying own experiences
		Non-threatening atmosphere	Experiencing communication as informal and therefore less threatening, compared to a more formal academic environment
	Building community	Shared experiences	Sharing positive/negative experiences with peers
		Inclusivity	Experiencing a positive sense of community, openness and inclusiveness
		Peer support	Receiving and providing peer support

Table 3: Overview of how using Facebook raised students' metacognitive awareness about the task of learning a language for medical purposes: students became more effective at learning by developing the metacognitive components that are described.

Metacognitive awareness raising			
Targets	Components	Descriptors	Facebook related narrative data
<b>Gaining knowledge about task – learning to medically communicate</b>			
Effective-ness	Gathering information	Instructions	Confirming instructions for online and classroom tasks
		Content	Instructions
	Verifying content & contributions	Open access	Content

Table 4: Overview of how using Facebook raised students' metacognitive awareness about language learning strategies for medical purposes: students became more efficient at learning by developing the metacognitive components that are described.

Metacognitive awareness raising			
Targets	Components	Descriptors	Facebook related narrative data
<b>Gaining knowledge and skills about oneself as a (language) learner or communicator</b>			
Identity	Gaining motivation	Enjoyment	Experiencing communication and tasks as fun and enjoyable
		Interest	Experiencing communication and tasks as interesting
		Involvement	Engaging with tasks, peers and lecturer
	Gaining confidence	Comfort	Closing close the gap between the 'abstract' academic world and real life social situations
		Overview and perspective	Gaining perspective by having an overview of peers' contributions Verifying own experiences
		Non-threatening atmosphere	Experiencing communication as informal and therefore less threatening, compared to a more formal academic environment
	Building community	Shared experiences	Sharing positive/negative experiences with peers
		Inclusivity	Experiencing a positive sense of community, openness and inclusiveness
		Peer support	Receiving and providing peer support

The first category refers to the students' process of gaining knowledge about themselves as language learners or communicators in order for each of them to work towards a (new) identity as a medical student. The students' process of gaining a new identity is facilitated by three metacognitive components. First, these learners are gaining motivation because they experience communication and tasks via

Facebook not only as fun and enjoyable, but also as more interesting and they are interacting more with tasks, peers and the lecturer. The second component that helps to facilitate students' new identity is the fact that Facebook can help them to gain confidence by providing a more comforting learning platform that is familiar to their social platform. This is done by enabling students to have an overview of other students' contributions and in the process they can verify their own experiences. This all occurs in the non-threatening atmosphere of Facebook where communication is informal. Thirdly, the learners' new identity is supported as they are in the process of building a community by sharing experiences, by experiencing a positive sense of openness and inclusiveness and by receiving and providing peer support.

The second category refers to the process of gaining knowledge about the task of learning medical communication in Afrikaans and the students' goal of becoming increasingly more effective as learners. This process is characterized by two metacognitive components, the first of which refers to Facebook functioning as a channel through which students can gather information such as content and instructions. The second component refers to the open access of Facebook that enables students to have continuous access to peers' contributions in order to verify their own.

The third category refers to the students' process of gaining knowledge about language learning strategies in order to be continuously more efficient as learners. This process is supported by five metacognitive components. First, students are aware that they can receive and provide feedback on progress via Facebook. Secondly, students can become increasingly more efficient at managing their time, because they not only have limitless opportunities to communicate, they can also individualise their time schedule as they can access communication and learning at their own time and in their own space – they experience communication in (almost)

real time. This flexibility makes it possible to perform just-in-time-learning. Thirdly, Facebook enables a user-friendly platform for learning because students experience the tool as easy to access (low threshold) and they access it regularly for social reasons. In the fourth instance the learner strategy of asking for and receiving assistance with learning is also possible via Facebook. Finally, interactive learning as a learning strategy is possible with Facebook, not only between peers, but also between lecturer and learner as well as between the learner and the interactive learning platform.

#### **4.1.6.2 Data and results related to procedural knowledge**

The types of activities/posts made by the students on Facebook can be divided into two categories – with educational incentive by the lecturer, and students' self-motivated posts that were made without educational incentive. Over the period of five weeks the student self-motivated posts without educational incentive increased. See Table 5 for more detail.

Table 5: Comparing students posts with educational incentive on Facebook with student posts without educational incentives

	<b>Posts with Educational Incentives</b>	<b>Posts without Educational Incentives</b>
Week 1	<ul style="list-style-type: none"> <li>• Submitting/posting homework tasks</li> <li>• Reading/"seeing" contributions made by lecturer</li> </ul>	<ul style="list-style-type: none"> <li>• Reading/"seeing" contributions made by students"</li> </ul>
Week 2	<ul style="list-style-type: none"> <li>• Submitting/posting homework tasks</li> <li>• Reading/"seeing" contributions made by lecturer</li> </ul>	<ul style="list-style-type: none"> <li>• Reading/"seeing" contributions made by students</li> </ul>
Week 3	<ul style="list-style-type: none"> <li>• Submitting/posting homework tasks</li> <li>• Reading/"seeing" contributions made by lecturer</li> <li>• Thanking lecturer for assistance</li> <li>• Acknowledging/"liking" contributions made by lecturer</li> <li>• Submitting/posting voluntary homework</li> </ul>	<ul style="list-style-type: none"> <li>• Reading/"seeing" contributions made by students</li> <li>• Helping/providing assistance to students not finding the Facebook group.</li> <li>• Thanking students for assistance</li> <li>• Acknowledging/"liking" contributions made by students</li> <li>• Submitting/posting technical problems with MoM-online platform</li> <li>• Confirming in writing a similar experience (as explained by another student)</li> </ul>
Week 4	<ul style="list-style-type: none"> <li>• Submitting/posting homework tasks</li> <li>• Reading/"seeing" contributions made by lecturer</li> <li>• Thanking lecturer for assistance</li> <li>• Submitting/posting voluntary homework</li> </ul>	<ul style="list-style-type: none"> <li>• Reading/"seeing" contributions made by students</li> <li>• Acknowledging/"liking" contributions made by students</li> <li>• Asking nature/content of homework</li> <li>• Thanking students for assistance</li> <li>• Providing answers on homework related questions</li> </ul>
Week 5	<ul style="list-style-type: none"> <li>• Submitting/posting homework tasks</li> <li>• Reading/"seeing" contributions made by lecturer</li> <li>• Thanking lecturer for assistance</li> <li>• Helping/providing assistance to lecturer with administrative questions</li> </ul>	<ul style="list-style-type: none"> <li>• Reading/"seeing" contributions made by students</li> <li>• Asking nature/content of homework</li> <li>• Acknowledging/"liking" contributions made by students</li> <li>• Thanking students for assistance</li> <li>• Submitting/posting technical problems with MoM-online platform</li> <li>• Confirming in writing a similar experience (as explained by another student)</li> </ul>

#### 4.1.7 Discussion of Results

The need for support can be expected of first year students who are not only new to university's academic culture, but also adjusting to a new social environment that involves dealing with language barriers and cultural diversity at the same time. Communities in general as well as online communities are known support structures that not only help students to gain confidence (Wohn et al., 2013), but also support their development towards the new desired identity (Wenger, 1998). In this case study Facebook facilitated the learning community from where the students were working towards becoming medical pre-professionals. Students also self-reported that Facebook provided the inclusive community where they were collectively involved with their own learning in a non-threatening atmosphere and which accordingly contributed to their personal well-being and knowledge about themselves as learners.

The open access provided by Facebook and the constant visibility of all posted contributions made it possible for students to verify their own progress also against that of other group members and in this sense contributed to their knowledge about knowledge –students' metacognitive awareness about the task of learning a new language. They did not only verify content and instructions and engage in learning experiences but could gain a continuously expanding perspective on the demands required by the task of learning a new language –thus becoming more effective. Even though students might not show an immediate improvement in performance, their engagement with all the role players in their learning process is significant, as engagement in learning leads to eventual improved educational outcomes (Pike et al. 2010).

Students self-report that using the Facebook platform gave them access to learning strategies such as the ability to be involved with time management and interactive

learning, making it possible for them to be more efficient as learners. Improving learners' knowledge about learning strategies is another aspect of raising metacognitive awareness, which in turn can improve their performance on top of individual intellectual ability (Veenman, 2006).

Using Facebook in a communication training context facilitated the process of raising students' declarative knowledge. The framework for raising metacognitive awareness (see Tables 2, 3 and 4) was created for raising awareness about learners' declarative knowledge via a social networking site and does not focus on procedural knowledge. This was done because, according to the definition used for this study (see Section 4.2), procedural knowledge is dynamic and refers to the implementation of declarative knowledge. Students' procedural knowledge would therefore to a large extent depend on their declarative knowledge. By implication having an impact upon the declarative knowledge of students would indirectly influence their procedural knowledge.

Students were also demonstrating their procedural knowledge via the Facebook group by increasingly showing signs of regulating their own learning. At first they were making posts or reacting on educational incentives, but after the initial adjustment they were self-motivated in their learning and began to use Facebook without educational incentives, with the purpose of problem solving and to regulate learning (see Table 5). By providing a platform for self-regulated and self-motivated problem solving, Facebook had an impact on learning. Not all the students in the group demonstrated their procedural knowledge, however as was mentioned in the literature review, the students who did problem solving via Facebook were likely students who had a high degree of procedural knowledge (Schraw, 1998). It is also likely that these students would be able to share their internalised knowledge with peers, as research has shown this to be one of the advantages of a learning community (Hara & Hew, 2007). If the model of metacognition that allows for it to

be 'broadcast' between group members (Shea et al., 2014: 186) is taken into account, more students might benefit from being members of a Facebook group that exist over a longer period of time (for instance ten rather than five weeks) so that individuals could benefit from the collective metacognition within the group.

#### **4.1.8 Conclusion**

According to the participants, the use of Facebook supported the process of lowering the threshold for online learning. By using the social network students progressed towards bridging the gap between face-to-face classroom learning and teaching and autonomous online learning. However, what these medical communication students gained from the experience could also support their lifelong learning, as Facebook provided a space where their metacognitive awareness could be raised. By becoming more aware of and gaining a wider perspective of what and how they learn and how they regulate learning, students not may not only have improved their declarative knowledge, but they could also demonstrate their procedural knowledge. As members of an online learning community they experienced personal well-being, progressed towards their new identities as medical communication training students and become more efficient and effective in their learning. The designed framework for raising students' declarative metacognitive awareness can be used as a guideline for how social networking sites and online communities can be utilised to encourage the personal, social and academic well-being of students. Follow-up research on similar communities of students using the designed framework will be done to support these findings.

## 4.2 CHAPTER THREE:

### **Academic acculturation in language learning through Facebook: Passing the turning points**

#### **Introduction to Chapter Three**

*This co-written article compares the functionality of the South African closed Facebook group as a learning platform for first year medical students taking part in a communication training course as mentioned in chapters two and three, with a similar Facebook community that was utilised in an academic literacy course for first-year students studying English literature and linguistics in Antwerp, Belgium.*

*Although the data were initially collected and analysed by two different researchers during two different research projects, the researchers, after discussing the results and identifying overlapping results, re-analysed the data with a specific focus on the academic challenges that students discussed on the Facebook platforms. The Antwerp Facebook group generated more data as more students took part in the course over a longer period of time and as these students had more obligatory tasks to complete via the Facebook group. However, even with less posts, the South African data delivered similar results so that the concluding remarks were that the closed Facebook groups offered significant learning platforms within the blended learning environments, as these groups offered easily accessible and transparent platforms that promoted peer collaboration which in return facilitated supporting opportunities and strategies for students to overcome the challenges associated with academic acculturation.*

Peeters, W. & Fourie, C. (2016). Academic acculturation in language learning through Facebook. *English Text Construction*, 9(2), 292-316.

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### **Abstract**

Due to incoming students' growing networking needs, educational institutions are increasingly looking for tools to bolster peer communication and information exchange. These tools are meant to facilitate students' adaptation to the new academic culture and thus support their academic acculturation. The present study proposes to integrate the social network site *Facebook* into the learning programme providing students with a low-threshold online environment where they can share ideas, experiences and information while creating and strengthening social bonds.

Data from two case studies show that students experience a variety of challenges associated with academic acculturation and apply different collaboration strategies via *Facebook* to overcome them. Ultimately, through networking, careful assignment design, tutor support and instructions, students can become active and responsible learners.

**Keywords:** *academic acculturation; language learning; social networking; learning needs; peer collaboration*

### 4.2.1 Introduction

When entering higher education, first-year students have to make a challenging transition from their previous scholarly experiences towards a university's own academic culture. This process of academic acculturation is often regarded as a stressful and demanding part of students' life and influences their academic success as well as their future academic careers (Van de Poel and Van Dyk, 2015; Omachinski, 2014; Fox, Cheng and Zumbo, 2014). Cheng and Fox (2008) emphasise the importance of active engagement and interaction in students' academic acculturation. However, in classrooms where there is limited time and space to experience and take part in discussions – either between the tutor and students, or between peers – it is difficult to foster students' acculturation. Furthermore, due to the increasing number of students, educational institutions have to look for new and innovative ways to cater for individual students' specific wants and needs in their acculturation process (Yu, Tian, Vogel, and Kwok, 2010). The present paper proposes the use of the social network site *Facebook* to facilitate this process, as the online platform can provide students with the opportunity to access both academic and social resources, exchange opinions and experiences (Lamy and Zourou, 2013) and collaboratively acculturate to the new academic culture.

Exploring the potential effect of online peer communication through the social network site on the academic acculturation process, this study reports on two *Facebook* studies, one performed at the University of Antwerp, Belgium, and one at the University of Stellenbosch, South Africa. Both projects adopted a blended-learning approach with face-to-face teaching in class, self-access modules online and a closed *Facebook* group with tutor support to assist the first-year students in their acculturation process. The Belgian participants were first-year students studying English literature and linguistics and the South African participants were first-year medical students taking part in a communication course in Afrikaans.

## 4.2.2 Literature review

### 4.2.2.1 Academic acculturation

Academic acculturation refers to the academic, cultural, social, psychological as well as linguistic changes that students face when entering university (Van de Poel and Van Dyk, 2015; Omachinski, 2014; Fox, Cheng, and Zumbo, 2014). Research has shown that social support buffers the stress associated with academic acculturation (Smith and Khawaja, 2011), emphasising that acculturation heavily depends upon contact situations, and that differentiated contacts – addressing students’ academic, cultural, social, psychological as well as linguistic needs – result in corresponding acculturation processes (Teske and Nelson, 1974). Therefore, academic acculturation can be regarded as a dynamic process of continuing negotiations (Cheng and Fox, 2008). The process of continuing negotiations involves the use of academic discourse as a mode of communication, as well as the ability to use academic and social resources (Van de Poel and Gasiorek, 2012). In order for students to actively engage in the process of acculturation, they have to be introduced to this new type of discourse and need to be taught how to manage the resources available to them.

During the academic acculturation process students will experience challenges that are linked to their new academic needs. When facing these challenges and trying to overcome them, learners may consider them *turning points* in their learning trajectory. Turning points are characterised by learners modifying behaviour, attitudes and methods in order to continue and advance in their learning, and are regarded as beacons in their transformation processes (Omachinski, 2014). Students need support as well as proper access to various resources to successfully cope with these challenges. As the support and guidance from both fellow learners and tutors are considered necessary to create a reliable learning environment for students, peer socialisation should be facilitated (Van De Poel and Gasiorek, 2012). Furthermore, students’ ability to access and apply academic and social resources responsibly and

get acquainted with academic discourse are defining factors that will influence how successfully they adapt to the new academic environment of tertiary education.

#### **4.2.2.2 Beyond classroom walls: Online social networking**

A social networking site, such as *Facebook*, can function as a closed discussion forum, providing a versatile and inclusive online platform which is familiar to students (Toetenel, 2014) and which is easy to appropriate in order to cater for the social as well as educational needs of the student population (Parnell and Procter, 2011).

Earlier research has pointed out that social network sites can improve social acceptance in student communities, as these sites cater for students' ever growing networking needs (Yu et al., 2010). The learning context of higher education is in itself a social environment of students (and facilitators) who make use of specific academic discourse in order to effectively convey ideas (Van de Poel and Gasiorek, 2012). Furthermore, the educational institution has to support and reinforce peer communication and peer review (Van de Poel, 2008).

The community building capacity of *Facebook* makes it an ideal format to encourage social communication outside of the classroom (Zourou, 2012; Lamy and Mangenot, 2013) and over time it can provide students with the opportunity to freely discuss various social and educational aspects of their learning and acculturation process in "a safe and trustworthy environment" (Peeters, 2015a: 186).

The modes of communication on social network sites may be regarded as an additional asset in fostering the acculturation process. Interaction on *Facebook*, such as on many other social network sites, is asynchronous communication, or communication that does not rely on immediate turn taking (McBride, 2009). While synchronous discussions are believed to establish better social bonds in a community, asynchronous communication enables participants to reflect and expand on their contributions to the discussion, which makes it "useful for learning-

or task-based communications" (Smithson, Jones and Ashurst, 2012: 5), especially in foreign language learning. Reuven, Zippy, Gilad and Aviva (2003) discovered that an asynchronous learning network allows participants to construct more extensive and cohesive reasoning patterns through which they are able to reach "a high level of critical thinking" (De Laat, Lally, Lipponen and Simons, 2007: 90). Asynchronous communication, furthermore, allows multiple conversations to be held in one and the same online space. This gives opportunity for learners to partake in a variety of differentiated contacts and enables them to invest in discussions on various topics, being it educational or social.

### **4.2.3 Research questions**

According to existing research the process of acculturation largely depends on incoming students' contact with others, as pointed out before. Because of the fact that face-to-face contact is not always a given, this article wants to better understand the added and supportive value of Facebook in blended learning environments. The aim of this article is, therefore, to explore how foreign language (FL) students interact with each other online beyond tutor and task instructions. In this regard, the comparative analysis presented in this article focuses on those aspects of their learning trajectory FL students discuss which do not arise from the tutors' comments or the tasks which they have to complete, and how this relates to their acculturation process. In order to determine how Facebook can be used as a tool to foster academic acculturation, the following research questions were formulated:

1. What aspects of their learning trajectory do first-year FL students discuss through a closed Facebook forum without task and tutor incentives?
2. How do these peer discussions of first-year FL students support their acculturation process?

#### **4.2.4 Methodology: Facebook as an online collaborative environment**

Two Facebook groups were used as support tools in two courses in foreign language learning. These provided an online space where students were able to experience peer collaboration and peer review, and where they were exposed to their fellow students' ideas and interpretations regarding the courses in which the Facebook groups were integrated. Various assignments and tasks were part of both courses' continuous assessment and these tasks were developed in such a way that students could discuss and complete these tasks via the Facebook groups, encouraging them to engage in collaborating and learning via the online community.

The two Facebook projects were supervised and monitored. In order to gain a holistic perspective of the Facebook environments' dynamic nature – i.e. in order to understand what students share and discuss, and why they do so – a mixed methods approach was applied and two types of data were collected. Both a corpus comprised of the Facebook posts, as well as pre-and post-course questionnaires were assessed.

#### **4.2.5 The Antwerp Facebook project**

##### **4.2.5.1 Participants and approach**

At the University of Antwerp (Belgium), *Facebook* was integrated as a collaborative learning space in a four-month academic writing course for first-year majors studying English literature and linguistics (2013-2014). The project aimed to introduce students to peer collaboration and peer review, while giving them the opportunity to exchange ideas with their fellow students and reflect on the course and their personal learning trajectory. The students who participated in the project (N = 119) were independent users of the language who had intermediate or upper intermediate language proficiency in English when entering university (Language Policy Unit, 2011).

The students were asked to confer with their peers about three monthly writing assignments – three 300-word essays – on a closed *Facebook* group. The assignments revolved around linguistic and sociological topics on which the students had to form an opinion. They had to take a stance, formulate supportive argumentation and were instructed to follow the academic conventions when writing down their ideas. As these students were expected to be independent users of English, no tutor was present on the Facebook forum so as to give them the opportunity to take the floor and freely express their ideas and opinions (Lloyd, 2012). In order to verify students' participation in the discussions and stimulate them to actively engage with their fellow students, they were asked to report back to the tutor and write down the feedback from their peers which they thought was most helpful before handing in their assignments. The texts were individually corrected by a writing consultant, after which the students received feedback and tips for improvement, and could upload their revised essays.

#### **4.2.5.2 Instruments and analysis**

The collected data include 4,278 online posts, generated by the students over the course of the project, and responses to two questionnaires. The online posts were retrieved by using a Graph API Explorer tool. All participants' personal information was deleted from the corpus before starting the analysis. The questionnaires consisted of closed-ended questions using a five-point Likert scale, where students could give a score between 5 (strongly agree) and 1 (strongly disagree) on a given statement. Respondents were asked to provide additional comments to every question in a comment section. The questions centred around their appreciation of the peer collaboration through Facebook, their self-efficacy beliefs regarding their personal contributions and whether they experienced any learning gain by collaborating through the social networking site.

## **4.2.6 The Stellenbosch Facebook project**

### **4.2.6.1 Participants and approach**

At the University of Stellenbosch (South Africa) medical students have to take a course in Afrikaans for medical purposes if Afrikaans is not their mother tongue or preferred medium of instruction. Afrikaans is one of the three dominant languages in the province surrounding the University of Stellenbosch. In 2014 a closed Facebook group was created to lower the threshold of online learning for these first-year medical communication training students (N = 35) who were either new to Afrikaans or who were at an intermediate level. The reason for lowering the threshold for online learning was that a similar group of students during the previous year was hesitant to use the autonomous online communication training programme, possibly due to a lack of computer literacy as well as being new to academia (Van de Poel & Fourie, 2013). Therefore, the decision was made to support the medical students by providing them with a platform to form an online community of practice. The closed Facebook group existed for the last five weeks of an eight-week course (two-hour lessons per week).

The face-to-face teaching and learning context of the classroom was transferred to Facebook and both students and lecturer were present in the online environment. In order to lower the threshold for online learning in a foreign language the Facebook tasks were not challenging. In groups of two or three and based on class discussions, students had to make online contributions to a medical wordlist on the Facebook group, without repeating posts made by other students. Contributions in English were allowed. The second task, which required short contributions in Afrikaans, was not compulsory.

#### 4.2.6.2 Instruments and analysis

The focus of the analysis is on the Facebook posts themselves. Additional information was gained from the following:

- i. a pre-course questionnaire to determine bio-data and language learning data with Likert scale and open questions on the availability of and access to computers and internet, the languages students speak, how confident they feel using these languages and what they think would be the best way to learn a new language;
- ii. a post-course questionnaire including an open question that required students to evaluate the use of Facebook as part of the course;
- iii. recorded and transcribed post course focus group discussion on students' transition from school to university, whether they think it is necessary to speak a language other than English in a professional medical environment and how they think a new language should be learned.

#### 4.2.7 Data handling procedure

All the textual data collected in the two projects were analysed according to the principles of grounded theory. In general, three phases of coding can be distinguished (Dörnyei, 2007). Through the process of several readings the text is first broken into chunks (open coding). This initial coding process is descriptive, relates strongly to the data and does not rely on preconceived hypotheses (Charmaz, 2014). Then, more abstract connections are made to resemble concepts and subcategories (theoretical coding) and finally a core category or categories are identified that become a focal point of the research (selective coding). Grounded theorists aim to code the meaning suggested by the data (Charmaz, 2014). The data directly related to the Stellenbosch closed *Facebook* group was reported upon at an earlier stage (Fourie, 2015) and this analysis was also taken into account for the current research (See Chapter 2).

The answers to the questionnaires were submitted to Survey Monkey Gold ([www.surveymonkey.net](http://www.surveymonkey.net)) as separate sets of data. The focus group interviews were transcribed and submitted to Survey Monkey Gold as another set of data. In Survey Monkey Gold open questions with students' comments were selected and exported to Excel, where comments were tagged and exported to Microsoft Word. After organizing the tagged data in tables, several key points regarding students' behaviour on *Facebook* were identified.

#### **4.2.8 Results**

In this section the two data sets are presented with a specific focus on the challenges that the students discuss on the Facebook forums as well as how they try to overcome these challenges by collaborating with their peers. First, the different categories of peer communication with their descriptors are elaborated upon. Second, the different ways in which students try to address these challenges are presented. In the discussion that follows the focus is on the students' discussions, which go beyond the task or tutor instructions.

#### **4.2.9 Challenges**

The data from both projects show that during their courses the members of the student groups experienced several challenges, which often originated from their assignments and being new to academia. Students first and foremost followed the assignment instructions and addressed various writing issues and other challenges related to their academic literacy skills. The challenges most frequently discussed can be subdivided into three core categories: organisational, educational and social, as indicated in Table 1. These challenges have different subcategories, or descriptors, which were primarily linked to the assignments given (A), upcoming exams (E) and other courses (C) in the curriculum. Examples of these challenges, together with their descriptors, are included in the discussion below.

Table 1: Challenges discussed both on the Antwerp and Stellenbosch Facebook forums

Challenges	Indicators	Curriculum
<b>Organisational</b>	<ul style="list-style-type: none"> <li>- Querying/verifying deadlines</li> <li>- Discussing course objectives &amp; goals</li> <li>- Dealing with administration</li> <li>- Dealing with the online module's technical issues</li> </ul>	<p>A – E - C</p> <p>A – E – C</p> <p>A – E – C</p> <p>A</p>
<b>Educational</b>	<ul style="list-style-type: none"> <li>- Discussing text argumentation (assignments)</li> <li>- Discussing text structure (assignments)</li> <li>- Discussing (academic) language (assignments)</li> <li>- Discussing course content (examination)</li> <li>- Compiling and exchanging word lists (assignments)</li> </ul>	<p>A</p> <p>A</p> <p>A</p> <p>A – E – C</p> <p>A</p>
<b>Social</b>	<ul style="list-style-type: none"> <li>- Exchanging personal notes and summaries</li> <li>- Exchanging personal experiences and approaches</li> <li>- Organising group events</li> <li>- Asking for/giving positive reinforcements</li> <li>- Motivating other participants</li> </ul>	<p>E – C</p> <p>A – E - C</p>

For the Antwerp group the organisational and educational challenges revolved around the three main subjects: the writing assignments, the upcoming examinations and written work for other courses. In class, the tutor discussed the assignments and provided instructions. The tasks were not only compulsory, but also represented 40% of students' final mark for the course. Completing the assignments successfully and, at the same time, advancing in their academic writing skills was, therefore, one of the main learning goals of the course and the online platform. It appears that the Antwerp assignments were considered to be challenging by the students, which should not come as a surprise as they require the application of newly-acquired skills leading up to examinations. As it was the first time students were to sit an examination, they shared summaries as well as their personal fears and experiences, which seems to show that they regarded the examinations as a considerable challenge in their learning trajectory as well.

For the Stellenbosch students the stakes were much lower as the compulsory wordlist task was not academically challenging and contributed only 4% towards

their total mark for the course. Nevertheless, they increasingly addressed and solved technical problems (also related to a lack of computer literacy) experienced by using the online programme. The technical problems were not intended challenges, but the students spontaneously tried to solve these via the Facebook group, for example a student made a post about the sound applet: “Am I the only one experiencing problems with the sound?” with corresponding comments by other students and finally the tutor also addressing the issue. Several organisational challenges were also addressed, for example posts linked to confirmation of deadlines. These posts were all viewed by most, if not all the students in the class.

The social challenges for both groups involved sharing and co-constructing knowledge and experience through information exchange on the one hand, and creating and strengthening social ties on the other. Examples are provided in the following sections.

#### **4.2.9.1 Following instructions**

In order to face the challenges they encounter, as well as overcome them, students in both projects rely on their peers. They primarily discuss their own written work, share their ideas and talk about their own experiences. This can be compared to traditional peer discussions in class where students are required to voice their own ideas adequately, provide argumentation and discuss the ideas and interpretations of others (Cazden & Beck, 2003).

#### **4.2.9.2 The Antwerp group**

Students in the Antwerp Facebook project appear to follow the initial assignment instructions, as illustrated in Figure 1 below. Even though there are differences in participation, they all engaged with their peers on the platform at least once per assignment and every student who handed in his/her assignment reported on the most helpful feedback from one of their fellow students.

- *Do you agree with the above quote?*
- *Write a 300-word essay. Include one counter-argument.*
- *Post at least one question to the Facebook group concerning your assignment*
- *Reply to at least one question and try to link it to your own text.*

*Figure 1. Antwerp Facebook project: assignment instructions*

The corpus shows that, when addressing educational or organisational challenges, students exchange information, ideas and experiences regarding their assignments,

#### **4.2.10 Collaboration strategies**

##### **4.2.10.1 The Antwerp group**

The corpus shows that, when addressing educational or organisational challenges, students exchange information, ideas and experiences regarding their assignments, their field of study (Figure 2), the organisation of their courses (Figure 3), and their life at university. In Figure 2, a student asks for their peers' opinion on their thesis statement. Members of the peer group give feedback by stating their personal ideas, give argumentation and build report. In Figure 3, a student asks more information about an organisational issue regarding the upload area on the university's online platform. While commentators provide clarification, the person who asked the question expresses gratitude, acknowledging the effort made by the members of the peer group. This expression of acknowledgement is not necessary in order to convey factual information, but it does show that students can interact on a social level when discussing educational content.

P1

Papers nowadays are made to attract people's attention because there are more competitors on the market, like internet and television. This might change their reliability. Reactions? Agree or disagree?  
6 January

C1

Yes, they are aiming to be popular, not good. But many people buy certain newspapers because of their reliability  
6 January 13:42

C2

They have to work harder to get people to read their articles, which could improve the quality of the paper but at the same time, some newspapers focus on what people want to read (popular culture, look at this celebrity being beautiful and that one being pregnant). Especially newspapers such as Het Laatste Nieuws go for this approach.  
6 January 13:43

C3

Personally don't think in the context of Burns' article, there shouldn't be made a difference between actual newspapers and internet articles.  
6 January 13:50

*Figure 2: Discussing educational topic*

P1

Where are we supposed to upload the correction of the previous in-class assignment (constructing argument)?  
1 Desember

C1

I think there might be another mix-up, both could be correct. Perhaps someone should write a mail to VdP to clarify.  
1 Desember 2013 20:32

C2

assignment 3 is correct, since we only made in-class assignment 4 last week. by the way, both chapter 3, 4 and 5 are about writing an argument, which might explain the confusion [emoticon smiling and sticking tongue out]  
1 December 2013 20:46

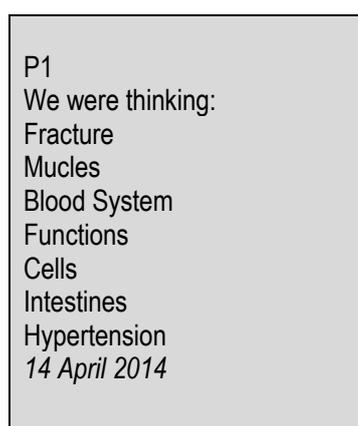
*Figure 3: Discussing organisational topic*

The collaboration on these educational and organisational topics follows a certain pattern. First, one of the peers in the group asks a question or puts forth a case, sometimes including additional information or recommendations for a solution. Second, the peer group, together with the peer, negotiate meaning and try to identify and define the different aspects of the posed problem. Third, by sharing experiences and providing additional resources, the peer group, together with the peer, make a

synthesis of the problem statement and the possible solution from the information at hand. Finally, members of the peer group suggest solutions to overcome the problem, providing feedback to their peer (Peeters, 2016).

#### 4.2.10.2 The Stellenbosch group

Unlike the Antwerp students, students at the University of Stellenbosch received no guidance on how to collaborate on the wordlist assignment, apart from the fact that they were told to work in groups of two or three. The Facebook tasks, as explained before, were not threatening and did not require much discussion before completion. Comparatively, these students also wrote fewer posts in the process of posting answers to the Facebook tasks. Students were either just providing the answer by posting a list of words for the online dictionary or having a more tentative or conversation-like approach by starting the list with a phrase such as: “I was thinking like ...” or “We were thinking ...” (Figure 4). Students were allowed to post in English in order to keep the threshold for online learning, as they were all new to Afrikaans. Even though students were already on Facebook, two were finding it difficult to locate the Facebook group and asked a peer to make a post on their behalf.



P1  
We were thinking:  
Fracture  
Mucles  
Blood System  
Functions  
Cells  
Intestines  
Hypertension  
14 April 2014

Figure 4: Students' tentative approach to wordlist-task

## **4.2.11 Going beyond the instructions**

### **4.2.11.1 The Antwerp group**

Even though the question and answer rounds, as well as occasional discussions resemble traditional classroom interaction, it is notable that students also look for and share additional resources, which they find online and which they think might be interesting for other students. Students from the Antwerp group shared what worked for them and gave tips and tricks to others in order for them to overcome personal challenges not related to the initial task or tutor instructions, or reach personal learning goals, as illustrated in Figure 5. This type of collaboration is hard to recreate in a more traditional classroom situation due to time and space constraints. However, due to the asynchronous communication environment of Facebook, students are able to share and discuss various challenges simultaneously and link their topics to previous discussions or link it to external sources, as illustrated in Figure 6. Even though the example revolves around a source they can use for one of their assignments, the instructions do not state that additional material needs to be provided, nor shared amongst the members of the group. However, through the Facebook forum, their frame of reference seems to be extended. The fourth wall of the classroom appears to be demolished, which, as a result, gives students the freedom to tap into a whole new range of possibilities; not only regarding their tasks, but also regarding their new, personal learning goals (Peeters, 2015a). Doing so, they, additionally, acquaint themselves with the ideas and interpretations of others.

P1

I must confess, I'm really impressed by all your clever and interesting questions and opinions. I always thought I was pretty good at English but now I see all of your well written question, I;m starting to doubt myself. This assignment is "gene katte pis". My problem, that I think a few of you guys also have, is procrastination...

2 November 2013

C1

OH, THANK THE LORD, I'm not the only one! [smiling emoticon] high five!

2 November 2013 12:12

C2

I haven't started either, no worries!

2 November 2013 12:16

C3

Divide your task into tiny tasks! It really helped me and I'm a serious procrastinator.

2 November 2013 12:26

*Figure 5: Discussing personal learning goals.*

P1

There you go guys! [smiling emoticon] Good luck on the exam tomorrow!

[link to Word doc]

16 January 2014

C1

Also thank for summarizing chapter 10 [heart emoticon]

16 January 2014 at 10:38

C2

yay!! you're amazing. thanks!!

16 January 2014 at 10:39

*Figure 6: Sharing resources*

Next to the organisational and educational challenges the students discussed, they also engaged on a social level. The data of the Antwerp project show that the members of the peer group were able to take a step back and reflect on their collaboration and, when necessary, alter their collaboration strategies (Little 2004). In this basic, self-initiated, reflection exercise, one of the students asks what others think about the peer collaboration on Facebook. As students give their personal opinions and make suggestions for future practice, it seems that they are able to evaluate the project in the curriculum and, by extension, their own learning trajectory. Furthermore, they use silent feedback through 'likes' and incorporate

funny remarks, jokes and witty images in order to encourage their fellow students to answer their questions. They show appreciation for the efforts made by the other participants and want to be liked in the process. In order to strengthen these social ties, they exchange summaries and notes, as illustrated in Figure 6, and motivate each other, show gratitude and give positive reinforcement, as illustrated in Figure 7, where one of the students tries to motivate their peers before the day of the examination. Members of the peer group respond and bond over the fact that they will face one of their biggest challenges yet.

An interesting linguistic feature concerning the different challenges they encounter is that these posts and comments which center around social, informal topics are not characterised by the use of extensive sentences, authority or supportive argumentation, which are considered characteristics of academic discourse (Van Dyk & Weideman, 2004) and which are present in the discussions regarding educational and organisational topics (Figures 2–6). The students seem to use the social network to support one another and exchange their own generated content. The language use is simple and close to prototypical online language, e.g. short sentences, no punctuation, use of emoticons and capitalisation (Crystal, 2008).

P1  
GOOD LUCK EVERYONE  
17 January 2014

C1  
THANK YOU, YOU TOO  
17 January 2014 13:17

P1  
GO HARD OR GO HOME  
17 January 2014 13:18

C1  
LIVE FREE OR DIE HARD  
17 January 2014 13:18

C1  
wait whut  
17 January 2014 13:19

P1  
GET RICH OR DIE TRYING  
17 January 2014 13:19

C2  
Get a grade or cry trying  
17 January 2014 13:19

*Figure 7: Positive reinforcement*

#### **4.2.11.2 The Stellenbosch group**

These students, who were not only new to academia, but also new to Afrikaans – which was the common language of instruction and of social interaction on campus – and who struggled with computer literacy, helped each other via the Facebook platform in their efforts to use the online programme. They shared their issues with, amongst others, logging in, as well as with technical concerns regarding for example the sound of the online platform. Basic collaboration strategies evolved when a student posted a question and the same question/issue was confirmed by peer(s), and a response was received from peers or the lecturer. As with the other Facebook tasks, most students were, if not responding, at least viewing all posts made by their peers and the lecturer, which provided the students with a continuing overview of

not only the answers to tasks, but also the organisational and social challenges experienced by their peers.

Affective engagement, observed in the Antwerp project, such as sympathy and positive reinforcement, was also spontaneously used in the Stellenbosch group. Strategies such as receiving and providing feedback, managing time conveniently (by personalising learning schedules as students were accessing Facebook at their own time) and user-friendly learning, as well as interactive learning were highly valued, as reported upon in the post-course questionnaires (Fourie, 2015).

#### **4.2.12 Peer collaboration beyond instructions**

The online Facebook community, in particular, appeared to support the development of a common understanding of the tasks' and courses' goals and objectives as students were able to ask for clarification and discuss their personal ideas and interpretations regarding these goals and objectives at any given time. Furthermore, the collaboration went beyond what the tasks initially required, as students also discussed issues related to the course, challenges they faced which originated from other courses in the curriculum, and even set new learning goals for themselves. Doing so, they showed that they were able to flip the online environment and make it a space where they could plan their own learning trajectory and ask their fellow students for advice, tips and tricks. In both projects, students collaborated beyond the educational incentives. They seemed to appropriate the online environment and transform it into a space for learning, as well as to bond with their fellow students. This practice can facilitate peer collaboration as it allows learners to interact with their peers both on a professional/educational level and on a social one, minimising the risk of exclusion as well as reducing participants' level of stress to address their fellow students (Vitak et al., 2012).

Students can also engage in reflection, as demonstrated by the Antwerp students and illustrated in Figure 7, where they discussed their collaboration and their personal involvement. These instances of reflection and peer collaboration are, therefore, considered turning points in students' learning process. They appear to be able to evaluate their personal input, as well as the collaboration, in order to effectively and successfully work together with their peers.

Next to these discussions, peers provided positive reinforcement as well, giving encouragements and showing gratitude. By doing so, as well as by sharing a variety of resources in the case of the Antwerp group, students can strengthen social ties and lower the threshold for peer-to-peer communication. In the case of the Stellenbosch group, this lowered the threshold for online learning as students could share and address challenges they experienced with the online learning module via the Facebook group.

#### **4.2.13 The role of tasks and tutors/lecturers**

Both Facebook projects were integrated into foreign language for specific purposes courses which aimed to teach students relevant academic literacy skills on the one hand (Antwerp) and medical communication skills on the other (Stellenbosch). In other words, both projects focussed on students' abilities to express themselves in appropriate, professional ways and to convey their own ideas and interpretations to a designated audience. In order to support them in this process, tasks were designed to encourage them to share their own ideas with their peers and collaboratively advance in their learning process.

The main differences between the two groups in terms of how challenges were addressed seem to be related to the nature of the tasks given to each of the groups as well as the students' proficiency levels. The compulsory tasks given to the students in the Stellenbosch Facebook project were, in comparison to the Antwerp

assignments, not very challenging or high risk, counting very little towards their final mark. This was done in order to achieve the objective of the project, which was to lower the threshold of online learning as most of these students were new to the concept. The low degree of challenge and low risk associated with the tasks might be a reason why the Stellenbosch students demonstrated less variety in the collaboration strategies used and why the discussions were less extensive. Another reason for this could be that the Antwerp students were directly instructed to collaborate through Facebook in order to complete high-risk tasks. However, based on the post-course questionnaires it is clear that the Stellenbosch students did value the experience and knowledge they gained about learning strategies via the Facebook platform, such as time management, enabling convenient learning and interactive learning (Fourie, 2015). The same tendencies were observed in the Antwerp group, where students regarded the Facebook platform as an online space to explore self-regulated learning and peer collaboration (Peeters, 2015a).

In contrast with the Antwerp project, the lecturer maintained her classroom persona on the Stellenbosch Facebook group, was consulted by students and made comments via the online platform. Therefore, she became a member of the Facebook community of practice. As the class was relatively small, it was possible for the lecturer to have a more personal relationship with students in class as well as via the Facebook platform, where she maintained a reassuring and guiding role while assisting with challenges and questions, which were directed towards her. It also enabled her to take a lower profile when students were able to address challenges by themselves. According to the post-course questionnaire, the students appreciated the presence of the lecturer on the Facebook group and valued her as a necessary (expert) member of the community of practice.

#### **4.2.14 Conclusion**

This article presented two case studies on the use of the social networking site Facebook and its effect on first-year students' academic acculturation process. This research coincides with existing research that shows how social support can buffer the stress associated with academic acculturation (Smith & Khawaja, 2011).

When collaborating with their peers, the students in the two case studies discuss and address several challenges, which they experience in their learning processes. These challenges revolve around the given assignments at first. However, over time, students appear to appropriate the Facebook environment and address new topics, set their own learning goals and acquaint themselves with the opinions and interpretations of others in various discussions. The Facebook discussions can be subdivided into three categories: organisational, educational and social. As the social networking site allows users to get involved in a variety of discussions, it was observed that students are able to engage on different levels simultaneously. Additionally, the formation and strengthening of social bonds among the students appear to create a safe and accessible online environment for them that may support peer-to-peer communication and even facilitate addressing educational and organisational challenges in the future, resulting in more spontaneously initiated peer discussions.

Because of its accessibility, transparency and widespread acceptance, it is the authors' strong belief that a closed Facebook group forms an adequate and accessible platform to promote peer collaboration. In two diverse university contexts, based on specific learning needs and through the careful design of assignments, tutor support and instructions, students in both Facebook projects were encouraged to become active and responsible online learners. Their collaboration centered around sharing tips, tricks and experiences about the new academic culture, gathering resources and expressing their ideas, which in turn supports academic acculturation as a social, dynamic process.

### 4.3 CHAPTER FOUR:

#### Medics on the Move South Africa: Access to Medical Words

##### Introduction to Chapter Four

*This chapter is a co-written article that explores the same blended learning environment mentioned in Chapter 2 where students took part in the MoM-SA course, but without the support of the Facebook learning platform as described in chapters 3 and 4. I was also the lecturer and therefore a participant-observer in the present study. The participants consisted of a small group of South African medical students who had just returned from Cuba after completing five years of medical training undertaken in Spanish. These students had to do an internship and complete their studies before qualifying as medical professionals. As part of their studies, the students had to do the course in medical communication training in Afrikaans, which is mentioned in Chapters 2 and 3.*

*During observation sessions in hospital the students were in contact with patients and these conversations reinforced the students' need to communicate in Afrikaans. However, as their previous training was done in Spanish, while their medium of instruction in South Africa was English, the students were at a loss communicating serious health issues to patients in Afrikaans. This chapter describes potential support resulting from the recommendations as formulated in a first study - how a pocket-size dictionary to which the students could contribute in three languages, resulted as a language support system within the blended learning context to ease their unique stress by addressing specific linguistic challenges.*

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### **Abstract**

South African medical students who are Cuban-trained and therefore Spanish-speaking, on their return to South Africa need to learn medical vocabulary, terminology, and appropriate interactional discourse in the two major languages of English and Afrikaans, in order to be able to practise professional medicine effectively and efficiently. Indeed, their language problems during internships are further compounded by differences in medical equipment and names for equipment in medical practices between Cuba and South Africa. To meet these particular students' needs and provide a communication support tool, the concept of a paper-based pocket-size multi-lingual illustrated dictionary was introduced as an additional component in a blended learning approach, to complement online materials called MoM-SA. The dictionary, to which students are invited to add material, has word lists in English, Afrikaans and Spanish, and offers links to the online materials. Students can add terminology, translations into other African languages and images, so that the dictionary grows and reflects the everyday needs of the students, who, at the same time, become co-owners of the dictionary; thus, process has become content and, as a result, learner motivation has increased.

**Keywords:** *medical terminology, medical discourse, communication support tool, multilingual medical practice, ESP, MoM-SA.*

### **4.3.1 Setting the Scene: Cuban-Trained South African Medical Students**

With eleven official languages, communication challenges in a multilingual South African (SA) professional healthcare context are manifold. Medical professionals are expected to communicate in different languages depending on the region where they operate. In the Western Cape province, for instance, they are expected to communicate in English, Afrikaans and isiXhosa, the three dominant languages in the region. Since medical students apply to a school, which may not be in the area where they were raised, they are very often challenged with having to learn another language in which to function professionally. Moreover, it is by no means certain that they will have been schooled in both Afrikaans and English, as well as another African language. First year medical students at the University of Stellenbosch therefore sit language proficiency tests when they enter university and have to take part in an academic literacy course in either English or Afrikaans, whichever has proved to be their least strong language. Apart from this academic literacy course, the students also have to complete a communication course in their weakest language, between the two languages of isiXhosa and Afrikaans.

However, an altogether different linguistic challenge came about in 1985, when South Africa and Cuba signed a cooperative health agreement as part of an intervention, which seeks to address the shortage of qualified medical doctors in South Africa (Health Care in South Africa, 2013).

Through the programme, on an annual basis, a group of medical students from South Africa, who have not passed the entry requirements to medical school, are allowed to spend the first six years of their training in Cuba. During this period the students receive twelve months of intensive Spanish language training, followed by five years of medical training (undertaken in Spanish in a prevention-oriented health care system). Upon their return to South Africa, the students are admitted to

different universities where they do their internships and complete their studies, undertaking the Cuban final qualifying examination, which is ratified in South Africa.

At Stellenbosch University, where the participants in this study were enrolled, the intensive orientation programme, which has been designed for them as a group, with their specific needs in mind, consists of 1) medical skills training appropriate to curative-oriented health care, 2) language courses with a focus on medical communication in English and Afrikaans (the two major languages for professional medical communication in the Western Cape region of South Africa) and 3) supervised clinical ward rotations in the university hospital.

Since these medical students, whose home language is often not English or Afrikaans, but who may have been schooled in one of these languages, have undertaken all of their medical training in Spanish, they have learned the medical vocabulary as well as more general medical communication practices only in Spanish. Consequently, in order to be able to communicate and practise medicine effectively in South Africa, they need to (re-)learn the medical vocabulary and terminology, as well as related interactional discourse or scripts.

#### **4.3.2 Medics on the Move and Medics on the Move South Africa (MoM-SA)**

Since quality of doctor-patient and doctor-colleague communication can directly influence the quality of patient care (Hewett et al., 2009; Watson et al., 2012) and may even improve patient health outcomes (Stewart, 1995), communication training has, in recent years, received ample attention in patient-centred medicine. Even though it has become an integrated component of a western medical curriculum, language support guides (such as the Calgary-Cambridge guides; Silverman, Kurtz, & Draper, 2005) 'typically mention the use of a second or foreign language as just one of many issues in cross-cultural communication without providing any solutions or

prescriptions to address ensuing communication problems' (Gasiorek & Van de Poel, 2012:4).

This need to address the issue of cross-cultural communication for medical professionals has led to the development of Medics on the Move (MoM). Medics on the Move started in 2006 as an EU co-funded project and has since developed into an online tool for six European languages at beginners (MoM-basic) and advanced level (MoM-advanced) with translation support for six other languages. MoM is intended for (pre-)professionals to use autonomously as a communication tool in clinical settings, but it can also be used as a learning tool in training and teaching contexts.

The online materials for beginners (MoM basic) are based on scenario texts, which follow the doctor-patient consultation timeline interspersed with communicative situations with colleagues. The syllabus is functional and speech-act-based and the scenario texts have different types of support: phonetic (audio and systematic pronunciation training), grammatical (rule-based with examples from medical contexts), lexical (wordlist and wordmaps bringing words together in semantic fields) and communication (a task-based approach, see below for more examples).

Due to the communication challenges for the students in a South African medical professional setting and the fact that SA medical schools have integrated patient-centred communication in their medical training programmes, the Faculty of Medicine and Health Sciences at Stellenbosch University introduced a language-specific communication training programme for all students. Given the complex profile of the learners, the restricted number of teaching hours and the lack of targeted teaching and learning materials, the approach adopted in the developmental process was critical. The programme was conceived, in 2013, as collaboration between the Language Centre and the Medics on the Move team, with input from local developers, pedagogues, material designers and medical

consultants. It has adopted a blended learning approach (Graham, 2006) consisting of (limited) contact teaching (20h) and autonomous online learning (see, among others, Little 1991) and is tailored for a South African context for online and contact teaching and learning both in Afrikaans and English<sup>4</sup>. In order to inform the programme, called MoM-SA, a needs analysis was carried out involving staff and students. Since the Cuban-trained students have special needs, they were studied separately.

### **4.3.3 Needs Analysis as Part of MoM-SA Implementation**

In 2012, after having completed the medical training programme in Cuba and having participated in the medical orientation programme, a group of ten Cuban-trained SA students<sup>5</sup> took part in a needs analysis (questionnaire and focus group) that was conducted with a view to increasing learning output (Van de Poel & Gasiorek, in press). Students reported reversed culture shock with respect to South African culture and clinical contexts (Szkudlarek, 2009), in terms of personal and medical experiences, as well as language skills. Students explained, among others, that they had to get used to the food cooked at home and they often felt estranged from their families and friends, but, specifically, they had difficulties with professional communication, and, more particularly, with understanding and using medical terminology in English and Afrikaans. The overall findings, with respect to medical communication, were that these pre-professionals suffer from the threat of losing face when trying to be the doctors they want to be.

One of the major linguistic preconditions was that students had to make their own notes and vocabulary lists in order to cope with their own deficient medical language skills while on ward rotation. Moreover, the difficulties with terminology were compounded by differences in medical equipment and medical practices

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<sup>4</sup> The South African *MoM*-team is lead by Kris Van de Poel and Tobie van Dyk. The project is undertaken with financial support from ICELDA and the research unit for Applied Language Studies at the University of Antwerp in Belgium.

<sup>5</sup> At Stellenbosch, about ten Cuban-trained students take part in the annual intensive programme.

between Cuba (focused on primary healthcare, i.e. prevention) and South Africa (focused on secondary or curative care). Students were at a loss and claimed, “You find yourself in a ward and almost everything that you see you don’t know what it is because the equipment is different” or “you don't know what it is called”. The same holds true for the use of abbreviations which students experienced as “secret codes” that make life “complicated”. Needs analysts concluded that the students' lack of vocabulary and specific terminology should be systematically addressed. Students themselves hint at a possible solution, “We know the Spanish medical terms, but it is English now” (responses as reported in Van de Poel & Gasiorek, 2012).

On the basis of the findings it was decided to introduce the Cuban-trained students to MoM-SA materials and engage them in blended learning; however, clinical settings are not always predictable and can therefore not be learned entirely as pre-patterned chunks. To meet the students’ particular linguistic and communicative needs and to get them involved in creating their own learning content, the MoM-SA team sought to develop the optimal cocktail of blended learning communication support.

#### **4.3.4 MoM-SA’s Missing Link: a Pocket Size Dictionary**

The online version of MoM-SA and the course book derived from it contain ample opportunities to learn, internalise and extend general and specialised medical vocabulary at a basic level. Lexical items are presented in the context of a written scenario, with audio support and translation into six languages (for the basic course the topics covered are Greeting, Examining and instructing, History taking, Symptom analysis, Case presentations, Emotions, Explaining results, The management plan, Planning and Problem solving. See Figure 1 for the different components of one unit taken from the English MoM).

<b>Scenarios</b>		
<b>Greeting a patient and saying goodbye</b>	Translation	
<b>Who are you?</b>	Translation	
<b>Where do you come from?</b>	Translation	
<b>Greeting a new colleague</b>	Translation	
<b>Where is the patient?</b>	Translation	
<b>Training</b>		
<b>Sound:</b>	Sounds/Texts Training	
<b>Meaning:</b>	Wordmaps Training	
<b>Form:</b>	New Grammar Training	
<b>Communication:</b>	Training - Staff Card Training - Dr Who Training - Patient File Training - Dialogue	
		<b>Unit 1</b> Greeting and saying goodbye
		
		<b>Library</b> Glossary Phonetics Grammar Communication

Figure 1: Overview of Unit 1 content

Words are presented as part of scenarios and can be looked up in an online wordlist which contains audio, grammatical information, carrier phrases and translations (see Figure 2 for an extract of a scenario text of the first unit in English and Figure 3 for a lemma from the online wordlist in English).



Figure 2: Scenario text of Unit 1: Where do you come from?



Figure 3: One entry from the MoM-basic wordlist

To effectively foster contextualised learning, the words and terms are also arranged in interactive wordmaps where they are grouped by topic/semantic fields, as shown in Figure 4 (Swanepoel & Van de Poel, 2002).

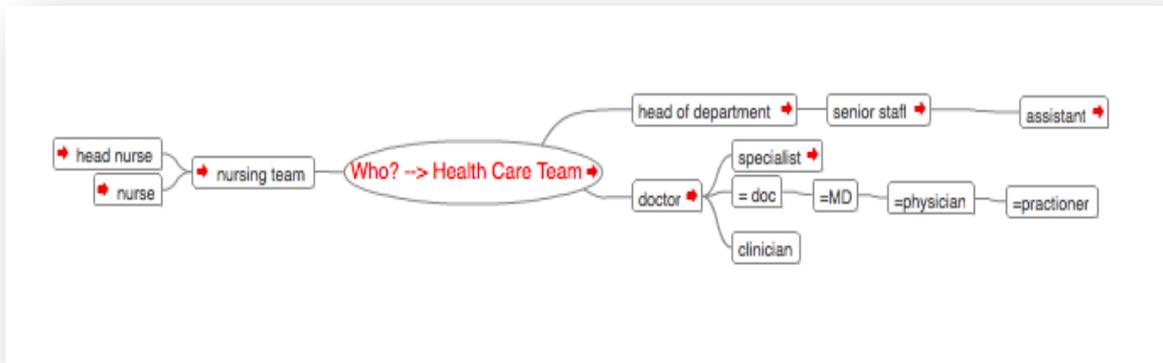


Figure 4: An interactive mindmap on the Health Care Team (the red links refer to the wordlist)

However, as pointed out above, the need for extra on-the-job support was accentuated when students went on ward routines and struggled to communicate with patients and medical staff. Consequently, the concept of a pocket size dictionary was developed containing general medical words as well as medical terms and supported by images and drawings (Van de Poel & Seberechts, 2013). Following the requirements set out in Swanepoel & Van de Poel (2002), the communication support tool was arranged as illustrated multilingual word lists containing English, Afrikaans and Spanish, reflecting the contexts that students encounter. To effectively foster contextualised learning, the words and terms were grouped per topic.

Learning was guided by presenting words in subfields, systematically presenting the words as linked to the drawings. For reasons of saliency, the words were ordered alphabetically in Spanish. Moreover, a fourth column was introduced to have students add their own comments and learning tips on pronunciation, translations

into any of the African languages, etc. An alphabetical index provided easy access to the required word. Wherever possible, a link to a relevant online MoM-SA page was added (see Figure 5). All the development stages were discussed with the South African lecturer and the lemmata were translated by a native speaker of Spanish, who is familiar with the project.

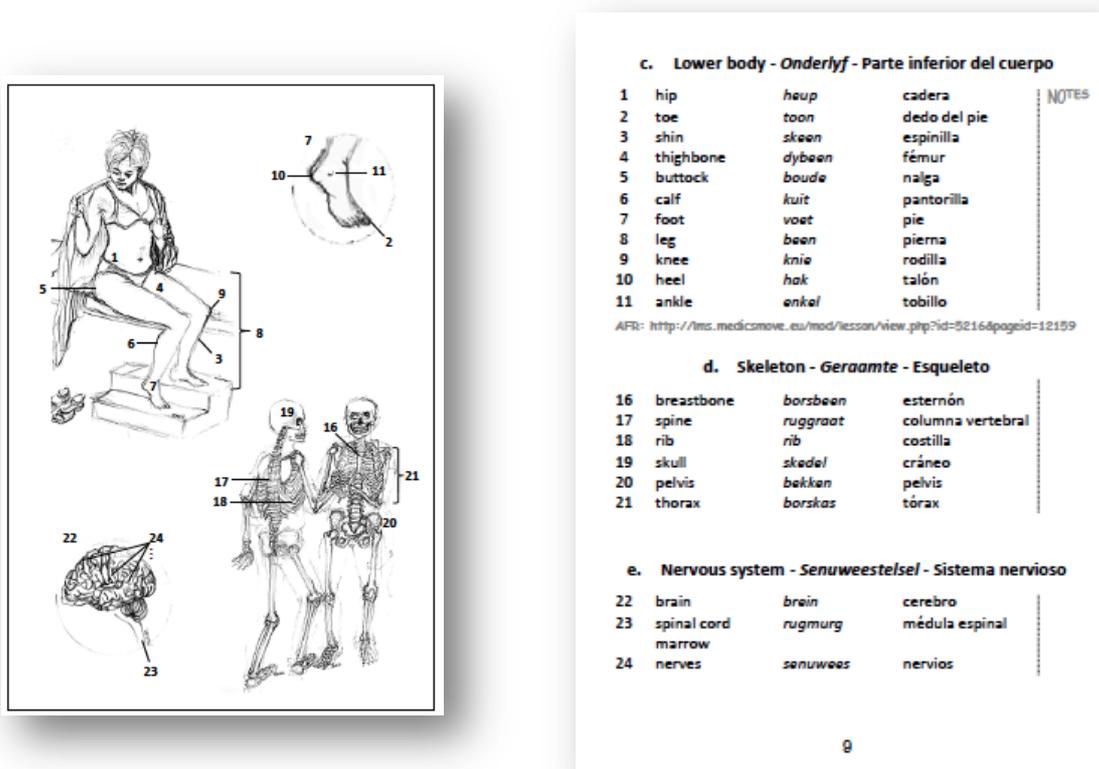


Figure 5: An example of a page from the Pocket Picture Dictionary with words grouped per topic to contextualise learning

In August 2013, this concept was introduced to a class of eight medical students who had just completed their medical training in Cuba. The dictionary was offered to them as an interactive booklet and students were invited to take part in the process of developing content for the dictionary. Since only five medical topics, i.e., body parts, garments, equipment, diseases and organisation, were included, every student received one paper version of the dictionary and was invited to use the space



Nevertheless, as expected, due to the limited number of words recorded in the dictionary (135 only), the shortcoming of the materials developed so far was evident, once the students left the safety of their classroom. After the first 10 hours of attending class, students spent a week observing surgery in the Gynaecology Department of the hospital and were involved in conversations with the patients on topics ranging from administering medication to discussing a cancerous tumour. Afterwards, students revealed that they were often at a loss trying to communicate with patients in Afrikaans. Confirming the potential usefulness of the pocket-size dictionary, while observing or being on duty in the hospital, the students added more words and suggestions to the dictionary-in-progress. The notes that the students made in the dictionary were both in English and Spanish, possibly an indication that the students were still in the process of moving from and between Spanish, the Cuban language of instruction, to English, their chosen South African language of instruction. Most students added vocabulary such as the names of diseases, or symptoms such as “itching” or explained that they would like vocabulary related to systems review, e.g. the muscular system and the digestive system. One student also requested basic sentence structures, such as questions and instructions: “Short of breath. How do you ask ‘short of breath?’” This comment underlines that students experience a need for language support when they have to communicate with patients. Although this kind of communication support is not part of the dictionary, students can contribute to and enrich the teaching based on their own experience. Scenarios following the consultation timeline are part of the online MoM-SA, but given the limitations of classroom contact time, not all can be dealt with in class. We can only hope that through the teaching we have established a framework for on-going and continuous learning.

When asked to comment on the dictionary, one student replied: “It helps you to find a word when you are in a hurry”. At the end of the course the dictionaries were

collected in and the students' notes analysed. Most students extended the word list by adding names of diseases and more symptoms to the lemmata. There seems to be a correspondence between the number of notes added to the dictionary and the learning gain of the student. A higher number of notes in the dictionaries seems to correlate positively with a consistent increase in proficiency throughout the course. It seems therefore that the dictionary-in-progress contributes to learning. Moreover, the focus on the tool seems to reinforce students' motivation as shown in the course evaluation. As part of the evaluation process, students indicated their degree of (dis)agreement on a four-point Likert scale. In the present context, it is relevant to note that an overwhelming majority of 86% (strongly) agreed that their "Afrikaans vocabulary has improved" and that the materials are viewed as being relevant to their needs. However, almost half of the students felt that more time should be allocated in their training programme towards the Afrikaans communication course and they expressed the hope that their medical vocabulary knowledge would improve.

The Cuban-trained South African medical students clearly have different needs from the other SA medical students attending courses in Afrikaans, which we tried to cater for. To the current group of students, who are co-authors of the pocket dictionary, process has indeed become content (Legenhausen, 2013). While the learners were using and compiling the word list, they had to investigate their needs both as students in a South African learning environment and as future medical professionals. The students' learning needs clearly came to the fore and were emphasized when they were in real-life professional situations that depended on effective communication. In one way, of course, these pre-professionals already have acquired an identity as medics; however, they have to express their professional identity in line with the new environment. To this end, they need a tool that gives them access to the language they need; therefore, when they were contributing to the word list, they were at the same time also contributing to the formation of their own

SA-identity (as medical professionals) as they experienced it on ward rotation. In turn, these needs had to be translated to the content and structuring principles of the dictionary, which had to be adapted and developed as the course content continued, because these experiences continuously informed the students' needs. The on-going process of contributing to the dictionary had the added benefit that, in a very simple but effective and visible way, it suggested to students that the (communication course) content was growing as their learning needs developed and that learning is therefore a continuous and dynamic process. Hopefully, these students will benefit to some extent, during the rest of their training and possibly into their professional careers, from the use of the pocket dictionary.

#### *The Future of the Wordlist Booklet*

Based on the end-of-course feedback from the students, the dictionary will be extended and developed further to include more topics and words. Contexts that will be included are related to systems' review (symptoms and illnesses), which are components of MoM-advanced and already exist for the European languages, but will have to be developed for Afrikaans.

Moreover, we intend to include QR codes. These are machine-readable codes consisting of an array of black and white squares, typically used for storing URLs or other information for reading by the camera on a smartphone. Since most students have access to a smartphone and most only have access to a computer while on campus, we expect this to be a useful add-on next to the urls in the dictionary in order to refer the students to relevant online/mobile scenarios within the MoM-SA course. The revised paper edition of the dictionary will be tested in 2014 and students' attention will be drawn to the possibilities of the online vocabulary components and contexts.

At the same time, the MoM team is studying the potential to include the dictionary in the already existing online MoM-SA materials, extending them with more words and graphics online. The online dictionary could include audio examples and function as a new medium and additional learning platform within MoM-SA online.

Finally, since *MoM-SA* does exist as an online, but also as a mobile tool, it is worth considering turning the dictionary component into an app. This opens some perspectives because smartphone apps would always be at hand, or, as one of the Cuban-trained students explains in her feedback on the future of the dictionary: "I would use the dictionary because sometimes I forget a word in english but I remember it in spanish. It would be more convient for me to have it as an app coz it mininmizes the chances of me losing the dictionary and its more accesible that way (*sic.*)"

*Afterthought 2018: After my return from Belgium I have not been involved again with the Cuban-trained students, but if I have the option to teach these students again, I will certainly use the dictionary in class and reconsider its possible online format.*

#### **4.3.5 Concluding Remarks**

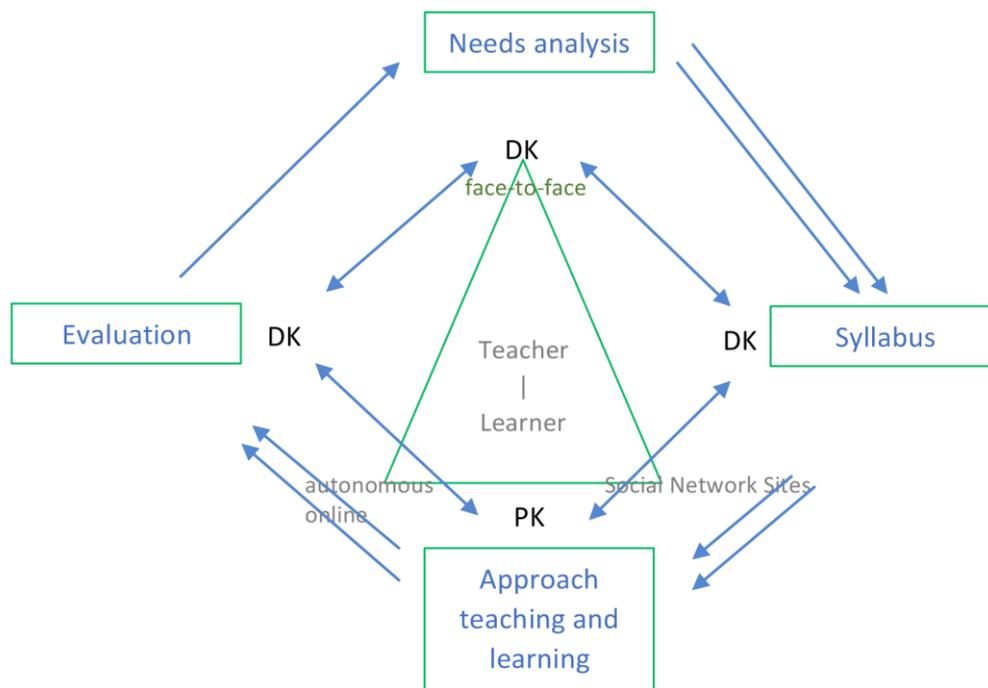
Language support systems, such as the pocket picture dictionary, may also have a beneficial role to play in supporting the Cuban-trained students' re-entry process (see Van de Poel & Gasiorek, 2012, for a detailed analysis). Ideally, tools of this kind should help students save mental energy (i.e. by removing the burden of constructing language learning materials on their own and relying on the community for shared input), which should also allow them more available mental resources to cope with the challenges of re-entry to South Africa and to engage more fully in other areas of their pre-professional life. Additionally, to the extent that these materials help students address the linguistic and communicative challenges they face, they may also help these students build confidence in their academic and (pre-

)professional lives. Finally, if these communication support tools are developed as online/mobile resources, they will have the potential to foster the learners' autonomous and continuous learning and training in a clinical context, which could provide benefits well beyond the students' initial return and orientation programme.



#### 4.4 PART TWO in retrospect

*Part Two portrayed the flow of meta-metacognitive processes that was initiated by learner needs – specific examples are provided in the three chapters of how learner needs were met with changes in the teaching and learning approach after reflections from scheduled course evaluations and needs analyses informed the syllabus. Furthermore, the third of the three learning platforms discussed in this thesis, was introduced. The triangle in Figure 14 below that visualises the blended learning platform, also suggests the interconnectedness between the three learning platforms.*



*Figure 14: A visualisation of blending three learning platforms within the process of curriculum and syllabus design*

*By utilising three learning platforms, more opportunities were created to support the learning process, as well as more opportunities not only for learner-metacognition, but also for meta-metacognition to manifest. The online community of practice, which was initially added to lower the threshold of online learning, provided the platform for collaboration and further manifestation of learner metacognition, which is discussed in Part Three.*



### *The dynamic nature of metacognition in blended learning*

*In Part Three the focus is on the learning process and learner metacognition. Learner metacognition is being discussed from three angles by considering the repercussions of metacognition on three knowledge fields, namely the self (Chapter 5), the task of learning a new language for healthcare purposes (Chapters 6 and 7) and the variety of strategies learners can use to learn a new language (Chapter 8).*



## **5.1 CHAPTER FIVE:**

### **Metacognition and the complex process of developing identities via a second language: Addressing the identity challenges healthcare professionals are facing in a multilingual context**

#### **Introduction to Chapter Five**

*Metacognition can focus on three main subject areas, namely (1) the self as learner, (2) the task of learning (a new language) and (3) strategies to employ while learning. This study points at the importance of developing identities within communication training by supporting metacognition about the self. Metacognition about the self or a sense of self and beliefs about the self create a crucial basis from which other types of metacognition can develop. Metacognition about the self is also linked to identity formation processes. Furthermore, the literature shows that identity and language are intertwined.*

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### **Abstract**

This ethnographic study takes into account that healthcare professionals are increasingly required to function in a multilingual environment where they often have to communicate in a second or third language with patients (Ushioda & Dörnyei, 2009; Burford, 2012). In this regard the identity of the healthcare worker can be compromised, as identity is interrelated with language (Joseph, 2004; Gollin-Kies et al., 2015). Therefore communication training courses within the healthcare context should accommodate professional identity formation processes, as a healthy identity would support stress and change management (Mavor et al, 2014; Monrouxe, 2009; Goldie, 2012). Data were collected during two separate courses. First, at the University of Stellenbosch, South Africa, medical students took part in a communication training course in Afrikaans and, secondly, nurses in Antwerp, Belgium, took part in a similar communication training course in English. Both courses took a blended learning approach and for each an online community of practice via Facebook was utilized. Data were analysed according to the principles of grounded theory. Metacognitive markers that support the identity formation process were identified during the first course and refined for the second course. The result is a framework that supports both metacognitive awareness and the manifestation of metacognition that could facilitate the professional identity formation process alongside the process of learning a language for healthcare purposes.

**Keywords:** *healthcare communication, blended learning, multilingualism, identity, medical communication training, language for specific purposes*

### 5.1.1 Introduction

A healthy sense of self or healthy identity is associated with improved well-being, as well as will an improved ability to deal with stress and change (Mavor et al, 2014; Monrouxe, 2009; Goldie, 2012). The professional healthcare context often requires of healthcare professionals to deal with stress and change and a healthy identity would therefore be beneficial to medical professionals. However, identity is interrelated with language (Joseph, 2004) and it is therefore not surprising that the identities of healthcare professionals, who have to communicate in a second or third language, are often compromised.

In multilingual South Africa a study was conducted in 2014 with a group of first year medical students, whose developing identities were challenged by the changes normally associated with academic acculturation, as well as by the fact that they had to cross linguistic and cultural barriers (Fourie, 2016). These students were all taking part in a communication course for medical pre-professionals. A blended learning approach was implemented that included an autonomous online platform, face-to-face teaching and a closed Facebook group. During this course certain metacognitive markers were identified that supported the identity formation process of these students.

Building on this research, a follow-up study was conducted in Belgium in 2016 when a group of nursing students followed a communication training course with a similar structure and blended learning approach. The metacognitive markers identified during the South African study, were implemented with a specific focus on the Facebook community of practice. Based on the results, a framework, that supports the metacognitive development of the identity of a healthcare worker in a second language context, was developed.

## 5.1.2 Literature Review

### 5.1.2.1 Identity and (second) language

Identity is a commonly used term, referring in general to an individual by name and in doing so, singling out that person from others, but the term also refers to “who that person really is” or self-identity (Joseph, 2004: 3). Apart from self-identity, group or communal identities also exist, pointing for instance at ethnicity, gender, religion and profession. However, self-identity can consist of various group identities, which a person can partake in. For example Christine (self-identity) is a female (group identity) South African (group identity). Group identities are abstract in the sense that they do not exist without the individual identities they are made up of, but at the same time they feed into the individual identity as the individual join or discard groups (Joseph, 2004). Therefore the individual identity is fluid in nature and in a constant process of transformation (Pratt et al., 2006; Goldie, 2012; Roberts, 2010; Rahimian, 2015), but in spite of this fluidity, the individual or self-identity can still be seen as singular and coherent (Joseph, 2004).

Both individual and group identities are dependent on language as it is language that enables the individual to convey experiences in words and language can furthermore enable the individual to reflect on the experience, outside the experience itself. In this regard “language enables us to form a conception of self rather than simply being ourselves” (Joseph, 2004: 11). The interrelatedness of language, identity and culture (group identity) is well researched (Rahimian, 2015). This article will centre on the role of language in identity from an applied linguistic point of view and will in this regard mainly focus on the directly noticeable and discernable roles of language in people’s lives, as opposed to philosophical and psychological points of view on language.

Linguistic research has shown how language can shape identity. At the same time identity can also shape language, for instance an individual can modulate speech depending on who the audience is and at the same time, an individual's notions about other people's identities can be based upon the way they speak. In this regard, identity and language is inseparable (Joseph, 2004).

During the past two decades an increase in social, political and economical migration brought ever increasing linguistic and cultural diversity to most parts of the world (Ushioda & Dörnyei, 2009; Burford, 2012). For these migrating second language learners the relationship between language and identity becomes more pronounced, as they will, by learning a new language, also invest in a new identity and new culture (Dörnyei & Ushioda, 2009). Coetzee-Van Rooy (2006) warns that learning a new language does not imply that the new target language and identity is at the cost of the first language and "old" identity, but rather that multidimensional identities and pluralism exist in a globalised world. Migrating second language learners therefore have by definition complex identities (Gollin-Kies et al., 2015). These identities are reproduced during interaction with others (Norton, 2011). At learning institutions, where the medium of instruction is the student's second or third language, "[t]he relationship between identity and language intersect with teaching and learning in many spheres, including with an individual's sense of belonging and affiliation to an institution, and with an individual's integration into the academic community of practice" (Leibowitz et al., 2005:34 ).

#### **5.1.2.2 Identity of mobile medical (pre)professionals**

Pre-professional or healthcare students experience similar challenges with regards to their identity and academic acculturation. Like all first year students, health care first year students also have to engage with discipline-specific academic literacy so that they can fully take part in the process of genuine acculturation and academic integration (Van De Poel & Van Dyk, 2015).

Healthcare professionals, like other professionals, need to develop a professional identity, which will enable them to function as individuals at work as well as members of communities (Pratt, et al., 2006; Goldie, 2012). The process of professional identity formation is also on-going and self-reflective (Wilson et al., 2013) and develop when medical professionals learn more about their work and acquire a work-related self-esteem as well as when they interact with a variety of individuals who validate them in various ways as healthcare professionals (Ashmore et al., 2004; Pratt et al., 2006; Burford, 2012; Roberts 2010). These interactions often have significant impact on the professional identities of individuals and occur while they are at institutions such as universities, hospitals, hospices and community care organisations (Goldie, 2012). Apart from a professional (group) identity, healthcare (pre-)professionals will also have various ethnic, family and social identities. The well-being of healthcare professionals are influenced by the conceptualization of these multiple identities (Mavor et al., 2014). Students and healthcare professionals who have several group identities and are at the same time inclusive about membership, demonstrate social identity complexity. Social identity complexity can be a buffer to the stress normally associated with the daily work of healthcare workers and can furthermore support these medical professionals in managing change, valuing social justice and exhibiting empathy with others (Mavor et al., 2014; Monrouxe, 2009; Goldie, 2012).

A considerable international migration of health care workers is also taking place (Burford, 2012; Gasiorek & Van De Poel, 2017). As discussed in 1.1, learning a second language makes the interrelated nature of language and identity distinctively more complex and healthcare (pre-)professionals who are also second language learners will be involved in complicated identity formation processes.

The intricacy of the second language healthcare worker's context is illustrated in existing research. For example, researchers Gasiorek and Van de Poel (2017) report in their study on the importance of language in nurses' cross-cultural repertoire of skills, that nurses report high confidence in their nursing skills if communication across cultures with patients is in their (the nurses') first language, but that they feel notably less confident about their nursing skills when they have to communicate in a second language with patients. These nurses perceive themselves to be less efficient as professionals if they have to communicate in a second language. The same researchers have done earlier research to explore how mobile medical professionals perceived their communication with their colleagues in the host country and how these colleagues evaluated the communication of their second language colleagues. The research reported upon important discrepancies between what these groups perceived about the communication competency of the mobile medical professionals and suggested that this should be addressed in communication training programmes that address language as well as culture related issues (Gasiorek & Van de Poel, 2012).

### **5.1.2.3 Communities of practice and interaction**

Communities of practice are groups of people actively engaged with each other about a common interest in order to support collective learning (Wenger et al., 2002; Wenger, 1998). These communities can facilitate collaboration and interaction amongst peers and if the case, between learners and lecturer. As interaction is crucial in second language learning (Wang, 2004; Larsen-Freeman, 2013) and can furthermore lead to better learning outcomes than motivation, these communities of practice can provide learners with the opportunity to engage in the process of learning. (Pike et al. 2010; Norton, 2013). Research has also shown that communities of practice dedicated to medical students can help students "to establish their professional identity and recognise their significant roles and responsibilities as

medical students and their future roles as medical practitioners” (Burgess & Nestell, 2014: 406).

#### **5.1.2.4 Metacognitive awareness about the self**

Metacognition develops alongside intelligence and is, compared with intelligence, a more accurate predictor of learning outcomes in face-to-face learning as well as in computer-based learning environments (Veenman & Spaans, 2005; Veenman, 2013). Metacognition evolve and manifests during the process of performing a challenging task (Schraw, 1989). Furthermore, the benefits of metacognition can extend to the advantage of a community, as research suggest that people can share metacognition in a community of practice in order to improve the outcome of collective task performance (Shea et al., 2014). This taken into account, the persistent interest in supporting metacognitive awareness becomes clear.

Metacognition is often referred to as self-regulation to support task performance and learning (Veenman, 2006; Veenman, 2013). The working definition for this current research divides metacognition into two types of knowledge, namely declarative knowledge and procedural knowledge. Declarative knowledge is more stable and refers to “knowing when and what you know and do not know, including what you need to know” (Tarricone, 2011: 157). Declarative knowledge can further be divided into knowledge and awareness about the person or self as learner, knowledge about the task of learning and knowledge about strategies to solve challenges, while, on the other hand, procedural knowledge is dynamic and activated in the process of addressing a challenging task (Flavell, 1979, Pintrich, 2002; Tarricone, 2011; Schraw, 1989; Fourie, 2016).

Taken into account that identity and a sense of self is the focus of this article, declarative knowledge about the person is defined in more detail: It refers to beliefs about oneself as a learner, as well as about the abilities and beliefs of other learners,

as compared to oneself (Schraw, 1989; Tarricone, 2011). Accordingly this self-knowledge includes intuitive knowledge, understandings and misunderstandings about one's own abilities and processes of learning, as well as about the abilities of others. It refers to beliefs about motivation and self-confidence judgements and is a crucial basis for the development of other types of metacognitive knowledge (Flavell, 1979; Pintrich, 2002; Tarricone, 2011).

#### **5.1.2.5 Confidence, learner tasks and challenges**

For the purposes of this research self-confidence refers to a judgement by the learner about own existing skills and abilities to address a task or challenge and is seen as a significant motivating and regulating factor of behaviour in order to reach a goal (Bandura, 1977; 2012; Bjork & Druckman, 1994). However, Bandura also claims that alongside confidence, the necessary skills as well as incentives to perform or address a challenging task, can influence learner behaviour positively (1977). Furthermore, if a learner has success with a challenge, this experience will influence self-confidence levels (Bandura, 1977; 2012). In this regard there is a reciprocal relationship between learner self-confidence and learner experience or behaviour, so that self-confidence is a significant motivating factor when addressing a challenge, while the experience of addressing the challenge will have an impact again on self-confidence (Bjork & Druckman, 1994).

### **5.1.3 Research relevance, focus and context**

#### **5.1.3.1 Research relevance and focus**

Taking the literature into account, it seems imperative that medical healthcare professionals deserve to be supported in their identity formation processes and that the linguistic relevance is highlighted by the fact that identity is interrelated with language (Joseph, 2004; Wilson et al., 2013). Furthermore, in a globalized world, healthcare professionals are increasingly so required to communicate in a second or third language (Burford, 2012; Gasiorek & Van de Poel, 2017). Their identity

formation processes are therefore more complex than those of healthcare professionals who communicate in a first language with patients (using the same language for communicating). Apart from the interrelatedness with language, it is also significant to take into account that identity is not fixed, but fluid and compiled by multiple identities (Pratt et al., Goldie, 2012; Roberts, 2010; Rahimian, 2015). The personal well-being of healthcare professionals is also related to the conceptualization of their multiple identities (Mavor et al., 2014). Existing research suggests that an individual with multiple group identities will demonstrate improved well-being, as social identity complexity is known to be not only a buffer to stress but also contributes positively to change management (Mavor et al., 2014; Monrouxe, 2009; Goldie, 2012). This is significant as managing both stress and change are key ingredients of a typical day in a healthcare student's and professional's life and, even more so, when they have to adapt to the new culture (of the patient, colleagues and/or institution).

Taking this into account, the present **research focus** was:

- First, to establish what metacognitive awareness (declarative knowledge) and metacognitive skills (procedural knowledge) do healthcare pre-professionals demonstrate about their developing identities during communication training?
- And, secondly, to explore what effects a training programme, that incorporates the above elicited metacognitive awareness identity markers, have on health care professionals' developing identities?

In order to address the research focus, two sets of data were collected. In 2014 data were collected during a communication training course for medical students studying at the University of Stellenbosch, South Africa. Following the analysis done for this research, a similar communication training course with nursing students as

participants ran in 2016 at the Artesis Plantijn Hogeschool in Antwerp and also here data were collected and analysed.

### 5.1.3.2 Participants

The participants from the first group were first year medical students at the University of Stellenbosch. These students (N = 35; 17 male and 18 female) were enrolled for a compulsory 16 face-to-face hours (eight sessions in eight weeks) medical communication training course, *Medics on the Move* (Van de Poel & Fourie, 2013) in Afrikaans. Afrikaans, together with English and Xhosa, are the three dominant languages in the Western Cape province of South Africa, while the country has 11 official languages. At the time the study was conducted, the University of Stellenbosch was a predominantly Afrikaans-medium university. English was the home language of 31% of the participants in this study, while the home languages of the remainder of the students were Tsonga, North-Sotho, Zulu, South Sotho, Xhosa, Pedi and Tswana. The students were all either beginners or false beginners of Afrikaans and their chosen medium of instruction was English.

The participants from the Antwerp group took part in an English communication training course for nursing students at Artesis Plantijn Hogeschool, Antwerpen – a school for vocation training. *The Nurses on the Move* (Van de Poel & Fourie, 2016) communication course in English was a graded component of a course, which these students elected as part of their professional bachelor's degree in nursing. The 23 participants (3 male, 20 female) were all practising nurses, having all completed a diploma in care. Dutch was the home language of 96% of the participants, while English was at varied proficiency levels. Before the start of the course they self-evaluated their spoken English abilities on a scale of 1 to 10 (where 1 - 3 is low and 8 – 10 is high) and the mean was 5, with a low of 2 and a high of 8 and a Standard Deviation at 1.86.

The teacher-lecturer was a participant observer during both courses. Although a native speaker of Afrikaans she is an experienced lecturer of English for specific purposes.

### 5.1.3.3 The components of the communication training courses

The basis of the course used for the Stellenbosch group was called *Medics on the Move (MoM)* and the basis of the course used for the Antwerp group was called *Nursing on the Move (NoM)*. The development of both courses were co-funded by the European Commission and each was designed as an autonomous online communication training platform (Van de Poel & Fourie, 2013; Van de Poel & Fourie, 2016; Van de Poel, 2016).

During both the Stellenbosch and Antwerp courses the task-based syllabus of each online module was used as the core for the design of each course presented to students. Each course also utilized a closed Facebook group as a third learning platform, next to the classroom and autonomous online platforms. The *MoM* online course consists of ten units, which approximately follow the consultation timeline. Each unit consists of medical scenarios with corresponding sound, vocabulary, grammar and communication exercises. In a similar way the *NoM* online course consists of five units that follow the key communication functions of nursing. The two courses contain a library with a concise grammar, wordlist and communication training resources (Van de Poel & Fourie, 2016; Van de Poel & Fourie, 2014).

The closed Facebook group in each group functioned as an online community and students had to perform tasks that were integrated with the work done in class as well as with the tasks and content of the autonomous online platform. Based on the metacognitive awareness the South African students demonstrated via their Facebook community, the decision was made to direct the Antwerp (*NoM*) students more specifically towards metacognitive awareness via tasks. These tasks contained

a variety of instructions, such as instructions for tasks with a specific focus on raising awareness about learners' personal needs that included the following:

- Introduce yourself
- Post how you feel about ...
- What did you like about...
- What did you find difficult about ...

In other tasks the focus shifted from the individual learner to the tasks and learning in general, especially in collaboration with others (the fact that all Facebook posts are visible to group members made this possible) e.g.

- Comment on what others posted ...
- You may agree with another student's response ...
- Take comments of others into account when you ...
- What did you learn from ...

Some instructions introduced and raised awareness about learning strategies, for example

- Take comments of others into account when you ...
- Edit your written response according to ....
- Advice on the future tense can be found in the First Aid Kit (online library with resources)...
- Write a language learning strategy for yourself to follow after completion of the course ... (Van de Poel & Fourie, 2016).

## 5.1.4 The research process

### 5.1.4.1 Research approach

By exploring the impact of metacognitive markers on the identity formation process of healthcare professionals within a communication training context, a largely unknown learning context was being mapped. To this extent the research can be defined as ethnographic research (Dörnyei, 2007). Ethnographic research often relies on gaining understanding of the processes that the participants are going through (Chamaz, 2014) and therefore ethnographic research is useful at the beginning of new projects to understand the real needs and constraints of that particular context (Government of United Kingdom, 2014). In order to accommodate the flexibility needed to complement the scope of the research, an emergent research design was chosen. "Emergent design refers to the fact that data collection and analysis can develop and be transformed as a consequence of what is learned during the earlier phases of the research" (Morgan, 2008).

### 5.1.4.2 Data handling procedure

#### 5.1.4.2.1 Collection instruments

Typical to emergent research design and ethnographic studies, a variety of data sets were used (Charmaz, 2014). For both the Stellenbosch and Antwerp groups the following data sets were collected:

- Entries/posts from the relevant closed Facebook groups;
- Pre-course questionnaire with Likert scale and open questions on biodata and questions on language learning (for example what do you think would be the best way to learn a new language);
- Post-course questionnaire that included for instance an open question to evaluate the use of Facebook as part of the course;
- Recorded and transcribed post-course focus discussions (Stellenbosch group).

#### 5.1.4.2.2 *Data collection*

For the Stellenbosch group the questionnaires were completed individually on paper at the beginning and end of the course. The focus group discussions were also conducted at the end of the course and transcribed. The data from the questionnaires as well as from the focus group discussion were then submitted to Survey Monkey Gold ([www.surveymonkey.net](http://www.surveymonkey.net)).

For the Antwerp group the pre-course questionnaires were conducted on paper during the first class of the course and the post-course questionnaires were done online. The answers to open questions were translated and all the data were submitted to Survey Monkey Gold.

The Facebook posts from both groups were also copied to Word documents.

#### 5.1.4.2.3 *Data handling procedure*

The analysis focussed on data collected as text and followed the three phases of coding that are outlined according to the principles of grounded theory (Dörnyei, 2007).

The first phase of coding, open coding, is descriptive and often relies on gerunds with which actions are exemplified and identified (Dörnyei, 2007; Charmaz, 2014). This heuristic procedure keeps the focus on the data as well as on that which is still unexplained, as opposed to pre-conceived ideas. In this regards the purpose of the analysis shifts from focussing on known structures and theories to emergent processes and relationships (Charmaz, 2014). The second step, or theoretical coding, is taking open coding further when more abstract connections are being identified - as the most significant or most frequent earlier codes are categorised. In doing so, the theoretical direction of the emerging analysis is progressing, although the codes are still directly related to the data (Charmaz, 2014). The third phase, selective

coding, exposes core categories and the relationships between the categories (Dörnyei, 2007; Charmaz, 2014). Furthermore, these conceptualisations can then be compared with existing research and the analysis can also be integrated into a (new) theory (Dörnyei, 2007; Charmaz, 2014).

Similar to the analyses of the Stellenbosch medical data, the Antwerp data were developed from first and second level coding into third level coding. See Tables 1 – 4 below:

Table 1: First and second level coding of Facebook posts where students provided feedback on posts of peers as required by incentives

Raw data	First level coding	Second level coding
<p>(Student A providing critical feedback on Student B's post where the nurse describes how to use an epi-pen)</p> <p><u>Student A</u>: Clear instructions. He asks to repeat in your own words and that's good . Is a very polite conversation. The only thing I miss is the epi pen 10 seconds to leave in the thigh .But otherwise okay for me wink emoticon</p> <p>....</p> <p><u>Student B</u>: I'll take note of that, thx! grin emoticon</p>	<ul style="list-style-type: none"> <li>• Student giving positive and critical feedback on medical explanation to patient, but softening critical feedback with emoticon.</li> <li>• Student accepting positive and critical feedback with emoticon to indicate acceptance of feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Giving professional opinion in L2</li> <li>• Giving positive and critical feedback</li> <li>• Receiving positive and critical feedback</li> <li>• Acknowledging feelings of self and others with emoticons</li> <li>• Using humour</li> <li>• Using snippets of home language</li> </ul>
<p>(Student B and Student C responding on Student A's instructions to a patient)</p> <p><u>Student B</u> Nice and clear explanation</p> <p><u>Student A</u> welle zen er al bekan 2 dagen me bezig</p> <p><u>Student B</u> I do not understand this language grin emoticon</p> <p><u>Student C</u> Haha</p>	<p>Student using home language Using humour in feedback</p>	

In Table 2 below Facebook posts that consist of students' reflections, not directly inspired by tasks given, were analysed and coded.

Table 2: First and second level coding of Facebook reflections that were not task-related and made without incentives

Raw data	First level coding	Second level coding
<p>(Student in post referring to her own proficiency) My english is not good at all like you will notice with this text.</p>	<ul style="list-style-type: none"> <li>• Student sharing her awareness of own (lack of) proficiency with rest of group</li> </ul>	<ul style="list-style-type: none"> <li>• Reflecting on own proficiency</li> <li>• Reflecting on communicative functions in in L2</li> </ul>
<p>(Student figuring out how to be polite in English if the pronouns indicating politeness in Dutch do not exist in English.) I am used to use U and in english it is that impolite to speak only with you. il will add after the word "you" madam or sir</p>	<ul style="list-style-type: none"> <li>• Student reflecting on differences of politeness markers between home language and English.</li> </ul>	
<p>(An optional task was to link feelings and emotions (vocabulary) with emoticons. Student A below used a photograph of her son and Student B responded) <u>Student A:</u> My son feels proud and a little scared [IMAGE OF SON CARRYING A LAMB] <u>Student B:</u> But he is strong</p>	<ul style="list-style-type: none"> <li>• Student including reference to own family in posts</li> <li>• Student acknowledging family of peer in positive way</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporating home &amp; family life</li> </ul>

Reflections were also made by students in reaction to prompts and incentives contained by prescribed tasks (see Section 3.3). See Table 3 below for examples of first and second level coding.

Table 3: First and second level coding of Facebook reflections that were prompted by tasks

Raw data	First level coding	Second level coding
I want to mention that I think this way of learning is very interesting and fun, the videos and audio fragments really help with your pronunciation. The only really issue I find with myself is that I am used to talking American-English which has lots of differences.	<ul style="list-style-type: none"> <li>• Student reflecting on differences in pronunciation of English according to different countries</li> </ul>	Admitting personal debilitating condition that would hamper writing Reflecting on impact of geographical distance on language Reflecting on positive learning experience in spite of not yet fluent Reflecting on communication via body language
<i>(Student mentions condition that influences her writing)</i> I pointed this out difficulty in dutch by my dyslexia.	<ul style="list-style-type: none"> <li>• Debilitating condition that would hamper writing</li> </ul>	
I liked the training for my english. I learned a lot of medical terms that i didn't know how i needed to use them. My english stays not that good but i can communicate with a patiënt. i will make myself understandable for my patients. if i don't know the right words, i can use sign language	<ul style="list-style-type: none"> <li>• Student reflecting positively on learning experience in spite of English not having improved considerably. Student feeling that ability to communicate with patient has improved.</li> <li>• Student explaining how body and sign language can compensate for lack of linguistic ability</li> </ul>	

First and second level coding of written answers to a post-course questionnaire were added to the Facebook-data. See Table 4 below.

Table 4: First and second level coding of written answers to an open post-course questionnaire: I would/would not recommend the use of a closed Facebook group for communication training of nurses, because ...

Raw data (translated)	First level coding	Second level coding
Yes, useful Yes, peer support; Facebook is popular No, other platform because Fb has privacy problems Yes, stimulating autonomy, appreciate peer support, appreciate examples No, Fb only for young people Yes, if closed group and private – No, I am not on Fb; Fb should be only for friends yes, everybody uses social media; Quick questions with responses (time efficient) Yes Yes, easily accessible by all Yes, adding value Yes, userfriendly Yes, if everybody follows the same course Yes, easy access, good support, quick response from peers and teacher	<ul style="list-style-type: none"> <li>• Useful</li> <li>• Peer support x3</li> <li>• Fb is popular x2</li> <li>• Stimulate autonomy</li> <li>• Appreciate examples</li> <li>• Only if closed and private</li> <li>• Quick feedback x2</li> <li>• Feedback from lecturer</li> <li>• Time efficient</li> <li>• Easily accessible x2</li> <li>• User-friendly</li> <li>• If everybody is following same course</li> <li>• Not private</li> <li>• Fb only for young people</li> <li>• Fb is only social</li> </ul>	<ul style="list-style-type: none"> <li>• Appreciating peer support via Fb</li> <li>• Appreciating feedback via Fb</li> <li>• Appreciating personalised time management via Fb</li> <li>• Appreciating autonomous learning via Fb</li> <li>• Appreciate user-friendly and accessible learning</li> <li>• Appreciating community of practice</li> <li>• Worrying about privacy</li> <li>• Feeling that Fb is social and not academic</li> <li>• Feeling that Fb is for young people (not professional)</li> </ul>

Table 5 below demonstrates how the Level 2 data from Tables 1-4 are conceptualised and compared with existing research to work towards Level 3 coding. It furthermore shows how a community of practice can facilitate metacognitive awareness to support the medical identity formation process while learning a second language in a blended learning environment. These results take into account that in order for metacognition to develop, both declarative knowledge (reflection) and procedural knowledge (interaction) are necessary learning processes. For a detailed description of how metacognition supports the identity formation process, see 5. *Discussion*.

*Table 5: How a community of practice can facilitate metacognitive awareness to support the medical identity formation process while learning a second language in a blended learning environment*

In order to work towards new (pre-)professional identity, certain components are necessary: (confirmed by literature)	The metacognitive processes that facilitate these components (confirmed by data and research)	How these processes manifest within an (online) Facebook community of practice
<p>Experience</p> <p>Confidence</p> <p>Opportunities to validate identity</p>	<p>Reflecting or declarative knowledge</p> <p>AND</p> <p>Interacting or procedural knowledge</p>	<ul style="list-style-type: none"> <li>• Engaging in tasks that reflect professional medical context</li> <li>• Reflecting on own medical practice</li> <li>• Reflecting on communicative functions in L2</li> <li>• Reflecting on comments of others</li> <li>• Providing critical feedback</li> <li>• Receiving critical feedback</li> <li>• Feeling safe in the community</li> <li>• Gathering positive language learning experiences</li> <li>• Willing to make mistakes in front of others</li> <li>• Showing awareness of group members feelings</li> <li>• Showing own feelings</li> <li>• Admitting debilitating personal conditions</li> <li>• Adding comments in home language</li> <li>• Using humour</li> <li>• Incorporating home &amp; family life</li> </ul>

### 5.1.5 Discussion

The results are discussed in two separate sections according to the stages in which the data were collected, followed by a general discussion.

### 5.1.5.1 The Stellenbosch data

The analysis of the Stellenbosch data revealed the metacognitive awareness that first year medical students demonstrated when they were challenged to adapt their identities (see Chapter 2).

*Table 6: The metacognitive awareness about the personal concerns and experiences that first year medical students reported upon and demonstrated during a blended learning communication training course*

Potential Threats	Metacognitive Processes	Positive Outcomes	Features Features	Target
<b>Students feeling:</b> a) Bored b) <i>Detached, uninformed &amp; lagging behind</i> c) Isolated d) Stressed & frustrated e) Lonely f) Trapped & fear of losing face-value	<b>Reflecting Declarative knowledge</b>  <b>Interacting Procedural knowledge</b>	<b>Students feeling &amp; experiencing:</b> a) Relevance b) Involvement & energy c) Peer/lecturer support d) Enjoyment/ comfort e) Inclusive/ shared experiences f) Safe and free to make mistakes	Gaining <b>confidence</b>  Gaining <b>experience</b>	<b>IDENTITY</b> in progress

#### 5.1.5.1.1 The two metacognitive processes

Table 9 provides an overview of metacognitive awareness (declarative knowledge) about concerns and experiences by first year medical students from Stellenbosch University during a blended learning communication training course and furthermore, how metacognitive procedural knowledge these students demonstrated facilitated positive outcomes that could support the development of their (pre-) professional identities.

These results, as set out in Table 6, indicate how students became aware of and counteracted potential threats (column 1). By means of two processes, reflecting and interacting (column 2) these students could gain several positive outcomes that

facilitated positive learning experiences and confidence (columns 3 and 4), which could support the development of their (pre-) professional identities. For example, students perceived their learning through the programme as relevant (column 3) with respect to their professional context - as one student explained: "it is ... relevant as it focused on body parts, how to greet patients, consultation stuff I am going to use in the near future when I interact with patients". Studying and interacting with the materials presented was perceived as relevant and authentic and counteracted boredom and a sense of wasting time (see Table 6 - Columns 1a and 3a) . Within the context of these students' learning experiences, detachment refers to the linguistic and cultural barrier that exists between them and the majority of the students and lecturers who speak Afrikaans. Therefore, instead of being involved in social and learning experiences on campus, students were often removed from the reality of this experience and were uninformed (see Table 6 - Column 1 b), which isolated them socially and academically from their fellow students (see Table 6 - Column 1c). This general feeling of isolation can be counteracted by peer and lecturer support, in class and via the Facebook platform (see Table 6 - Column 3c). Feelings of frustration and stress can be counterbalanced by the experience of being part of a community (see Table 6 - Column 3e). The community generated a warm and inviting atmosphere - where students did not feel trapped, but willing to explore, even if this meant making mistakes (see Table 6 - Column 3f). By being enjoyable and fun at times, the work done in class and via the Facebook community could balance the stress normally associated with challenging tasks (see Table 6 - Column 3d). Finally, the contact sessions had a dynamic and flexible quality that relied on interaction and learning experiences occurring on different platforms, which added an "energetic" quality to learning (see Table 6 - Column 3b).

The analysis shows that the positive descriptors (Table 6 - Column 3) are the results of two main processes, namely reflection and interaction. On the one hand, the students reflected on their learning context and indicated that they felt bored,

uninformed, stressed, lonely and were afraid of losing face. On the other hand, the positive counterparts, such as be(com)ing involved with learning, experiencing peer and lecturer support, sharing experiences and feeling energetic, all rely on engaging in learning via.

Within the context of metacognition two processes are at work. First, there is reflection that refers to declarative knowledge and the opportunities that students have to reflect about themselves as learners and about their learning processes (Flavell, 1979, Pintrich, 2002; Tarricone, 2011; Schraw, 1989; Fourie, 2016). In doing so students raise their own awareness as well as that of others about the process of learning a new language for healthcare purposes. The second process is interactive learning, which is how the process of learning a language manifests itself. From a metacognitive point this manifestation of learning is called procedural knowledge. Students were required to interact in order for any of the positive descriptors (e.g. such as being involved with learning and having to do tasks that required of them to provide feedback on each other's work, experiencing peer and lecturer support via Facebook posts and in class, sharing experiences on Facebook (see Table 9) to manifest as procedural knowledge. Procedural knowledge can only manifest itself during task performance (Schraw, 1989; Veenman, 2013). It was therefore important for students to interact in order for their metacognition to develop.

The two processes (interaction and reflection) were the main processes that facilitated opportunities to gain experience in learning. Gaining experience is linked to gaining confidence (see 5.1.2) and both experience and confidence are important aspects in order to progress towards a new identity (Norton, 2011, Ashmore et al. 2004; Pratt et al., 2006; Burford, 2012; Roberts 2010). This was also confirmed by the results of the Antwerp analysis (see 5.2.1 and for a more detailed discussion see 5.2.2).

#### 5.1.5.1.2 *Two features*

It was significant for the students to move towards positive feelings in the process of learning as “individuals can talk themselves out of succeeding” (Bjork & Druckman, 1994). Therefore, it was important for students to engage and gain experience in communication, as confidence and a positive sense of self are always related to a variety of factors and authentic learning experiences and a significant aspect of to learn how to communicate can best be built (via the complexity and integrated nature of) positive learning experiences and not, for instance, on a singular feeling like a sense of luck (Bandura, 1977; Bandura, 2012; Bjork & Druckman, 1994). The results thus indicated that gaining confidence and gaining experience were the necessary features for students to develop towards a new identity.

#### 5.1.5.2 **The Antwerp data**

Based on the metacognitive awareness demonstrated by the Stellenbosch learners, the design of the programme for the Antwerp learners specifically aimed to support their metacognition and metacognitive growth in the course of learning a new language for medical purposes. The intention was to facilitate metacognitive growth in order to support the development of their identities. To this end, the tasks which students had to engage in focused on both declarative knowledge (mainly through awareness raising and opportunities to reflect) and procedural knowledge (mainly through opportunities to enact metacognition through interaction) (see Table 7 below).

Table 7: How a community of practice can facilitate metacognition to support the identity formation process in a blended second language learning environment

Descriptors	Processes	Features	Target
<p><b>Reflecting on:</b></p> <ul style="list-style-type: none"> <li>• own practice as medical professional</li> <li>• comments of others regarding medical practice</li> <li>• own use of L2</li> <li>• use of L2 in comments of others</li> <li>• communicative functions in L2</li> <li>• feeling safe in the community</li> <li>• feeling willing to make mistakes in front of others</li> </ul>	<p><b>Reflecting Declarative knowledge</b></p> <p><b>Interacting Procedural knowledge</b></p>	<p><b>Gaining experience</b> (by engaging via second language with tasks &amp; people)</p> <p><b>Gaining confidence</b> (by engaging via second language with tasks &amp; people)</p>	<p style="text-align: center;">IDENTITY in progress</p>
<p><b>Interacting by</b></p> <ul style="list-style-type: none"> <li>• Engaging in profession related tasks via L2</li> <li>• Providing critical feedback</li> <li>• Receiving critical feedback</li> <li>• Incorporating other course subjects in discussions</li> <li>• Demonstrating ability to use L2 in profession-related contexts</li> <li>• Demonstrating awareness of group members feelings</li> <li>• Demonstrating own feelings</li> <li>• Using humour</li> <li>• Admitting debilitating personal health conditions</li> <li>• Adding comments in home language</li> <li>• Incorporating home &amp; family life</li> <li>• Incorporating hobbies and interests</li> <li>• Acknowledging socio-political happenings</li> <li>• Acknowledging cultural festivals</li> </ul>		<p><b>Validating identities</b> (by engaging via second language with tasks &amp; people)</p>	

#### *5.1.5.2.1 The two metacognitive processes*

The focus of Antwerp research shifted from the experience of the individual towards the experience of members of a community of practice and the collected data accordingly centered on the Facebook posts (see 3.3). The reason behind this shift in focus is that the various and complex needs of the individual learner can be better met through collaboration as a member of a community of practice (Fourie, 2017). Research has in particular shown that communities of practice dedicated to professional healthcare can help students “to establish their professional identity and recognise their significant roles and responsibilities as medical students and their future roles as medical practitioners” (Burgess & Nestell, 2014: 406). The community of practice gained a further purpose as metacognition can be shared to the advantage of all community members when they collaborate (Shea et al., 2014). Students collaborated with each other via the Facebook platform, following the incentives included in the tasks. They also collaborated beyond the incentives, for instance by using humour and by encouraging feedback from others.

The Stellenbosch data, alongside existing research, outlined that reflection is a necessary process within a communication training programme. Reflection is a significant aspect of declarative knowledge or metacognitive awareness and is usually triggered before, during or after a task when a student is reflecting about an aspect of learning (also see 6.1.1). Students were asked to reflect upon their learning experiences when answering pre- and post-course questionnaires, as well as during some of the Facebook tasks. Furthermore, all posts made by each student were visible to the whole group and in this way the Facebook platform supported the process of reflection as students could read what the others wrote. Existing literature has furthermore indicated that reflection is an important aspect of the identity formation process (Wilson et al., 2013). Accordingly students in the Antwerp group were encouraged to reflect on their own practice as medical professionals, on the comments of others regarding their specific medical practices, linguistic aspects of

their own use of the target language as well as on the use of the second language in comments of others; communicative functions in the target language; being part of a community and also on making mistakes (see Table 7, Column 1).

The second process outlined by the Stellenbosch data is interaction, which is the process through which procedural knowledge manifests (see 5.1.1). Within the context of the Facebook community students received incentives that encouraged interaction to facilitate the use of grammatical structures and specific vocabulary, such as the grammatical structures needed to ask patients open and closed questions. Apart from the functional healthcare content, the communication on the Facebook platform also covered the more personal feelings and contexts of students' learning experiences and daily lives. For example, students conveyed feelings to indicate for instance that criticism was meant to be supportive, thus not only reinforcing that the Facebook community was a safe space to make mistakes, but also a space that supported collaboration. Following incentives to do so, students also interacted with each other by introducing themselves in the target language and explained more about their personal and family lives, as well as other interests beyond healthcare. Some of them continued to refer to their family lives beyond the incentives – for instance how family schedules clashed with studies and work schedules and by including photographs of children in the other Facebook tasks. Other subjects of the nursing degree course were also discussed in the group. At times students also interacted in the common home language, mainly to joke or to deal with administrative issues. One student also spontaneously mentioned being dyslexic and how this condition influenced her writing. The Easter celebrations as well as a terrorist attack in Brussels took place during the five-week course and students referred to these cultural and socio-political events in a general, considerate manner. (See Table 7, Column 1).

Confirming the results from the Stellenbosch research, most of the Antwerpen nursing communication students, also claimed in their pre-course reflections that interaction is the best way to learn a new language and in the post-course reflections that they valued the interactive nature of the course. Research indeed indicates that interaction is both the means and objective in second language learning (Wang, 2004; Larsen-Freeman, 2013). A second reason behind the importance of interaction is that the process of acquiring a new identity relies on interaction with others (Norton, 2011, Ashmore et al. 2004; Pratt et al., 2006; Burford, 2012; Roberts 2010).

The results indicated that these processes, namely interaction and reflection, though mentioned separately in this discussion, were often integrated during learning and task performance. For instance, the results from the data indicated that, as the tasks encouraged students to respond in the second language to typical scenarios in a medical context, they interacted and engaged with medical terminology and practised using specific linguistic structures such as sentence structure (giving instructions, asking questions). In doing so, students also became aware that being polite requires different communicative strategies, as politeness indicators did not translate directly from the home language to the target language and culture. Furthermore, they were asked to give critical feedback on the content of peer posts and accordingly, they also had to interact and reflect on the comments others made on their nursing communication strategies, which stimulated reflection on their own use of language.

#### *5.1.5.2.2 The three features*

As with the Stellenbosch study, the results of the Antwerp study indicated that two features were necessary for the students to progress towards a new identity, i.e. to gain experience and to gain confidence. By engaging with peers and the lecturer in performing tasks, students were interacting and gaining experience in communicating in the second language within a nursing context, as well as on a

personal level. Positive feelings, such as feeling safe enough to (allow yourself to) make mistakes, contributed to gaining confidence. As shown before with the Stellenbosch data (see 5.1.2), there is also a reciprocal relationship between confidence and positive learning experiences (Bandura, 1977; 2012). However, based on the results of the Antwerp data as well as on the existing literature (Ashmore et al. 2004; Pratt et al., 2006; Burford, 2012; Roberts 2010), a third identity feature is to be added to the first two, namely to validate identities. This is based on the fact that the community of practice also provided a platform where students could claim various group identities in one space, for instance, that of being a professional nurse, being a student, being a parent, being a partner, being a horse rider or being a politically conscious citizen of a particular country (see Table 7, Descriptors D and E). Even though the Facebook posts might have included references to the roles that students had outside of the course and possibly not deliberately made to claim identities, the claim on various identities was indirectly carried out through the online interaction with others (Ashmore et al. 2004; Pratt et al., 2006; Burford, 2012; Roberts 2010). While viewing the posts of others, students furthermore had the opportunity to become aware of others' identities that are different from or overlapping with their own group identities. Within the Facebook group students could also reflect on how language is communicating a specific culture or identity. By acknowledging various identities alongside each other via the Facebook group, the students were taking part in a dynamic process to validate their evolving identities in the second language (Bandura, 1977; 2012).

As with the two processes (reflection and interaction) there is also an interrelated and reciprocal relationship between the three features (gaining confidence, gaining experience and validating identities). Apart from confidence and positive learning experience that is reciprocal (Bandura, 1977; 2012) as mentioned above, the process of validating a new identity also relies on gaining experience in communication and

interaction with others (Norton, 2011, Ashmore et al. 2004; Pratt et al., 2006; Burford, 2012; Roberts 2010).

### **5.1.6 Conclusion**

The purpose of this study was to provide an overview or framework (see Table 7) of how an (online) community of practice within a second language communication training course for medical (pre-)professionals can serve as an environment to support students' on-going identity formation processes. Based on the metacognitive awareness that the Stellenbosch first year medical students demonstrated, a set of tasks and incentives were developed and integrated into a communication training course for the Antwerp nurses to stimulate not only metacognitive awareness and reflection (declarative knowledge), but also the manifestation of metacognition (procedural knowledge). Metacognition manifests itself during task performance (Shraw, 1989) which, in the context of this communication training environment, translated as interaction. Therefore, students not only had the opportunity to reflect and raise their own metacognitive awareness (declarative knowledge) but they also had the opportunity to implement their own metacognition (procedural knowledge). The framework suggests that when the processes interaction and reflection are encouraged, learning could become more dynamic as students engage in learning opportunities. In return these processes can facilitate a gain in experience and a gain in confidence, as well as opportunities during which students could validate their evolving identities. Existing research has shown that these features, namely to gain experience, to gain confidence and to validate identities, are all significant aspects in the dynamic process of a developing identity (Bandura, 1986;1990; Ashmore et al. 2004; Pratt et al., 2006; Burford, 2012; Roberts 2010).

The suggested framework in Table 7 is therefore showing how communication training can be combined with identity formation processes, as language and identity are interrelated (Joseph, 2004). In a world where medical professionals are

increasingly travelling across (linguistic) borders, the identities of these professionals are challenged. In this regard, the framework on how to support the identity formation process, tried to contribute to the well-being of the healthcare professional and ultimately the well-being of the patient.

## 5.2 CHAPTER SIX:

### **Facing (and facebooking) authentic tasks in a blended learning environment: metacognitive awareness as demonstrated by medical students**

#### **Introduction to Chapter Six**

*The second subject area of metacognition is the task of learning (a new language). In this article the focus is on the specific nature of tasks that are given to learners in a communication training environment for healthcare purposes. The metacognitive awareness and display of metacognition of students are analysed to distinguish three features that should describe the nature of any communication training task that is to support metacognition. These three features are also described with reference to the existing literature in the linguistic canon, which contributes to the understanding of their combined potential impact.*

**Fourie, C. (2017). Facing (and facebooking) authentic tasks in a blended learning environment: metacognitive awareness demonstrated by medical students - Chapter in book, *Collaborative Language Learning and New Media: Insights into an Evolving Field*, Ludwig, C. and Van de Poel, K. (eds.) Peter Lang. 151-176.**

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### **Abstract**

In the on-going quest for authenticity and authentic tasks in the language learning environment, the emphasis is shifting towards the role of the learner to ensure an authentic learning experience. Within medical communication training this shift is especially significant as students will be responsible for the healthcare of patients during consultations after completing their medical studies. In multilingual South Africa an ethnographic study was performed at the University of Stellenbosch where blended learning, which included a closed Facebook group, was introduced to first year medical communication training students. Data were analysed according to the principles of grounded theory and the results included an outline of the metacognitive awareness about the nature of tasks that these first year students displayed and reported upon. The main elements from this outline, namely interactive, relevant and personalised learning are, according to existing research, also the essential parts for an authentic learning experience. However, the data show that these elements are best realised during collaboration amongst students themselves, as well as between students and the teacher. Therefore, the outline intends to be a guideline for teachers on how to collaborate with students in a blended learning environment in order to raise metacognitive awareness and to work towards an authentic communication training experience.

### 5.2.1 Introduction

As an increasing number of people are crossing borders between countries, the ability to communicate in more than one language becomes an urgent need. The urgency to cross these linguistic barriers is significant in the professional medical context where the well-being of the patient can be directly related to the communication between doctor and patient. (Buller & Buller, 1987; Stewart, 1995). Linguistic borders are also encountered in a pre-professional phase as more and more foreign students enrol at universities. Furthermore, medical students will be involved in health care as soon as they qualify and this responsibility suggests the need for authenticity and authentic tasks in the communication training context. That is why the content for responsibly designed communication training courses aimed at medical professionals rely on the communicative functions typical used in the professional context (Pretorius, 2015; Weideman, 2013). As this context for learning is nowadays almost inevitably a blended context (Graham, 2006) teachers need guidelines on how to utilize tasks in blended learning in order to address students' learning needs for authenticity (Pinner, 2014; Laursen and Frederiksen, 2015).

In multilingual South Africa medical students took part in a communication course where the structure and content of the course reflect the communicative functions typically used in the medical consultation timeline (Van de Poel, 2013). A closed Facebook group and an autonomous online module provided two additional learning platforms next to face-to-face teaching in class. Data were analysed to determine students' metacognitive awareness about the nature of tasks in order to address the following research questions: What metacognitive awareness about tasks do medical communication students demonstrate? Furthermore, how can this awareness inform their learning experience?

## 5.2.2 Literature review

### 5.2.2.1 Authenticity in language learning

The adjective *authentic* is used in everyday language to describe an object or concept that is made or done the same way as an original, that is trustworthy, not false or an imitation and true to one's own personality, spirit, or character (Merriam-Webster). However, in the language learning environment, *authenticity* is often narrowed down to one meaning, which refers to the teacher that is providing the student with a learning experience that is taken from or very closely resembles life outside the classroom – or the environment where the target language will be used (made or done in the same way as the original). This learning experience would make use of material taken from the student's "real" life experience in the target language, such as magazine articles, video clips of advertisements, songs and recorded conversations in the target language. From this point of view, the focus is on recreating the language modeled by native users (Pinner, 2014).

Though, in more recent years, the emphasis has shifted beyond recreating the real life outside the classroom with learning material and tasks, to include a more comprehensive meaning of authenticity by focusing on the student's learning experience and linking authenticity to awareness about learning and learner autonomy (Van Lier, 1996), as it is "the learner who chooses whether to bring authenticity to their learning." (Ashton, 2010) Holliday (2013) further explores this personalised dimension of authenticity by explaining that it is not a distinctive phenomenon that is presented as such, but that authenticity is experienced when learning and learning materials are meaningful or significant from a personal point of view to students, so that, as Van Lier (1996) explains, motivation for learning becomes intrinsic.

Apart from learning being personalised, Danish authors Laursen and Frederiksen (2015) focus on the necessity for students to believe that the language learning tasks are relevant to their future careers, before they can experience the authenticity of the learning activity. By implication the authentic nature of a task will be the student's subjective point of view. In a medical training context the relevance and authenticity of the learning experience and learning material gain special importance, as after their training period, these young professionals become directly responsible for the health and well-being of their patients. However, the authentic experience is not the sole responsibility of the student. According to Rystedt and Sjöblom (2012) authenticity is "an interactive achievement, i.e. something that participants create in moment-to-moment interactions". This coincides with the notion that authenticity is dynamic by nature and that "authenticity in any given context always depends on the interplay between the language learners, the teacher, and the tasks and material embedded in the social situation of the classroom" (Laursen and Frederiksen 2015).

Based on these existing research principles and for the purposes of this article, authenticity will be considered from the (language learning) student's perspective. Therefore, next to personalised and relevant, the interactive nature of tasks is the third element that characterizes authentic learning experiences.

#### 5.2.2.2 **Interaction and learning communities**

In everyday life interaction refers to two or more people or things influencing each other by allowing a two-way flow of information (Hornby, 1974). Focusing only on people, there is general consensus that meaning is produced through the interactions of individuals and that interaction is a natural attribute of face-to-face communication (Rafaeli, 1988; Blake, 2000; Wang, 2004). Furthermore, as language is often the medium of interaction and communication, it is taken for granted nowadays that interaction should be an integral part of the language learning process and that "interaction is both a means and a goal in language learning"

(Wang, 2004). This is why learning communities can be of value, as membership encourages learners to engage in their own learning, which in turn can facilitate interaction with peers and the teacher as they collaborate to achieve a shared goal (Pike et al. 2010). Furthermore, desired educational outcomes such as students' persistence and graduation have been linked to engagement in the process of learning (Inkelas et al. 2003; Pike et al. 2010).

When interaction between individuals is focusing on a specific objective, they are collaborating. Collaboration is in general a recursive process where people are working together with others to achieve shared goals (Merriam-Webster).

Collaborative learning is an active process and refers to learning that incorporates group work and interaction between students as well as between students and the teacher (Dooly, 2008).

In the online era collaboration and communication is continuously spreading towards mediated interaction, beyond face-to-face interaction. In the educational environment this tendency manifests itself as blended learning where there are increasing shifts towards person-to-person mediated interaction and person-to-software mediated interaction. Within this context it is important to define the adjective interactive, which is used here to describe a situation or system that involves a response or exchange of information. Three broad levels of interactivity, that rely on the nature of the exchange, can be defined: Firstly, where there is no interaction and where a response is not related to a previous message; secondly, where the response is reactive and directly related to a previous message and thirdly where there is interaction as one response is related to a number of previous responses and where there is a relationship between these responses, such as with face-to-face interaction (Rafaeli, 1988).

This third level of interaction that relies on the relationship between responses can also be enabled by social networking sites, such as Facebook. Facebook makes it possible for people to write or post a message, but also for two or more people to have an on-going written conversation in response to each other and this process can encourage collaborative language learning strategies (Peeters, 2015). However, existing research shows that it is necessary to facilitate the Facebook learning community appropriately by taking care that learners establish their online social presence before they utilise the online platform for learning (Peeters & Ludwig, 2017).

In a medical consultation setting face-to-face interaction between doctors and patients becomes more important as Western medicine becomes more patient centred with increasing emphasis on the consultation and conversations with patients (Van De Poel, Vanagt, Schrimpf & Gasiorek, 2013). The importance of effective medical communication has been supported by research that shows a corresponding relationship between improved doctor-patient communication and improved patient health results (Stewart, 1995). Patients relate their satisfaction with the doctors' mode of communication with their evaluation of the medical care (Buller & Buller, 1987). Furthermore, cultural misconceptions can result in humiliation and doctors being marginalized by colleagues (Gasiorek & Van de Poel, 2012) thus reinforcing the need for medical communication training.

### 5.2.2.3 **Metacognition and tasks**

It is generally accepted that, from an educational point of view, the concept *metacognition* refers to the learners' awareness about their own knowledge and the regulation of this knowledge (Schraw, 1998; Veenman et al., 2006). According to research there is enough evidence to suggest that metacognition is not directly related to intellectual ability, but that metacognition can improve achievement on top of intellectual ability (Veenman et al., 2006). From this point of view it will be

beneficial to all learners if they can improve their metacognition. Metacognition mainly develops through the experience of problem solving (Schraw, 1998). For the purposes of this research, metacognition will be defined and divided into declarative (knowledge and awareness about the person, the task and the strategy) and procedural knowledge that refers to the learners' abilities to regulate their own learning activities and problem solving processes. (Flavell, 1979; Schraw, 1998; Tarricone, 2011; Veenman et al., 2006). In order to narrow down the focus of this article, it is significant to note that knowledge about the task includes amongst others awareness of the context of the task, awareness of task demands and an awareness of the nature or inherent and distinguishing characteristics of the tasks (Tarricone, 2011). In a language learning environment a task refers to "an activity in which people engage to attain an objective, and which involves the meaningful use of language". (Van den Branden, Van Gorp & Verhelst, 2007)

Research done by Shea et al. (2014: 186) claim that a group with a collective goal can share metacognition within that group in order to coordinate a shared task and to improve the outcome of collective task performance. By implication the metacognition of the individual group members will also be boosted during this process.

### **5.2.3 Background**

#### **5.2.3.1 Meeting the needs of the rainbow nation**

South Africa, the rainbow nation, has eleven official languages with corresponding cultures. Though a vibrant society, this multilingual country is understandably also characterised by communication challenges. English is widely regarded as the lingua franca and is the language used by the government and business sector, even though this status is not official. Results from the 2011 census show that South Africa's two

largest linguistic groups are isiZulu and isiXhosa speakers. Afrikaans is the third largest home language and English the fourth (South African Government, 2014).

In order to address this demanding communication context, which can have a significant impact on patient health outcomes (Buller & Buller, 1987; Stewart, 1995) and to deal with the limited time available for medical communication training, the Faculty of Medicine and Health Sciences and the Language Center at the University of Stellenbosch, together with the European *Medics on the Move (MoM)* redesigned the existing Afrikaans second language medical communication programme for first year medical students. The online *MoM* programme, originally developed in 2006 and based on communicative functions typically used in the medical context, has since been translated to six European languages at beginners and advanced level with translation support for six other languages ([www.comforpro.com](http://www.comforpro.com)). In 2012-2013 this programme was adapted and adopted to suit the South African context and the result was a medical communication training module in Afrikaans – *MoM-SA*.

*MoM-SA* uses a blended learning approach that involves face-to-face teaching in class that is combined and extended with an online module. The pedagogical foundation for the course is task-based learning with activities that reflect the medical context (*Medics on the Move*, 2014). The book and the online module follow a similar structure. Both consist of ten units that follow the consultation timeline approximately. Each unit consists of medical scenarios and for the online module (that makes use of audio files throughout) this is followed by pronunciation, vocabulary, grammar and communication support and training exercises applicable to that unit. These exercises are corrected after each attempt and the correct answer with support is given. An online library with comprehensive pronunciation, grammar, meaning and communication training resources also exists. The course book, which contains similar training exercises in vocabulary, grammar and

communication, is accompanied by a grammar book that provides an overview of the Afrikaans grammar with examples from the medical context (Van De Poel and Fourie, 2013).

### **5.2.3.2 Introducing a closed Facebook group**

Based on the evaluation of the pilot of the course in 2013 (Van de Poel & Fourie, 2013) the anticipation was that the online module would be a challenge to the 2014-students. As the course was planned for the beginning of the academic year, the students would be new to academic culture and possibly lacking computer skills. Therefore a closed Facebook group was created with the initial purpose of creating an online learning community with a focus on medical communication training in Afrikaans, but also to lower the threshold for online learning (Fourie, 2015). Students were invited to post general questions (either in English or Afrikaans) about the course and two tasks had to be answered on Facebook. For the first task, which was compulsory, students had to create a medical word list that complemented work done in class. The second task was optional and students could post short medical anecdotes in the target language. The teacher was a member of and active within this Facebook community. Therefore the Facebook group was an online extension of the classroom context, other than the online module that was meant for autonomous learning. As students new to Afrikaans would find posting in Afrikaans challenging, they were allowed to write posts in English - which was in agreement with the objective to lower the threshold for online learning.

### **5.2.3.3 Examples of tasks that integrated the three learning platforms**

The tasks students had to complete, integrated the three learning platforms - classroom, online module and Facebook group. For example, Unit 5 of the course book and online module is focusing on presenting a medical report. Both course book and online module begins with a scenario where medical colleagues are discussing patient Bulelwa. Students were advised to follow the online module's scenario and

to note words with difficult pronunciation and those with unfamiliar meanings before the start of the class. Furthermore, the second scenario of the Unit is focusing on questions to elicit explanations and students had to prepare three questions which they, as doctors, would ask a fellow student during the next class - within an informal role-play context. During this lesson words with difficult pronunciation and meanings were discussed and the scenarios were read together in class. Towards the end of the lesson 20 minutes were allocated for a role-play activity. Another task in the course book-chapter contains three images of patients each with five prompts (symptoms, associated symptoms, medical history, family history and social history). Each student had to choose a patient and present the patient to a peer. During this exercise the lecturer was available for support, which mainly consisted of vocabulary and grammar related questions. Homework for the following lesson was to prepare a two-minute presentation (assessed task) about any imaginary patient. For the next lesson the class was divided in two groups with a co-teacher taking one group. Each student (doctor) had to present a patient to the whole group and the group (colleagues) could ask the doctor questions about the imaginary patient. As part of their preparation, students were advised to go through the online module's scenarios from units one to five and to choose their own relevant material. Students were also given the optional task to post a real life anecdote about a patient on the Facebook group in the target language. Examples were given in class and students had two weeks to participate in this task. During the final session students also completed a written test covering basic vocabulary, grammar and communication-related skills. For the duration of these lessons mentioned above, students posted alongside the given tasks also voluntary comments on Facebook about the logistics of sessions, acknowledging others' contributions, apprehension about compulsory tasks, as well as comments regarding technical issues with the online module.

## 5.2.4 Methodology

### 5.2.4.1 Approach

By changing the existing medical communication training programme to blended learning, as well as by including the closed Facebook community, a new approach to medical communication training in the Western Cape context of South Africa was introduced.

From the initial phases of the development and implementation of the *MoM-SA* program onwards, a team of researchers was involved and a mixed method approach was used to collect data. By using quantitative as well as qualitative data, the purpose was to gain information about the group as well as about the individual student. For the purposes of this research a mainly qualitative approach was used. Furthermore, during both the 2013 and 2014 courses, the researcher for this study was a participant-observer as well as the practitioner studying her own practice. Her purpose was to understand the teaching and learning environment as fully as possible (Waters-Adams, 2006). Some of the known advantages where research is conducted by teachers themselves are that the teacher-researcher gains a better knowledge of the teaching and learning environment, which in turn supports the facilitation of change (Dörnyei, 2007).

As the general purpose was to understand the impact of a new approach, this research can be seen as ethnographic research. (Dörnyei, 2007). Ethnographic research is putting increasingly more emphasis on studying processes and to gain understanding of these processes and experiences in the same way as its members do (Chamaz, 2014) and it is especially valuable at the beginning of new projects where it is important to delineate real needs and constraints in an unknown context (Government of United Kingdom, 2014). Furthermore, the ethnographic approach takes into account participants' understanding of their own behavior and culture.

The approach also relies on the researcher's engagement in the target community over a longer period of time, thus resulting in the emergent nature of the research (Dörnyei, 2007). Therefore, to accommodate the flexibility associated with ethnographic research, an emergent research design was chosen. "Emergent design refers to the fact that data collection and analysis can develop and be transformed as a consequence of what is learned during the earlier phases of the research" (Morgan, 2008: 761).

#### **5.2.4.2 Participants**

The participants (N = 35) were first year medical students, enrolled for a compulsory 16 hour (eight sessions) communication course in Afrikaans for medical purposes at the University of Stellenbosch, one of the three universities in the Western Cape province. The three dominant languages in the Western Cape are English, Afrikaans and Xhosa. English was the home language of 31% of the 2014-intake of students, while the home languages of the remainder of the students were Tsonga, North-Sotho, Zulu, South Sotho, Xhosa, Pedi and Tswana.

As mentioned above, the researcher was a participant-observer and the practitioner studying her own practice. She is South African, a native speaker of Afrikaans and fluent in English. Her involvement with medical communication training started in 2012 during the material development process when the original *MoM*-material was adapted and adopted for the South African context and she was the lecturer (as an employee of the University of Stellenbosch) during the piloting of the material in 2013 (Van De Poel & Fourie, 2013). In March 2014 she taught the second group of first year students.

## 5.2.5 Data

### 5.2.5.1 Collection instruments

A significant aspect of ethnographical research is to make use of multiple data sets (Dörnyei, 2007) in order to incorporate various viewpoints and a variety of data sets have been collected for the *MoM-SA* project. For the purpose of this study specific data relevant to the question (What metacognitive awareness about tasks do medical communication students demonstrate?) have been selected, including the following:

- Pre-course questionnaire with Likert scale statements and open questions on the languages students speak, how confident they feel using these as well as the frequency hereof and what they think would be the best way to learn a new language;
- Usability study following a Logic Framework (Van de Poel & Fourie, 2013) - apart from answering a set of matrix questions, students also had the opportunity to provide structured narrative comments on their learning experiences;
- Post-course questionnaire that included an open question that required 2014-students to evaluate the use of Facebook as part of the course;
- Recorded and transcribed post course focus group discussion on students' transition from school to university; whether they think it is necessary to speak a language other than English in a professional medical environment and how they think a new language should be learned (2014-students);
- Entries/posts on closed Facebook group (2014-students);
- Pre-course questionnaire on availability of and access to computers and internet (2014-students).

### **5.2.5.2 Data collection**

The questionnaires were completed individually on paper during the first and final lesson, as well as during an evaluation session that took place after the final lesson. The focus group interviews were also conducted and recorded during this final evaluation session. The text (all posts) of the online Facebook group was copied and saved.

### **5.2.5.3 Data handling procedure**

All the data collected as text were analysed according to the principles of grounded theory. The strategies grounded theorists use include amongst others the viewpoint that data collection and data analysis can occur simultaneously and influence each other, which puts the focus on the analysis of actions and processes rather than on pre-conceived themes and structure to support theory construction. The systematic analysis of narrative data is therefore important in the process of developing new conceptual categories as well as inductive abstract categories (Charmaz, 2014).

In general, three phases of coding can be distinguished (Dörnyei, 2007). Through the process of several readings the text is first broken into chunks (open coding). This initial coding process is descriptive and relates strongly to the data and not on preconceived hypotheses (Charmaz, 2014). Then more abstract connections are made to resemble concepts and subcategories (theoretical coding) and finally a core category (or categories) are identified that becomes a/the focal point of the research (selective coding). By using this process grounded theorists aim to code the meaning suggested by the data (Charmaz, 2014).

The data directly related to and focusing on the closed Facebook was also analysed according to grounded theory at an earlier stage and reported upon (Fourie, 2015). The outcome of this analysis was also taken into account as an integral constituent of the current research (see Appendix 1).

#### 5.2.5.4 Data handling

The answers to the questionnaires were submitted to Survey Monkey Gold ([www.surveymonkey.net](http://www.surveymonkey.net)) as separate sets of data. The focus group interviews were transcribed and submitted to Survey Monkey Gold as another set of data.

In Survey Monkey Gold the following open questions with students' comments were selected and exported to Excel:

- *What I liked about the method (structure and content of the course);*
- *What I would like to see changed about the method;*
- *What I liked about the lessons;*
- *What I would like to see changed about the lessons;*
- *What I liked about the approach (the teaching, the books and online materials);*
- *What I especially liked about the grammar book;*
- *What I especially liked about the general course book;*
- *What I liked about MoM online;*
- *I will/won't recommend MoM for Medical Students to other medical students, because;*
- *I will/won't use MoM online again, because;*
- *How do you think one learns a new language?*
- *General comments;*
- *My recommendations for this course;*
- *Have there been instances where you did not understand what the other person was saying here on campus or where someone did not understand what you were saying?*

Through a process of several readings, these comments were tagged according to general task features valued in students' communication learning process. Repeated keywords, opinions and experiences that referred to the same idea were used as labels to tag the data. Documenting these carefully, the data were exported to

Microsoft Word and were grouped together under sub-concepts, according to abstract connections. After more readings and also by organizing the information in tables, several core categories regarding students' awareness about tasks were identified.

These subcategories were again organized to reflect core categories such as *structure, well-being of students, types of activities, linguistic content of tasks, timing and pace of learning* as well as *the nature (inherent characteristics) of tasks*. For the purposes of this research, the nature of the tasks as a category was explored in more detailed as this category provides the guiding characteristics or principles underlying the other categories.

#### **5.2.6 Results**

According to the data, the nature of tasks consists of three elements or essential qualities, which are the interactive, relevant and personalised nature of tasks. An analysis of these three elements resulted in a framework that demonstrates students' metacognitive awareness about the nature of tasks that supports medical communication training in a blended learning environment. See Tables 1, 2 and 3 for this framework of the interactive, relevant and personalised nature of tasks. For a more detailed analysis, see examples in Appendix 1 at the end of this chapter.

Table 1: A summary of students' the *interactive nature of tasks* supporting medical communication training within a blended environment awareness about

Components	Classroom descriptors	Facebook group descriptors	Online module descriptors
<b>Regularly using spoken language with lecturer &amp; peers</b>	Accommodating atmosphere needed Rehearsed & spontaneous responses take place		
<b>Integrating spoken language with theory/grammar in flexible way</b>	On-demand & spontaneous learning with lecturer		On-demand learning with guidance of lecturer
<b>Receiving support &amp; assistance</b>	From lecturer & peer Support via course & grammar book	From lecturer & peer	Support manuals in library of online platform
<b>Giving support</b>	To peer	To peer	
<b>Getting involved with activities</b>	Individual willingness to make mistakes Individual & group responsibilities allocated Participation: optional and compulsory	Individual willingness to make mistakes Individual & group responsibilities allocated Participation: optional and compulsory	Exercises & quizzes
<b>Receiving feedback</b>	From peer & lecturer Engage in own learning process	From peer & lecturer Engage in own learning process	Audio with pronunciation & correct answer
<b>Providing feedback</b>	To peer Engage in collaborative learning	To peer Engage in collaborative learning	
<b>Gathering supportive information</b>	More on content (meaning, vocabulary, grammar, pronunciation) More on instructions	More on content (meaning, vocabulary, grammar, pronunciation) More on instructions	Library has more information on content (meaning, vocabulary, grammar, pronunciation)
<b>Verifying content &amp; contributions</b>	With lecturer & peer	Facebook provides open access for group-members & constant overview	Repeating exercises with auto correct
<b>Integrating all learning platforms</b>	Dynamic nature of lessons	Dynamic nature of collaborative learning	Dynamic nature of learning (preparation and reinforcement)

Table 2: A summary of students' awareness about the **relevant nature of tasks** supporting medical communication training within a blended environment

Components	Classroom descriptors	Facebook group descriptors	Online module descriptors
<b>Learning medical communication skills relevant to future career</b>	Content of resources and activities based on medical context	Tasks related to medical context	Content based on medical context Potential use of module in future
<b>Learning communication skills relevant to everyday conversations</b>	Social conversations in class Possible to apply content on medical context to everyday contexts	Social interaction	Possible to apply content on medical context to everyday contexts
<b>Voicing personal, academic &amp; pre-professional experiences</b>	Accommodated by teacher and peer	Share positive experiences and challenges on a daily (hourly) basis	
<b>Self-evaluating</b>	Determine own needs based on progress	Ability to express own needs and read similar needs of peers	Repeat exercises based on needs (teacher guidance needed)

Table 3: A summary of students' awareness about the **personalised nature of tasks** supporting medical communication training within a blended environment

Components	Classroom descriptors	Facebook group descriptors	Online module descriptors
<b>Experiencing individual feedback</b>	Feedback from teacher & peers	Feedback from peers (& teacher)	
<b>Experiencing personal convenience</b>		Personalised timing and place	Personalised timing and place
<b>Accommodating different learning styles</b>	Awareness raised in class		
<b>Accommodating different educational backgrounds</b>	Awareness raised in class		
<b>Accommodating different abilities &amp; needs</b>	Personal needs addressed	Express individual needs	Use according to own needs

### 5.2.6.1 The interactive nature of tasks

Medical students value the interactive nature of tasks in communication training. When referring to the interactive nature of language learning they apply the meaning of the word to all three main levels of interaction (Rafaeli, 1988). The most readily understood of these is the third level where one response can be related to all the previous responses and where there is a relationship between the agents making the responses. Although written language can also fit into this category, students specifically refer to the use of spoken language in class, which is also the mode they will mostly use with patients. The learning and tasks performed via the online module fall in both the first and the second level of interactivity. For the first level, there is no response and students can, for example, simply read and listen to a scenario and then randomly choose another scenario to read. The second level is obtained where the response is reactive and directly related to a previous message (Rafaeli, 1988). Examples would be automated corrections for answered exercises or being redirected to the online library as support in determining the reasoning behind a specific answer.

The posts on the Facebook group (see Table 1) were level three interaction, where there is a continuing relationship between responses and the people writing the responses. (However, if group members are not responding to a post, this could be seen as second level interaction.) The most noticeable difference between the third level posts on the Facebook group and face-to-face communication, is the real-time verbal communication in face-to-face contexts.

Students' awareness about the interactive nature of tasks performed in class (see Table 1) highlights the regular use of spoken language in the target language with the lecturer. However, these (rehearsed and spontaneous) conversations relied on the accommodating attitude of the lecturer and a stress-free atmosphere in which

students could gain confidence. In a similar way, the regular use of spoken language with peers was also valued, both in compulsory group work and spontaneous conversations. In these conversations with the lecturer and peers, grammar, vocabulary or pronunciation related explanations about a specific language feature could either be spontaneously raised by the students or pointed out by the teacher in a flexible way. Apart from these explanations, students also wanted to experience verbal support from the lecturer as well as from peers in their preferred language of communication and not always in the target language. The support could include pronunciation support, translation support as well as guidance on how to use the printed and online resources. According to the students, learning took place when they got involved with activities which required individual as well as group responsibilities and alongside this they valued both optional and compulsory participation. They claim that personal involvement with activities generated learning that had its own energy, but that a willingness to make mistakes was necessary for this degree of involvement. They also report that the dynamic energy of the lessons was facilitated by the fact that the tasks performed on the three different learning platforms were integrated with each other - in that sense the three platforms were interacting with each other.

According to the data, the interactive environment of the Facebook community of practice was also significant. For a previously done analysis of this data, see Chapter 2. As with the classroom, student involvement with activities is also a necessary component for the sustainable energy of the Facebook learning environment. Furthermore, the interactive nature of accomplishing tasks was characterized by four more metacognitive components, the first referring to Facebook functioning as a channel through which students can gather additional information such as content and instructions for tasks. The second component refers to the open access of Facebook that enabled students to have continuous access to peers' contributions in order to verify their own. A further result of this continuous access was that students

had constant opportunity to receive feedback on their progress made, as well as opportunities to provide feedback and in that sense engaged not only in their own learning, but also in the learning of others. A similar component was the opportunity to receive and provide assistance and support with problem solving.

The interactive nature of the autonomous online component is based on the quizzes and exercises that show the number of correct answers and the corrections for wrong answers and allows for repeated practice. When giving the correct answers, the exercises also provide feedback and links to resources, such as the relevant section from a grammar manual. Students also appreciated the interaction between different learning platforms as some class activities needed preparation, which was done by completing exercises on the online module or reading and listening to scenarios. However, students claimed that they needed the teacher's guidance in order to do so.

#### **5.2.6.2 The relevant nature of tasks**

The relevance of tasks is the second element about the nature of tasks and related to the context of students' future careers in the medical profession. The data about tasks done in class, show that students appreciated learning communication skills relevant to consultations with patients and discussions with other medical professionals. The course book, grammar book and class activities supported learning of medical communication skills as medical terminology, medical scenarios and examples from medical contexts were used. Students also claimed that communication skills based on activities in class can also be applied to everyday contexts, for instance communication skills that involve greeting a patient can also be applied to greeting friends.

The use of Facebook became relevant to students as they had the ability to voice personal experiences while working on tasks and received appropriate feedback and support.

As with the content of the tasks done in class, students also appreciated the fact that the online module's scenarios and exercises were based on the medical context. Furthermore, the practical application of this module also added to its relevance as students claimed that the online module as a smart phone application could be useful during future medical rounds when communication with patients and colleagues will be necessary.

#### **5.2.6.3 The personalised nature of tasks**

The third element that students report upon in the data about tasks, refers to the personalised nature of tasks (Table 3). The course book used in class regularly created opportunities for students to reflect on their personal progress so that students could determine and formulate their changing linguistic needs on a continuing basis. Different learning styles of students were accommodated by discussing various learning preferences and by explaining different ways on how to approach different tasks. Apart from various learning styles, different educational backgrounds were accommodated, as students were for instance made aware of different experiences in terms of literacy and computer literacy backgrounds.

Learning via the closed Facebook group was personalised as students could voice individual needs, not only about academic challenges associated with tasks, but also about their well-being and they could receive (or give) personal feedback. This process was further encouraged by the convenience of learner control over the timing and place of the process. The open access feature of closed groups on Facebook also made it possible for students to take part in self-evaluation as individual progress could intuitively and constantly be compared against the posts of others (Fourie, 2015).

Though the content and activities of the online programme are structured with gradual increase of grammatical complexity, it allowed for personalised learning, because students have free choice to access the online module according to their own needs. However, students needed teacher guidance in order to understand how to address their needs with the online module. Furthermore, the convenience of choosing a time and place to utilize the programme, made it possible to adjust learning to personal needs. Apart from this, individuals could choose how many times they wanted to do a specific exercise.

### **5.2.7 Discussion**

Experiences generated by tasks are significant in a medical communication training setting as students will, towards the end of their studies, rely on what they gained through these experiences, when they are at the same time directly responsible for patients' health. By implication authentic language learning via authentic tasks becomes significant in training.

This research explored students' metacognitive awareness associated with the nature of language learning tasks, which showed that students valued three main elements, namely the interactive, relevant and personalised or meaningful nature of tasks. Previous research has shown that the combination of these three elements can create an authentic learning experience, but students need to be made aware of these elements in order to work towards authenticity (Rysteldt and Sjöblom, 2012; Van Lier 1996). This coincides with Stockwell's (2012) viewpoint that students learning a new language in a blended environment will need teacher guidance in order to understand how to use online tasks so that individual learning needs can be met. That is for example the reason why students reported that they appreciated the compulsory tasks, because in spite of initial apprehension, they could not only

engage in learning, but also raise their metacognition about the process of solving problems related to language learning.

Taking into account that meaning is produced through the interactions of individuals and that interaction is a natural attribute of face-to-face communication (Rafaeli, 1988; Blake, 2000; Wang, 2004) it is understandable why students value conversations with the teacher and peers as an integral part of communication training and why, accordingly, tasks should generate conversations. Although written language can also fit this category of third level interaction, students specifically refer to the use of spoken language in class, which is also the mode they will mostly use with patients in a doctor-patient setting. Even though the online module does not allow for interaction between people, it is valued for its second level interactive nature where online tasks allowed for reactive responses so that students could engage in learning. The interactive written posts on Facebook could move beyond the classroom restrictions in terms of limited space and timing. Furthermore, as the students spontaneously referred to the online module in their Facebook posts, the Facebook group complemented the online platform by providing the appropriate online third level (or human) interaction that the online module lacks. (See example of activity under 3. *Background*).

The course was relevant as the content of resources and tasks performed in class and via the online module were directly based on professional medical consultations. Accordingly, any task that included a grammar focus, can be related to a sentence spoken in a scenario that is part of a medical consultation and the task is an aspect of medical communication training. The relevant nature of the Facebook platform was not only due to the fact that Facebook functioned as a learning community for medical pre-professionals, but also due to the fact that students could share and therefore acknowledge personal experiences and challenges alongside task-related posts (Peeters & Ludwig, 2017). Students therefore voiced their awareness about the

relevant nature of tasks from a general and professional as well as a personal point of view.

Learning became personalised not only when various educational backgrounds and learning styles were acknowledged and choices about tasks (especially via the online platform) could be made, but also when students could express linguistic as well as personal needs and receive individualized feedback (and the Facebook platform is especially functional in this regard). Paradoxically, the individual experience and challenge became more meaningful when shared. This paradox is significant as it points towards collaboration. According to existing research a learning community, such as the closed Facebook group, can optimize learner engagement, which can improve educational outcomes (Pike et al., 2010).

Therefore, even though students are responsible for their own learning and to complete tasks in a blended environment (Ashton, 2010), other research (Stockwell, 2012; Dooly, 2008; Rysteldt and Sjöblom, 2012) as well as the above data have shown that students need the teacher's guidance as well as input and support of peers (from within a learning community) to take this responsibility on. As metacognitive awareness about tasks is raised through experience and involvement with tasks (Schraw, 1998) and can be shared (Shea et al., 2014) the claim can be made that raising metacognition is a collaborative effort with an authentic learning experience as a positive outcome. This points to the notion that the teacher has to take responsibility to facilitate this dynamic process, which "depends on the interplay between the language learners, the teacher, and the tasks and material embedded in the social situation of the classroom" (Laursen and Frederiksen 2015). In a blended learning environment the same principles apply, but the interplay between teacher, students and tasks becomes more complex as it extends beyond the classroom to an online module and social networking site.

### 5.2.8 Conclusion

This ethnographic study was performed in South Africa as part of a larger research project where blended learning, which included a social networking site alongside the classroom and online module, was introduced to first year medical communication training students. Based on a data analysis, the result was an outline of the metacognitive awareness about the nature of tasks that these first year students displayed and reported upon within a blended learning context. The main elements from this outline are interactive, relevant and personalised learning. According to recent research that broadens the notion of *authenticity* in education, the essential parts for an authentic learning experience are in fact interactive, relevant and personalised learning (Ashton, 2010; Holliday, 2013; Rysteldt and Sjöblom, 2012; Van Lier 1996). From this point of view authentic learning is a dynamic process and not the sole responsibility of the teacher, but also relies on student involvement with learning and on collaboration between students themselves, as well as between students and the teacher.

Therefore, the outline (see Tables 1, 2 and 3) intends to be a guideline for teachers on how to collaborate with students in a blended learning environment in order to raise metacognitive awareness and to work towards an authentic communication training experience. The reality and responsibility of doctor-patient consultations await of these students, but by raising their awareness about the nature of their tasks, students can take a step towards authentic communication training and gaining the skills required for future professional interactions.

Recommendations are for research to delineate the individual components of the elements associated with authenticity in more detail and to reconcile them with existing research. Following on this study, research will explore the metacognitive strategies and procedural knowledge of students employed in the process of problem solving within a blended communication training context.

## Appendix 1: Data analysis with examples

Table A. Students' awareness about the interactive nature of tasks that supports communication training.

	Components	Descriptors	Examples
In class	Regularly using spoken language with lecturer	Accommodating attitude of lecturer Stress-free atmosphere to ask questions Rehearsed and spontaneous responses Confidence gain	Conversations initiated in class as big group or in small groups Presentations Role play Games (board games in small groups) Songs Lecturer flexible to respond to questions and needs as they become relevant in specific situations
	Regularly using spoken language with peers	Rehearsed and spontaneous responses Confidence gain	Guidance on how to use printed and online resources
	Integrating spoken language with theory/grammar (flexible)	Just-in-time learning	Feedback in groups on tasks done in coursebook Feedback in class on tasks done on online platform and Facebook
	Receiving support	Lecturer and peer support Course book and grammar book support	
	Getting involved with activities	Energy Individual and group responsibilities Willingness to make mistakes Participation: optional to compulsory	
	Integrating all learning platforms	Dynamic nature of lessons Integrating classroom tasks with those on Facebook and online platform Online platform and course book with similar structure (familiar)	
Closed Facebook group (community of practice)	Getting involved with activities	Energy Individual and group responsibilities Willingness to make mistakes Participation ranging from optional to compulsory	Contributing (posting vocabulary) towards a wordlist-task that is an extension of work done in class Posting anecdotes
	Gathering information	Content instruction	Posts with administrative detail
	Verifying content & contributions	Open access	Viewing all posts made by all other students Spontaneous posts with comments and feedback within hours
	Receiving & providing feedback	Feedback on progress Engaging in learning process on individual and group level	Supporting peers, e.g.

	Receiving support/assistance	Assistance with problem solving Technical support	with translation support Assistance with online programme, e.g. technical issues
	Integrating all learning platforms	Dynamic nature of learning Integrating Facebook tasks with those done in class and online platform	Posts on Facebook regarding instructions of class and online tasks Feedback in class on Facebook task
Online	Gathering information	Scenario's, exercises/quizzes on meaning, sound and grammar	Questions can be repeated to practice Audio with correct answer
	Receiving feedback and support	Variety of resources (library)	Links to systematic explanations of grammar, word maps and translation support
	Integrating all learning platforms	Dynamic nature of learning	Online and course book with similar structure (familiarity of content and structure) Addressing technical issues on Facebook Grammar issued from conversations can be resolved at a later stage online (with teacher guidance)

*Table B. Students' awareness about the relevant nature of tasks that supports communication training*

	<b>Components</b>	<b>Descriptors</b>	<b>Examples</b>
In class	Learning communication skills relevant to consultations with patients	Content of resources and activities based on medical contexts	Medical terminology Medical scenario's Examples from medical context Communication skills regarding greeting a patient can also be applied to greeting friends etc.
	Learning communication skills relevant to discussions with colleagues		
	Learning communication skills relevant to everyday conversations	Application of medical contexts to everyday contexts	
On Facebook	Voicing personal experiences	Posting and sharing positive experiences and challenges on a daily (hourly) basis	Posting support with upcoming assessments Posting and voicing frustration due to technical issues with online module and receiving immediate feedback
	Voicing study/ pre-professional experiences	Posting and sharing academic experiences on a daily (hourly) basis	
Online module	Learning and reinforcing communication skills relevant to discussions with colleagues	Content of online module based on medical context	Scenario's, exercises and grammar support based on medical context Claiming the online module will be useful while doing medical rounds
	Learning and reinforcing communication skills relevant to consultations with patients		
	Using the online module in future	Potential use of module in future and after course completion	

Table C. Students' awareness about the individualised nature of tasks that supports communication training.

	<b>Components</b>	<b>Descriptors</b>	<b>Examples</b>
In class	Self-evaluating	Students determine own needs based on progress	Personal advice Describing different learning styles
	Accommodating different learning styles	Awareness raised	Explaining different ways on how to approach a specific topic
	Accommodating different educational backgrounds	Awareness raised	Students made aware of various literacy and computer literacy experiences before coming to university.
	Accommodating different abilities and needs	Personal needs addressed	Advice given Differentiated work in course book and online Opportunities to reflect progress in class - activity in course-book
On Facebook	Giving and receiving personalized feedback	Students voice individual needs	Students respond spontaneously to posts made by others
	Experiencing convenience	Personalised timing of activities Personalised assistance	Students can access Facebook in their own time and place.
Online	Meeting individual needs	As much practice as needed Use according to own needs	Though content and activities are structured with gradual increase of complexity, students have free choice to access platform according to own needs. Exercises can be repeated.
	Experiencing convenience	Personalised timing of activities Personalised assistance	



### **5.3 CHAPTER SEVEN:**

#### **Putting a face on the dynamic nature of tasks**

##### **Introduction to Chapter Seven**

*The following article is part of conference proceedings and contributes to the second subject area of metacognition, by expounding on task design within an online communication training context. The data arising from the healthcare communication training elaborated upon in Chapters 3, 4 and 7 are compared with data from two other second language learning contexts for students majoring in English. The impact that different contexts had on the manifestations of the teacher's voice (embedded in task instructions) is explored, as well as the metacognitive awareness encouraged by these tasks. As the contexts of these data sets were too diverse to make a direct comparison, the focus was rather to explore the principles behind task instructions and the learner support needed.*

Fourie, C. (2015b) Putting a face on the dynamic nature of tasks. In Colpaert, J (Ed.) *Conference Proceedings: Task design and CALL* (242-248). Tarragona: Universitat Rovira I Virgili.

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### **Abstract**

This study considered three English Second Language courses (two at the University of Antwerp, Belgium, and one at the University of Stellenbosch, South Africa) where Facebook was introduced as an additional supportive online learning environment. The research focus was on how different complex contexts can result in different manifestations of the teacher's voice in the Facebook groups as represented by the tasks, and the impact hereof on learner needs. Using a qualitative approach, the influence of the teacher's voice on learning needs was investigated by delineating the metacognitive awareness encouraged by the tasks

**Keywords:** *blended learning, online learning, metacognition, social network*

### 5.3.1 Introduction

In their article De Bot, Lowie and Versper (2007) not only assimilate evidence for the fact that language development can be seen as a complex dynamical system, but also argue the likelihood that in real life the language learning developmental stages differentiate more from learner to learner than what linguists have taken for granted. Encouraging metacognitive awareness is one way to address the challenge of enabling the variety of language learners (Veenman et al., 2006) to approach a complex learning system.

The environment is a dynamic variable in any complex dynamical system. (Juarrero, 2010). In an online learning environment the teacher's role manifests itself in a virtual teacher's voice or task. The extent to which the teacher's voice can be perceived as such can vary considerably. For instance, teachers can maintain their classroom personas in the online learning space, their voices can be assimilated by the collective voices of senior student mentoring groups, or their voices can be completely hidden in the tasks, dissociated from a specific person or group.

Similar to Chapter 3, this study will consider three English Second Language courses (two at the University of Antwerp, Belgium, and one at the University of Stellenbosch, South Africa) where Facebook was introduced as an additional supportive online learning environment.

The focus of the investigation will be on how different complex contexts resulted in three divergent manifestations of the teacher's voice in the Facebook groups as represented by the tasks and the impact hereof on learner needs. Using a qualitative approach, the influence of the teacher's voice on learning needs will be investigated by delineating the metacognitive awareness encouraged by the tasks.

### 5.3.2 Literature review

Research has shown that language learning can be seen as a complex dynamic system which will manifest in a variety of language learning stages amongst a group of learners (De Bot, et al., 2007). Encouraging metacognitive awareness is one way to address the challenge of enabling the variety of language learners (Veenman et al., 2006) to approach a complex learning system.

According to Tarricone (2011) task metacognitive knowledge includes two main components: awareness about task information as well as about task demands. Task information refers to awareness about the nature, structure and goal of the task, while task demands refers to the complexity, difficulty and variables associated with different tasks. Flavell (1979) explains that metacognitive knowledge about the task develops through experience.

In an online learning environment the teacher's role manifests itself in a virtual teacher's voice or task. The extent to which the teacher's voice can be perceived as such can vary considerably. For instance, teachers can maintain their classroom personas in the online learning space, their voices can be assimilated by the collective voices of senior student mentoring groups, or their voices can be completely hidden in the tasks, dissociated from a specific person or group.

In their article Fernández and Gil-Rodríguez (2011) agree that social networking sites such as Facebook can function as platforms for learning communities. However, these authors point out that it can be challenging for the teacher to ensure that all students participate in online communities if students are not guided to do so. Even though online communities are very popular, they do not facilitate participation per se, but require of the teacher to guide students to interact and participate. The

teacher has to take into account that the environment is a dynamic variable in any complex dynamic (language learning) system (Juarrero, 2010).

### **5.3.3 Three studies**

The case studies for this research include three closed Facebook groups, which were created in three different second language learning courses for university students. These Facebook groups functioned as additional learning platforms, each in a blended environment alongside face-to-face teaching in the classroom and autonomous online programs.

At the University of Stellenbosch medical first year students have to do a communication course in Afrikaans, which is one of South Africa's eleven official languages and one of the three dominant languages (also English and isiXhosa) in the area. For the students in this case study (N = 35) English was the chosen medium of instruction, though English is the second language for 69% of the students and Afrikaans their third or fourth language.

The purpose of the closed Facebook group (2013), as it was also explained to students, was for it to be a platform where medical vocabulary would be collected and at the same time a platform where students could post questions and comments about the course. The additional purpose behind using the Facebook group was to create an online learning community to lower the threshold of online learning. Based on the experience of teaching a similar group of students the previous year (Van de Poel & Fourie 2013; Van de Poel, Fourie & Seberechts 2013) the prediction was that students would find it challenging to use the autonomous online programme.

The first task set and explained by the lecturer in class was for students to work in pairs and collect and post medical vocabulary linked to a class discussion. The collective Facebook list was reduced, translated where necessary and discussed in

class. The second task was similar but only verbs were collected. The final task was not compulsory and students were asked to post an anecdote in the target language, Afrikaans. The compulsory Facebook tasks contributed to 5% of students' final assessment for the course.

All tasks were posted on Facebook by the lecturer who maintained her classroom identity and discourse on the Facebook group. She did not necessarily comment on all student posts, unless the question/issue mentioned directly involved.

At the university of Antwerp in Belgium (2013 – 2014) first year English Proficiency students (N = 119) took part in the All Write course (12 lessons) which deals with the principles of writing and reading in academic contexts. These students all had Dutch as first language and English proficiency level were upper-mediate to advanced.

The printed and discussed course outline, with the objectives, assignments, assessment and timeline, explained that the three take-home assignments (30% of the mark for the course) had to be peer-reviewed by means of the support network which was the Facebook group created for the class. These assignments were integrated with the work done in class. The three assignments had a similar structure and content, for example *Take-Home Assignment 3*:

- *Post (at least) one question in the All Write Facebook group concerning your assignment (e.g. Does the following argument make sense? Can I improve the style of this sentence in the following way? Is this the most appropriate word to use in this context? Can I change the grammar of this sentence in this way to make it work?). You can also ask your fellow students for tips and tricks concerning particular aspects academic writing.*

- *Before you upload your assignment on BB pick the Facebook answer you think was most helpful and write it down below.*
- *Reply to (at least) one question and try to link it to your own text.*

All Facebook posts were monitored by a Masters-student, who reported to the lecturer. Though it was explained to the students in the beginning of the course that the group was monitored, the Masters-student's online presence was never visible to the students. The students followed the assignments given in class to post contributions on Facebook.

Second year students of English Proficiency (N=90) at the University of Antwerp (2013 – 2014) had to complete the 12 lesson course *Scribende*, which aimed to enable students to present academic topics in a coherent, argumentative and fluent way. The printed and discussed course outline explained that they would work in groups of six and that the four major assignments (80% of the allocated mark for the course) will require posts on the *Scriboratory*, which was the Facebook group created for this class. For instance, *Assignment 2* read as follows:

- *On the Scriboratory upload one interesting/debatable language point which you discovered while writing and contribute to the discussion.*  
*Study your peers' comments both given in class and on the Scriboratory and revise your text accordingly.*

In an introduction during the first class it was explained to the students that the group would be monitored by the *Scribenders*, a group of three Masters- and PhD-students who were also introduced in class. One of the *Scribenders* explained the purpose of the *Scriboratory*, which was to establish peer-support and peer-to-peer communication, that students had to regularly visit the *Scriboratory* for information updates and that contributing on to this forum would benefit their writing. The

students also received this information online. The Scribenders shared one Facebook identity which they used for comments and suggestions.

### 5.3.4 Data analysis and results

Table 1 below highlights the main similarities and differences between the three Facebook groups. The three groups all had face-to-face teaching in class while the Facebook groups were operating concurrently. In the All-Write group the lecturer was absent from the Facebook group, but students received detailed instructions in class on how to complete the Facebook tasks. Becoming more visible, the lecturer of the Scribende group was represented by a group of post-graduate students who made a few suggestions/posts to encourage and guide the second year students. In contrast, the lecturer of the medical students maintained her classroom persona online.

*Table 1: Summary of features about tasks for closed Facebook groups from three different second language university courses*

	<b>1<sup>st</sup> year English Proficiency SL at advanced level</b>	<b>2nd year English Proficiency SL at advanced level</b>	<b>1<sup>st</sup> year medical communication SL at beginners level</b>
<b>Context for announcing tasks</b>	In class, handouts, Blackboard	In class, handouts, Blackboard	In class, on Facebook
<b>Target language in task description</b>	Only target language	Only target language	Combination of medium of instruction and target language
<b>Role of teacher/lecturer</b>	Absent as person, but guiding voice hidden in instructions (present in face-to-face classroom)	Absent as person, but guiding voice hidden in instructions and represented by participating postgraduate team (present in face-to-face classroom)	Present as participating Facebook member and in face-to-face contact classes

	<b>1<sup>st</sup> year English Proficiency SL at advanced level</b>	<b>2<sup>nd</sup> year English Proficiency SL at advanced level</b>	<b>1<sup>st</sup> year medical communication SL at beginners level</b>
<b>General content of task and instruction</b>	Detailed, informative, integrated with course content	Detailed, informative integrated with course content	Fairly detailed, integrated with course content
<b>Compulsory/ Optional nature of tasks</b>	Compulsory as part of a graded assignment - high risk	Compulsory as part of a graded assignment - high risk	Compulsory and optional -low risk, minor assessment
<b>Use &amp; content generation of target language</b>	Extensive	Extensive	Minimal, more learning support and digital initiation support
<b>Questions and feedback about tasks</b>	- Peer-to-peer communication instructions - Obligatory	- Peer-to-peer communication instructions, obligatory -Peer-to-postgraduate team invitation	- Peer-to-peer invitation - Peer-to-lecturer invitation
<b>Degree of difficulty of required answers</b>	Moderate to challenging	Moderate to challenging	Easy to moderate

Using a qualitative approach and based on the definition for metacognitive awareness about tasks, the instructions on Facebook were analysed and categorized under awareness about task information and awareness about task demands. The metacognitive awareness about the various features of tasks that were encouraged as the students completed tasks on Facebook, was then summarised (see Table 2).

*Table 2: Raising task metacognitive awareness within a Facebook learning community*

Awareness about features of task information	
Nature	Encouraged by task instructions and communication within learning community
Structure	
Goals	
Awareness about features of task demands	
Complexity	Encouraged by task instructions and communication within learning community
Difficulty	
Variables	

### **5.3.5 Discussion of results**

Different complex contexts resulted in three divergent manifestations of the teacher's voice in the Facebook groups as represented by the tasks. In each case Facebook provided a platform from which the learning communities could interpret instructions, the structure and goals of tasks. This encouraged metacognitive awareness about task information, which develops through experience (Flavell, 1979). Furthermore, peer-to-peer communication supported students' metacognitive awareness about task demands, because they could discuss and resolve complex problems between each other (see the Antwerp groups). As peer-to-peer communication was obligatory and instructed, the proposition is that the awareness about task demands was also facilitated (indirectly) by tasks. This point of view coincides with that of Fernández and Gil-Rodríguez (2011) who claim that students have to be guided towards participation and peer-to-peer interaction – whether it is by the lecturer's instructions in person, or indirectly via the written instructions of tasks.

### **5.3.6 Recommendations**

Future research will take into account the metacognitive awareness that students display and report upon in order to compile a taxonomy for raising awareness about task metacognition.

## 5.4 CHAPTER EIGHT:

### **The dynamic relationship between metacognitive awareness and skill in blended healthcare communication training**

#### **Introduction to Chapter Eight**

*The third subject area of metacognition centres on metacognitive strategies that learners can employ to support the learning process. This article explores the dynamic and complex relationship between declarative knowledge or awareness and reflection about strategies on the one hand and procedural knowledge or the actual skill to employ strategies on the other hand. The results from the multiple case study indicate that different learning platforms yield different sets of declarative and procedural knowledge for each learner. Furthermore, a learner's reported declarative and procedural knowledge did not always agree with regard to a specific learning issue. The complexity of the relationship between awareness about strategies and the actual skill to employ these strategies has implications for the design of communication training courses.*

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### **Abstract**

Although research exists on how social media groups support patients, little research exists on how social media groups with healthcare professionals as members, facilitate linguistic support (Prestin & Chou, 2014; Stommel & Lamerichs, 2014). This study explored the nature of metacognition displayed during a communication training course for nurses by investigating how pre- and post-course reflection (declarative knowledge) on learning needs and learning experiences corresponds with skill and actual online learning behaviour (procedural knowledge). Higher levels of metacognition can improve learning outcomes, both in face-to-face learning and online learning (Veenman, 2013). The course was completed in Antwerp in 2016 in a blended learning environment that included an autonomous online platform and a closed Facebook community of practice alongside face-to-face teaching. A case study was conducted and a multi-method research design was adopted. Students' online behaviour was tracked, while Facebook posts as well as responses to questionnaires were analysed, following the principles of grounded theory. The results indicate that the dynamic relationship between declarative and procedural knowledge can be facilitated and optimized in a blended learning context to support communication training.

**Keywords:** *metacognition, declarative knowledge, procedural knowledge, blended learning, health literacy*

### 5.4.1 Introduction

Enhancing health literacy is significant in reducing health disparities, even more so in multilingual contexts (Hamilton and Chou, 2014; Rubin, 2014). Apart from the individual patient's ability to understand and process health-related information, health literacy refers to multiple discourse events in a variety of healthcare contexts that also include the conversations between healthcare professionals (Rubin, 2014). This article will explore how health literacy can be fostered during communication training.

According to existing research higher levels of metacognition can improve learning outcomes, both in face-to-face learning and online learning (Veenman, 2013). Metacognitive awareness (declarative knowledge) and metacognitive skill (procedural knowledge) are closely related and are best displayed during task performance (Schraw, 1989), which, in the context of learning a new language, would refer to communication-related tasks.

In a world that is increasingly embracing online communication, it is expected to find online groups which support health literacy. Although research exists on how social media groups support patients, little research exists on how social media groups with healthcare professionals as members, facilitate linguistic support (Prestin & Chou, 2014; Stommel & Lamerichs, 2014).

The research for this article was performed in Antwerp in 2016 as part of a research project on the impact of metacognition in healthcare communication training (Fourie, 2015 & Fourie, 2017). A case study was conducted on three participants from a group of 23 qualified nurses enrolled in a course of English for healthcare purposes. Apart from face-to-face sessions, the course utilised an autonomous online platform (NoM) as well as a closed Facebook group that functioned as a community

of practice. The study explored the nature of metacognition by investigating how pre- and post-course reflection (declarative knowledge) on learning needs and learning experiences corresponds with skill and actual online learning behaviour (procedural knowledge). Subsequently, it delineated what these corresponding and/or diverging data sets suggest about students' declarative and procedural metacognition. In order to do so the scope of the data analysis was narrowed down to one week during which the students had to perform a set of prescribed tasks via both the autonomous online and Facebook platforms. A multi-method research design was adopted and students' online behaviour was tracked, while Facebook posts as well as responses to questionnaires were analysed, following the principles of grounded theory. The results showed that the relationship between metacognitive awareness and metacognitive skill is dynamic and often unpredictable, but that a blended learning environment has the potential to facilitate this dynamic relationship in order to support communication training.

## **5.4.2 Literature review**

### **5.4.2.1 Metacognition, skills and strategies**

The contemporary interest in metacognition is imbedded in the findings that higher levels of metacognition result in improved learning outcomes in face-to-face teaching as well as in online learning environments (Veenman 2013). Veenman, following Flavell (1979), described metacognitive knowledge as "declarative knowledge about the interplay between person characteristics, task characteristics and strategy characteristics" (Veenman, 2013, p.158) and explains that declarative knowledge does not per se guarantee positive learning outcomes, but that procedural knowledge or metacognitive skill as an aptitude is necessary to regulate and control declarative knowledge. Metacognitive skill is activated by (partially) familiar tasks and is "perceived as an acquired program of self-instructions for the control over and the regulation of task performance" (Veenman, 2013, p.158)

The term *metacognition* is frequently substituted with the terms, *skill* and *strategy*, which, together with *strategic* and *skillful*, are often linked to specific concepts used in (second) language learning. However, the contexts in which these terms are used (such as reading or social learning) have resulted in differently nuanced conceptualisations (Johnson, 1996; Rigby & Sanchis, 2006; Afflerbach, Pearson & Scott, 2008).

For the purposes of this article, *strategy* will be defined as a “plan” ([www.collinsdictionary.com](http://www.collinsdictionary.com)). In a learning environment strategies refer to declarative knowledge and the learner’s metacognitive awareness about different strategic attributes such as planning (Shraw, 1989), monitoring, control, testing, revision, evaluating and critical reflection (Shraw, 1989; Tarricone, 2011). *Skill* is defined as a “special ability in a task, especially acquired by training”. In this sense, I agree with Veenman (2013) who explains that skill refers to aptitude, which is an “inherent or required ability”, “ease in learning or understanding” or “the condition or quality of being suitable for the purpose and having the ability to learn” ([www.collinsdictionary.com](http://www.collinsdictionary.com)). A skillful learner will be displaying accomplishment. Learner skill and learner aptitude can be synonyms for procedural knowledge, which is dynamic and manifests itself when the learner is confronted with a task and is solving the challenge (Fourie, 2015). From this point of view, procedural knowledge is metacognition-in-action. Learners “with a high degree of procedural knowledge perform tasks more automatically, are more likely to possess a larger repertoire of strategies, to sequence strategies more effectively and use qualitatively different strategies to solve problems” (Schraw, 1998). The skilful nature or procedural knowledge of a learner is relatively fixed, but can change during training and learning (Veenman, 2013; Veenman, Van Hout-Wouters & Aflerbach, 2006:).

In this sense, metacognitive “skill” or metacognitive awareness about procedural knowledge would be an aspect of a learner’s *behaviour*. In a second language learning environment, it is expected that adult learners will demonstrate a great variety in their competence and levels of learning and subsequently in their language learning behaviour (Larsen-Freeman, 2011; Ortega, 2011). By exploring language learning behaviour with the focus on metacognitive skill (procedural knowledge) and the subsequent use of declarative knowledge during communication and communication training tasks, learners as well as language teachers/facilitators should get a better understanding of which language learning strategies to focus on.

However, Veenman (2013) explains that it is complex to explore metacognitive skill, and that a learner could spontaneously activate execution processes to control the challenge. Furthermore, whether occurring spontaneous or not, these self-instructions at meta-level are concealed, which complicates observing and understanding metacognitive skill. Therefore, investigating metacognition often relies on the visible or overt task execution processes, which subsequently rely on inference to determine what metacognitive skills were employed (Veenman, 2013). Learners can be prompted to reflect (self-report) on a task, which is generally seen as offline methods to explore metacognitive skill. Typical examples of off-line methods include pre- and post task/course questionnaires, which are easy to administer, but produce validity issues, as these reports rely on students’ memory (which allow for inaccurate recollections) and perceptions of how they conduct tasks. In contrast, online methods are based on actual learner behaviour and are sourced during task performance and typically include observational methods, which are then coded for analysis (Veenman, 2013). Tracking students’ logs as they engage in online learning is a method, which does not interfere with students’ task performance and provides researchers with concrete steps and activities to perform a task. However, in order to be an actual representation of the metacognitive steps taken, these need to coincide

with concurrent online methods such as think-aloud protocol, which would then again make the method more intrusive.

Research has also shown that offline and online reports of metacognition performed on the same task do not always correspond (research is minimal) and that online methods assessing metacognitive skill are more valid and better predictors of learning outcomes (Veenman, 2013). This study attempts to explore metacognition and metacognitive skill with a multi-method research design, however metacognitive skill was never assessed (see 4.1. Methodology).

#### **5.4.2.2 Interaction, collaboration and blended learning**

Interaction is crucial in second language learning as it is both the means and end goal of communication (Wang, 2004; Larsen-Freeman, 2011; Larsen-Freeman, 2013) and it has become a focal point in several modern language learning theories. A prominent example is Long's Interaction Hypothesis according to which language acquisition takes place if native speakers accommodate non-native speakers during interaction (Gass, 2003; Diane Larsen-Freeman, 2013). Long explained that access to comprehensible input is necessary where more quantities of comprehensible input will lead to faster acquisition and lack of access to comprehensible input will lead to little or no comprehension (Gass, 2003). Legenhausen (2017) argues that it is necessary to expand the theory in three ways: learners have to be involved in the metacognitive processes of learning a new language in a holistic sense, that would not only include grammar and vocabulary, but also the organizational processes of the language learning context. Secondly, interactions have to be authentic, in the sense that learners will be communicating as themselves. Thirdly, interactions should not only be between teacher and learners, but more so between learners. Thus, authentic learning is per definition interactive, personalised and relevant (Ashton, 2010; Holliday, 2013; Rysteldt and Sjöblom, 2012; Van Lier 1996) and is furthermore a dynamic process relying on student involvement with learning and

collaboration between learners, as well as between learners and the teacher (Fourie, 2017). Interaction as a learning process also provides learners with the opportunity to engage in the process of learning, which in turn leads to better learning outcomes than motivation (Pike et al. 2010; Norton, 2013).

The importance of interaction and collaboration between learners and lecturer, as well as amongst learners themselves, underlines the importance of these relationships between the stakeholders and research has shown that learners' ability to benefit from peer interaction is to a large extent depending on the social dynamics within the group (Sato & Ballinger 2016; Peeters & Ludwig, 2017).

Furthermore, proficiency is not a prerequisite or an indicator of the collaboration that learners will display (Sato & Viveros, 2016). Sato and Ballinger (2016) highlight the importance of modeling and training learners to interact and emphasise that there is insufficient research on the process of manipulating interaction between learners or on how different task types affect peer interaction. Van de Poel and Gasiorek (2017) contribute to this discussion by explaining that there is not a single model or solution that would support collaboration in a blended learning context and that learners make use of varied collaboration and learning strategies.

With the digital revolution collaboration and (second language) learning has moved towards computer mediated learning, which encourages students to produce more language types, and provides more opportunities for reticent students, since the accessible online record of computer mediated texts has increased the opportunity for learners to notice linguistic items (Loewen & Wolf, 2016). However, face-to-face learning and blended learning that combines face-to-face teaching with computer mediated interaction, still seem to facilitate better learning environments compared to autonomous computer mediated learning (Sato and Ballinger 2016; Larson-Freeman, 2011).

### 5.4.2.3 Health literacy

In a healthcare context, a patient's health affects language use and language use affects health (Hamilton & Chou 2014). In the growing international patient-centered approach to healthcare, the well-being of the patient relates directly to the communication between doctors and patients (Buller & Buller, 1987; Stewart, 1995). The traditional definition of health literacy refers to the individual's ability to access and understand information about (personal) health in order to make decisions that would meet their health needs (Parker & Ratzan, 2010). However, more recently health literacy has been defined as a process of information exchange where the individual patient is able to understand and process health-related information, and health care providers and health care systems adequately participate. Behaviours include discourse events between patient and providers in a variety of health care contexts as well as conversations between these health care professionals (Rubin, 2014). The health of the patient will be influenced by a lack of language proficiency on the part of patient or provider, and thus health literacy is regarded as a significant factor in the process of reducing health disparities and as a result health-related language services in health care remain needed (Rubin, 2014).

Based on these findings, research is needed to explore avenues through which linguistic minorities will not be disadvantaged in health care contexts (Hamilton and Chou, 2014). To this end, studies are needed on how online communities for health care professionals can provide linguistic support to their members (Prestin & Chou, 2014; Stommel & Lamerichs, 2014).

### 5.4.3 Background

#### 5.4.3.1 The participants

Nursing students at Artesis-Plantijn in Antwerp participated in a five week English communication training. They elected the Nurses on the Move (NoM) communication course in English as part of their professional bachelors degree. The 23 (3 male, 20 female) participants were all practicing carers. Dutch was the home language of 96% of the participants, while English proficiency was varied. Before the start of the course participants self-evaluated their spoken English abilities on a scale of 1 to 10 (where 1-3 is low and 8-10 is high) with a mean of 5 (range: 2-8 and SD: 1,86). The teacher-lecturer was a participant observer.

Three students, John, Nell and Sally (fictitious names), were selected for the case study (see 4.1 *Methodology* and *Results* section for more detail).

#### 5.4.3.2 The Nursing on the Move syllabus and tasks

NoM's task-based syllabus was the core syllabus for the course (Van de Poel, 2016). Teaching and learning in class and via the Facebook community were integrated fully with the online programme. The *NoM* online course consists of five units that follow the key communication functions of nursing. Each unit consists of health care scenarios supported by audio with corresponding sound, vocabulary, grammar and communication quizzes or exercises. Each unit also contained a Real Life Case with video and audio and a library with a concise grammar, wordlist and communication training resources as well as a test on the communication functions explored in the unit.

Tasks, that referred to or were based on the online module, were posted on Facebook. Examples are:

- Prepare for next week's lesson by going through the next topic's scenarios

- Do the online test
- Do selected quizzes
- Respond to a Real Life Case via Facebook posts

### **The learner tasks**

Extensive data were collected, but the scope for data analysis was limited to the data of Week 4. The main reason being that at this stage students knew each other and the lecturer, were familiar with the NoM online module as well as answering questions via the closed Facebook group.

The Facebook and NoM online tasks for week 4 were as follow:

#### Closed Facebook group

1. Watch *Real Life Case 4* online - *The emergency room is packed with people and you are understaffed today. You have to get some information from this patient.*

*He is still panicking. He says something about his wife and children. How do you deal with this situation?*

Post two open questions and two closed questions that you could use when talking to this patient (See scenario 4.1). Do not repeat questions already posted by others.

2. Your shift has just started. You meet a 45-year old woman in the ward who was recently diagnosed with breast cancer. She is waiting for further tests and is feeling anxious. How will you respond to her, elicit emotions and reassure her?

- a) Post four possible questions on Facebook.
- b) Comment on the appropriateness of other students' questions.

3. Prepare for Role Play (being able to talk to a variety of patients, introducing yourself, asking appropriate questions to get information from the patient, giving instructions to patients, handling difficult emotions, etc.)

OPTIONAL TASK: Find emoticons/images for the following emotions: angry | anxious | concerned | depressed | disappointed | distressed | fear | feeling fine | happy | quiet | sad | scared | shocked | stunned | worried | content | confused

### NoM Online

- Listen to all the scenarios of Topic 4.
- Do the Training (quizzes) for *Communication Functions*.
- Do the test for Unit 4.

## **5.4.4 Methodology**

### **5.4.4.1 Approach**

Ethnographic studies try to understand processes in a specific context as they develop, also from the participants point of view, (Dörnyei, 2007; Charmaz, 2014). An ethnographic approach to research “is most valuable at the beginning of a project when there is a need to understand real end user needs, or to understand the constraints of using a new product or service by a particular audience” (GOV. UK, 2014) In the field of applied linguistics more ethnographic research is needed to understand the nature and possibilities of online communities (Kern, 2011). This study was conducted as part of a project in blended learning and an ethnographic approach to research was therefore chosen.

Case studies can be valuable when data are collected and organized “to maximize our understanding of the unitary character“ of the single entity studied (Dörnyei,

2007:152; Duff, 2008). The results are often used to outline a feature(s) of a domain that lacks research. They can also generate rich and comprehensive insights, leading to new models. Though generalizability of the outcomes of case studies remains controversial, the purpose of the case study is to be insightful for theoretical models and underlying theoretical principles and purposeful sampling also contributes to the generalizability of the results (Dörnyei, 2007, Duff, 2008).

For this study a multiple case study was conducted. Purposeful sampling was done by selecting three participants who not only met specific criteria, but whose experiences were typical with regards to the research focus (Dörnyei, 2007). The three students John, Sally and Nell, all completed the course successfully (though at different levels), accessed Facebook on a daily basis and accessed the online NoM module for each week's tasks.

#### **5.4.4.2 Data collection methods**

A variety of data sets were collected with different instruments:

##### *1. Pre-questionnaire*

-Student profile: gender, age, family, other languages, language courses, perceived proficiency level, proficiency level

-Likert-scale items and open questions: motivation, needs, confidence, preferred learning style

##### *2. Post-questionnaire*

-Likert-scale items and open questions: meeting of needs, confidence, individual learning style, relevancy of class content, online module and Facebook group, group work etc. (see log-frame in APP1)

### 3. Prompted Facebook posts

personal data on motivation, family, strengths and weaknesses, written proficiency, evaluating course

### 4. Facebook posts

compulsory task in week 4

### 5. Tracking general online behaviour of class

### 6. Tracking online behaviour when students attempted to answer the task for week 4.

#### 5.4.4.3 Data handling procedure

The log data from the online module (see 2.1) were described in terms of sequencing of steps as well as time spent per activity and analysed according to the principles of grounded theory. By using multiple methods and a variety of data sets, the gap in research on metacognition was addressed (see 2.1). For grounded theorists data collection and data analysis can occur simultaneously and influences each other, which puts the focus on the analysis of actions and processes (Charmaz, 2014). Dörnyei (2007) distinguishes between three general phases of coding: *open coding* or a process of several readings when the text is broken into descriptive chunks (Charmaz, 2014), *theoretical coding* when more abstract connections are made to resemble concepts and subcategories, *selective coding* when core categories are identified that become a/the focal point of the research.

#### 5.4.5 Results

##### 5.4.5.1 Prompted reflections via questionnaires and Facebook

Bio-data for the three case studies provide details about age, relationships, as well as course marks and access frequency of the closed Facebook (see Table 1 for detail):

Table 1: Profile of three case study students

	<b>Sally</b>	<b>John</b>	<b>Nell</b>
<b>Gender</b>	female	male	female
<b>Age</b>	25	24	46
<b>Family</b>	Lives with boyfriend at her parents	Lives with partner in a flat in a university town	Lives with 25 year old daughter in country village
<b>First language</b>	Dutch	Dutch	Dutch
<b>Other languages</b>	-	-	English and German (level of fluency not specified)
<b>Final mark</b>	63%	70%	57%
<b>Facebook group frequency</b>	Accessed daily	Accessed daily	Accessed daily

In the pre-questionnaire, students were prompted to define their needs and expectations regarding the course, how confident they felt about learning a language, what they considered to be the best way to learn a language and how important it was to them to be able to speak the language of the patient. In the post-course questionnaire students reflected about various learning experiences on all three learning platforms (see Appendix 1). As part of the Facebook tasks students also received incentives to reflect (see 3.2). These reflections were summarised per student using the structure obtained from the definition of metacognition (see 2.1) where declarative knowledge can be subdivided into knowledge and awareness about the self as learner, about what the task of learning encompasses as well as about learning strategies. Tables 2, 3 and 4 summarise these reflections.

Table 2: Overview of John's prompted declarative knowledge

Obtained from questionnaires	Obtained from Facebook
Declarative knowledge about the person	
<p><b>Confidence:</b> Confident talking to patients and peers, not to seniors</p> <p><b>Motivation:</b> Crucial for healthcare professional to speak language of patient – no misunderstanding</p> <p><b>Self-reported proficiency:</b> Just below average (4/10)</p> <p><b>Online learning style:</b> The NoM-online module did not suit his individual learning style</p>	<p><b>Home environment:</b> Detailed description of family life at home</p>
Declarative knowledge about the task	
<p><b>Needs &amp; expectations:</b> Medical terminology and expressions</p> <p><b>Previous courses and experience in English:</b> English at school</p>	<p><b>Learning support:</b> Interesting content enhances learning</p> <p><b>Pronunciation support:</b> Supported via video and sound clips from online module</p>
Declarative knowledge about strategies	
<p><b>Knows how to learn a new language:</b> Speaking and writing are important in process of learning a new language Collaborating with others is important in process of learning a new language</p> <p><b>Plan for future language training:</b> Can make a plan to continue improving own medical English communication skills</p>	<p><b>Supportive learning environment:</b> Created by social learning Created by learning that is fun</p>

Table 3: Overview of Sally's prompted declarative knowledge

Obtained from questionnaires	Obtained from Facebook
<b>Declarative knowledge about the person</b>	
<p><b>Confidence:</b> Not confident talking to patients and peers, nor seniors</p> <p><b>Motivation:</b> Communication in language of patient ensures better care</p> <p><b>Proficiency:</b> Self-reporting proficiency as 2/10 - beginner</p> <p><b>Online learning style:</b> Claims that NoM-online module suits her individual learning style</p>	<p><b>Home environment:</b> Description of family life at home</p> <p><b>Confidence:</b> Acknowledges low confidence and fear in beginning of course but confidence grew</p>
<b>Declarative knowledge about the task</b>	
<p><b>Needs &amp; expectations:</b></p> <ul style="list-style-type: none"> <li>• Improving speaking</li> <li>• Improving understanding</li> <li>• Improving confidence</li> <li>• Making clear sentences</li> </ul>	<p><b>Professional relevance:</b> Course is useful from a professional point of view</p>
<b>Declarative knowledge about strategies</b>	
<p><b>Knows how to learn a new language:</b></p> <ul style="list-style-type: none"> <li>• Speaking is important in process of learning a new language</li> <li>• Listening is important in process of learning a new language</li> </ul> <p><b>Plan for future language training:</b> Can make a plan to continue improving own medical English communication skills</p>	

Table 4: Overview of Nell's prompted declarative knowledge

Obtained from questionnaires	Obtained from Facebook
<b>Declarative knowledge about the person</b>	
<p><b>Confidence:</b> Feeling confident talking to patients, peers &amp; seniors. Using hand signals and body language when English skills are lacking</p> <p><b>Motivation:</b> Communicating in the patient's language patient is not very important, because using hand signals and body language when English skills are lacking</p> <p><b>Proficiency:</b> Self-reported proficiency: 6/10 – above average</p> <p><b>Online learning style:</b> The NoM-online module suits her individual learning style</p>	<p><b>Home environment:</b> Description of family life at home</p> <p><b>Debilitating condition:</b> Admitting that dyslexia made writing difficult</p>
<b>Declarative knowledge about the task</b>	
<p><b>Needs &amp; expectations:</b></p> <ul style="list-style-type: none"> <li>• Improving general English skills</li> <li>• Speaking more</li> <li>• Writing more</li> </ul>	<p><b>Professional relevance:</b> Course is useful from a professional point of view</p> <p><b>Perceived improvement:</b> Medical English improved with course</p>
<b>Declarative knowledge about strategies</b>	
<p><b>Knows how to learn a new language:</b></p> <ul style="list-style-type: none"> <li>• Speaking is important when learning a new language</li> <li>• Listening is important in process of learning a new language</li> </ul> <p><b>Plan for future language training:</b> Can make a plan to continue improving own medical English communication skills</p>	

#### 5.4.5.2 Display of procedural knowledge to complete tasks

The online learner behaviour of the students demonstrated their metacognitive skill or procedural knowledge to address tasks. Following the general explanations of each student's displayed procedural knowledge, an overview of their metacognitive skill via both the closed Facebook group and the online module is portrayed in Tables 7, 8 and 9.

#### 5.4.5.2.1 Closed Facebook group

### **1. John**

During Week 4 of the course, when students were asked to prepare and submit task 4 (see 3.2 Nursing on the Move syllabus and tasks) John was active on Facebook displaying strategies of time management in order to deal with a late assignment from the week before, solving technical issues with the programme, providing feedback and responding to feedback received as well as completing the assignment for week 4. Instead of emailing the lecturer, he apologised to the class (and lecturer indirectly) on Facebook for being late with his assignment and in this regard making his time management a collaborative effort and responsibility:

Hey guys,  
I want to apologies for not making the assignment in time ... Ill be doing thus tonight, Just hav been swamped with work and family issues  
*grin emoticon - liked by \*\*\* and \*\*\**

After posting his reaction to the late assignment, which involved dealing with a challenging patient who needed to change an unhealthy habit, he explained his answer, which is then challenged by the lecturer and two other students as too harsh an approach to use. John's strategy was to defend his approach with confidence and adding emoticons to soften his defensive tone on the one hand and to invite further comments on the other hand:

John

I would actually say this in one sentence to ensure the message comes over clear and severe as it should be, If she [patient] would interrupt, she would go into defense and the message would not be as clear since you'd have to argue on that defense.

...

Once I did the explanation the patient gets room to provide her feedback so I can see what effect it had so I can come up with an alternate approach once I know the coping techniques of my patients

wink emoticon

N\*\*\*\*

Its not a method that I would use but I can see where you're heading

smile emoticon

Thank God we're not all the same

wink emoticon

See you on monday!!

John

If you have any advice for my approach, you can always give me some feedback! We're all here to learn, right?

smile emoticon

When another student posted a comment in a mixture of English and Dutch on Facebook, John's strategy is to acknowledge the language switch, by adding a witty post:

*laughing emoticon*

10 punten voor origineel taalgebruik [10 points for original use of language]

When John posts his answers to Week 4's task, he at first used his own example, which was correct in terms of content. Apart from the use of capital letters, the response is grammatically fairly accurate as well, while the tone is conversational:

Open questions:

- Would you please tell me, calmly, why you are panicking?
- Is there anything you want me to do to help you calm down?

For the second task he uses phrases from the online module's scenario's 4.1-4.4. These seem to be the foundation in meaning and grammar for his answers. He creatively combined different sentences from the scenarios to make his own sentences, which are all grammatically correct with appropriate content, while the tone is more formal:

You seem very anxious, would you like to talk about it?

What are you thinking about right now?

## **2. Sally**

During this week, **Sally** only posted answers related to the task. For the first task it is clear that Sally did not fully understand the difference between open and closed questions, though the questions are appropriate to the context. Noticeably, she used the formal and polite "sir, which is not used in the scenarios, but was discussed in class. For the second part of the task she used the same strategy as John and combined different sentences from the scenarios to make her own sentences.

Open Questions: 1. What's your name sir? 2. Could you give me your wife's phone number sir?

For the second task her content was appropriate and she also used the same strategy as before to make grammatically correct sentences using questions from the scenarios as basis.

You just got some bad news. It must be difficult to process all this information. Can I help you with something?  
You seem anxious. Would it help to talk about it? (*adjusted from scenario text*)

### 3. Nell

As John, Nell is also late with her task and began the week by answering Unit 3's task, though without acknowledging that her answer is late. The lecturer tried to determine if it is indeed the answer to Week 3's task, but Nell had difficulties understanding what the lecturer was asking and thought that the lecturer was referring to her written dialogue between doctor and patient. Her strategy to solve the comprehension issue was to engage in an online conversation with the lecturer.

Lecturer: Hey, Nell. I just want to make sure, is this your response to the *Week 3 - Bad Habit question*?

Nell: Sorry wath do u mean i dont understand

Lecturer: I just want to know which question you are answering here ...  
smile emoticon

Nell: The question from de P: what di i have ? N: you have ascitis fluid in your belly and a bacterial peritonitis

Is that ok ?

Greetz ...

When for the optional task students had to post emoticons to represent certain emotions, some of the students responded by posting photographs. A student posted an image of her son holding a lamb and saying "My son feels proud and a

little scared” to which Nell responded “But he is strong.” In doing so, her strategy was to acknowledge the personal in order to establish a sense of community. For the task in Week 4, Nell asked questions that are appropriate to the context, but like Sally she did not grasp the difference between open and closed questions. When she was basing her questions on the scenarios the grammar was good. When formulating her own questions she was more informal and made spelling mistakes. Of the three participants, she is the only student who completes the optional task by posting images to display emotions.

#### 5.4.5.2.2 Tracking the NoM online task for Week 4

John systematically worked through Topic 4 of the online module to prepare for the test and role play of the following contact lesson. He also completed the prescribed tasks (see 3.2 ). Both Sally and Nell did not follow a systematic route through the online module, either skipping some aspects, going to other Topics or revisiting certain aspects. See Tables 5 and 6 to compare the number of logs and amount of time spent on Topic 4 and Tables 7, 8 and 9 to compare the displayed procedural knowledge of the three students.

*Table 5: Number of logs for Topic 4 of the online module in week 4*

	Logs per scenario	Logs per Quizzes	Logs per test
Class average	23		
John	15	68	9
Nell	24	3	24
Sally	42	47	17

Table 6: Time spent on Topic 4 of the online module in week 4

	Time per scenario in minutes	Time per Quiz	Time per test
John	3	19	7
Nell	22	3	19
Sally	18	20	9

The display of procedural knowledge (skill) is summarised per participant in Tables 7, 8 and 9 below.

Table 7: Overview of John's display of procedural knowledge

Tracking autonomous online behaviour	Displayed via closed Facebook group
Declarative knowledge about the person	
<b>Online learning style:</b> Systematic and chronological	<b>Proficiency:</b> Displayed as average <b>Sense of humour</b>
Declarative knowledge about the task	
	<b>Addressing challenging task:</b> Formulating linguistically correct answer to challenging task by integrating phrases from online module
Declarative knowledge about strategies	
<b>Time management:</b> Significantly more time spent on quizzes and test  <b>Selection of content:</b> Going through all the scenarios. Doing all the quizzes and tests	<b>Feedback:</b> Providing feedback Encouraging feedback & advice from others Encouraging collaboration <b>Debate:</b> Defending own strategies to deal with difficult patients in debate with others <b>Course administration:</b> Organising a late submission Technical issues with online module

Table 8: Overview of Sally's display of declarative knowledge/strategies

Tracking autonomous online behaviour	Displayed via closed Facebook group
Declarative knowledge about the person	
<p><b>Online learning style:</b> Fragmented (varied steps taken in un-chronological order between different aspects of the online program)</p>	<p><b>Proficiency displayed:</b> Beginner level</p>
Declarative knowledge about the task	
	<p><b>Addressing challenging task:</b> Formulating linguistically correct answer to challenging task by integrating phrases from online module</p> <p><b>Integrating previously gained knowledge</b> in class to improve communicative quality of expression Adding politeness markers from class discussion (sir)</p>
Declarative knowledge about strategies	
<p><b>Time management:</b> Spending most time on quiz and test</p> <p><b>Training:</b> -Seems to train to answer compulsory quiz by looking at quiz, going back to scenario 4.4 before attempting to complete the quiz -Views Real Life Cases of Units 1 &amp; 3 as well as a scenario from Unit 1 as possible training for dialogue in class.</p> <p><b>Selection of content:</b> Goes through all the scenarios and quizzes of the unit, but only completes prescribed quiz. Also going back to Real Life Cases of Units 1 &amp; 3 as well as a scenario from Unit 1</p>	

Table 9: Overview of Nell's display of declarative knowledge/strategies

Tracking autonomous online behaviour	Displayed via closed Facebook group
Declarative knowledge about the person	
<b>Online learning style:</b> Fragmented (varied steps taken in un-chronological order between different aspects of the online program)	<b>Proficiency displayed:</b> Beginner level  <b>Establish community:</b> Acknowledging the personal. Responding empathically in English or Dutch to (personal) posts made by group members.
Declarative knowledge about the task	
	<b>Addressing challenging task:</b> Formulating linguistically correct answer to challenging task by integrating phrases from online module  Engage in online conversation (written posts) with lecturer to solve comprehension issues
Declarative knowledge about strategies	
<b>Time management:</b> Spending equal amount of time on quiz, test, and scenarios, but spending double the amount of time on test compared to other two students  <b>Selection of content:</b> Going through all the scenarios. Only viewing (not doing) the quizzes. Not answering compulsory quiz  <b>Training:</b> Viewing scenarios 1 of Units 1 & 3 as possible training for dialogue in class.	<b>Course administration:</b> Submitting a task late  <b>Feedback:</b> Providing general feedback and acknowledging posts of others

These results about the prompted and displayed metacognition coincide to a large extent with already published results on a similar group of medical students who completed a similar course (Fourie, 2015; Fourie 2017). For this study the results were further analysed to demonstrate the dynamic relationship between the two types of metacognition and the the two online platforms that host learner metacognition (see Table 10).

Table 10: Summary of the dynamic relationship between prompted declarative knowledge and the display of procedural knowledge displayed in an autonomous online platform and closed Facebook group

<b>Declarative knowledge (via questionnaires and Facebook group)</b>	<b>Procedural knowledge (in autonomous online platform and Facebook group)</b>
Relies on prompts and guidance via tasks to encourage reflection	Relies on students' attempt to address challenges posed by communication training tasks
Diversity and number of prompts determine the number and types of declarative responses	Diversity and extent of procedural knowledge triggered by challenging tasks can vary unpredictably between individuals
Informed by type of platform <i>Facebook group delivers more nuanced, individualised and varied responses, than questionnaires</i>	Informed by type of platform <i>Facebook group facilitates collaboration. Online module demonstrates the individualised steps taken to approach a challenge as well as individualised learning preferences</i>
Can contradict displayed procedural knowledge	Can contradict prompted declarative knowledge
Can confirm displayed procedural knowledge	Can provide evidence and more detail on prompted declarative knowledge

#### 5.4.6 Discussion

The results were analysed per person into two broad bands of metacognition: declarative knowledge or metacognitive awareness (Tables 2, 3 and 4) and implied procedural knowledge or displayed metacognitive skill (Tables 7, 8 and 9). These data sets reinforce existing research that organises metacognition into metacognitive awareness about self, about the task of learning a new language and about learning strategies (Flavell, 1979; Veenman, 2013; Fourie, 2016). During the final selective phase of the analysis the focus shifted away from metacognition types towards the triggers that initiated metacognition as well as the influence of the two divergent online learning platforms on students' metacognitive awareness (see Table 10).

The declarative knowledge from this study relied on the prompts addressed by learners via online/classroom pre- and post-course questionnaires as well as prompts

in the Facebook group. These questions encouraged reflection and accordingly, declarative knowledge. The learner behaviour that implied procedural knowledge relied on students attempting to address challenges sprouting from communication training tasks (Schraw, 1998; Tarricone, 2011; Veenman, 2013). The Moodle platform made it possible to track students' online behaviour as they addressed tasks in a multitude of detailed steps. These logs, as evidence of behaviour, provide a reflection of cognitive processes undergone by learners as well as a representation of their metacognitive skill - though to provide a more accurate representation of metacognitive skill, students would have had to interpret each of those processes themselves (Veenman, 2013). The Facebook online platform also reflected learner behaviour as they addressed tasks, though in less detailed cognitive steps (see Table 10).

The diversity and number of prompts determined to a large extent the number and types of declarative responses. In other words, if students were not asked to reflect on their levels of confidence when talking to their seniors in a healthcare professional context, it is unlikely that they would comment on confidence. In contrast, the diversity and extend of metacognitive skill triggered by challenging tasks can vary unpredictably between individual students, for example, John utilized Facebook as a platform from which to employ several strategies to solve task related challenges, while Sally only used Facebook as a platform to present her task (see Table 10).

The analyses of the prompted declarative knowledge indicated that the nature of the individual responses was influenced by the platform on which these were made. Even though the responses on the closed Facebook group exposed students, as posts were visible to all members of the group as well as to the lecturer, these responses were in general more individualised and nuanced. For example Sally mentioned her initial fear and growing confidence in doing the online tests and Nell mentioned

how her dyslexia influenced her communication. Even though the questionnaires allowed for personal reflection, students used general ratings of experiences. Therefore, it seems that within the closed online community, students felt safe to expose their nuanced awareness of their own learning processes when prompted to reflect. These prompts were incorporated in the task instructions. In this regard instructions that encourage awareness about declarative strategies within a collaborative online context address the gap in research on how to facilitate meaningful online interaction via specific tasks (Sato & Ballinger 2016).

The specific platform also influenced the nature of the implied procedural knowledge. For instance the, autonomous online platform revealed metacognitive skill related to personal learning style and evidence of differentiated strategies to solve challenges triggered by the tasks. The unpredictable (in the case of Nell and Sally) versus the more predictable approach (by John) support the research of amongst others Larsen-Freeman (2011) and Ortega (2011) that learners will demonstrate a substantial variety in their competence and levels of learning as well as their language learning behaviour. By tracking Sally's online behaviour, for instance, it became clear that she engaged much more with the online platform than what was visible by only taking her online results into account. Tracking students' online behaviour can demonstrate more individualised steps behind thought processes to solve linguistic challenges (see Table 10).

The Facebook data underlined how students engage in strategies to obtain additional support to address challenges, e.g. utilising peer support and teacher support in various ways, as well as how they integrate content from other platforms such as the classroom and online module. Some of these challenges had a pure linguistic focus, for instance when students addressed more complex grammatical structures by basing their own sentences on the sentence structures of examples provided online. Strategies to support collaborative learning, such as encouraging

feedback and debating about a strategy on how to deal with a difficult patient, were also revealed. However, these examples of displayed procedural knowledge were not only triggered by challenging tasks, but also by the supportive social dynamics of the group and interpersonal relationships that were encouraged and established from the start of the course (Sato & Ballinger 2016; Peeters & Ludwig, 2017).

Contradictions between learners' procedural skill and declarative knowledge (or apparent limitations thereof) also became evident as Nell for instance gaged her proficiency as above average, whereas it showed to be beginner on the Facebook platform. Apart from contradictions, the procedural skill that learners displayed also expanded on their declarative knowledge, e.g. John declared collaboration to be an important strategy in the process of learning a new language and then confirmed this declarative strategy on the Facebook group by embodying several strategies to support and encourage collaboration between group members. In this regard John's actual skill to encourage collaborative online behaviour reinforced the validity of his prompted declarative knowledge, but Nell's online communication skills question the validity of her prompted declarative knowledge or at least a more in-depth analysis of her declarative knowledge (see Table 12).

As qualified healthcareers, the students also reacted to posts by referring to their own experiences as nurses and in this regard this study also contributes to the research gap in how online social media groups provide linguistic support to healthcare professionals (Prestin & Chou, 2014; Stommel & Lamerichs, 2014). Furthermore, the two learning platforms facilitated a combined learning environment that supports and illustrates Legenhausen's (2017) expansion of the Interactive Hypothesis that requires learners to be involved with metacognition in a holistic sense, that they should communicate as themselves and from a personal point of view and finally that interaction should include peer interaction and collaboration. The results indicate that students also engaged with the course administration via the Facebook

platform when John negotiated a new deadline for a task and sorted out technical issues with the online programme. Students also included personal detail, e.g. posting photographs of their children as part of the answer to one of the questions.

#### **5.4.7 Conclusion**

Although improving learners' metacognitive skill is crucial for improving learning outcomes, metacognitive skill or procedural knowledge, remains illusive and difficult to record as its execution is hidden in the minds of individual learners (Schraw, 1989; Veenman, 2013). This study explored students' online behaviour in a blended learning environment and identified the metacognitive processes involved while learning a second language for healthcare purposes. The nursing students' declarative metacognitive knowledge was analysed through pre- and post-course questionnaires, as well as prompted reflections on the closed Facebook group. Metacognitive skill was explored on the online and Facebook learning platforms in the display of learner behaviour when performing communication tasks and in the strategies used when addressing tasks.

The multiple case study provided rich data sets, analysed with tracking and grounded theory to explore how pre- and post-course reflection (declarative knowledge) on learning needs and experiences corresponds with skill and actual online learning behaviour demonstrated (procedural knowledge). Subsequently, students' declarative and procedural metacognition was delineated.

The two learning platforms combined to support the development of students' declarative and procedural metacognition in a holistic sense. Furthermore, the process of learning a new language supported the Interaction Hypothesis, following Legenhausen's (2017), because students communicated as their authentic selves utilising peer interaction and collaboration. The closed Facebook group supported students' metacognitive awareness raising, thus demonstrating how an online social

media group provides linguistic support for healthcare professionals. In doing so, this study completes an existing gap in medical communication training (Prestin &Chou, 2014; Stommel &Lamerichs, 2014).

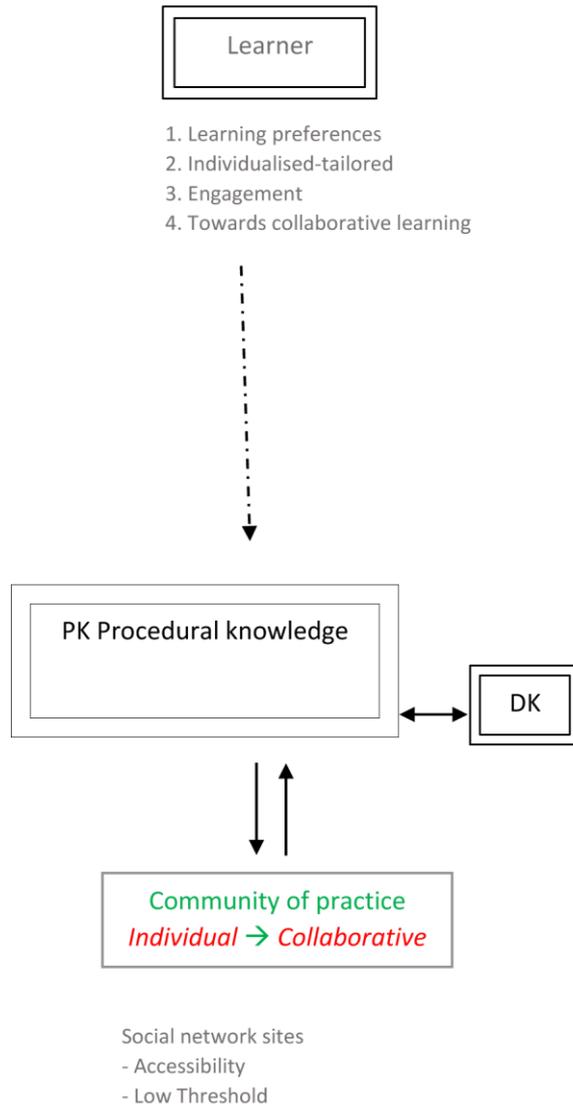
This study agrees with existing research that metacognitive awareness differs extensively between individual learners (Larsen-Freeman, 2011), which complicates the teaching process. The results suggest, as a solution, to provide students with various communication training tasks and learning platforms, which create the opportunity for them to develop their metacognition in multiple ways. A blended learning environment which provides learners with incentives to reflect as well as opportunities to address challenging communication training tasks through collaboration and individual training has the potential to facilitate different sets of declarative and procedural knowledge. The results indicate that students' declarative knowledge can agree, differ with or complement their procedural knowledge. It is within this often unpredictable, but dynamic relationship between declarative and procedural knowledge that students' skill to learn a new language can ultimately improve if they follow tasks designed as incentives to communicate (Shraw, 1998). From this point of view the effort to raise metacognition in healthcare communication training remains relevant, especially as the focus in healthcare contexts is shifting to accommodate linguistic minorities. In these multilingual communities communication training for healthcare professionals becomes increasingly important to facilitate functional communication not only with patients, but also with professional peers and seniors (Hamilton and Chou, 2014).

Follow-up research will delineate specific guidelines for teachers on how to facilitate both declarative and procedural knowledge in a blended learning environment.

## 5.5 PART THREE in retrospect

*In Part Three the focus was on the dynamic manifestation of learner metacognition in a blended learning environment. The research done outlined how declarative knowledge about the self as a (pre-)professional learning a new language should be raised by awareness raising, but also how this declarative knowledge should be given the opportunity to manifest as procedural knowledge, for example by providing opportunities to interact spontaneously or to allow for personalised learning styles. Research furthermore showed that the tasks given to (pre-)professional learners of a language should be interactive, meaningful and personalised, and that a blended platform provide a variety of opportunities for such tasks. The variety of declarative and procedural learning strategies that students demonstrated reflected a variety of needs, but also the dynamic and often complex relationship that exists between declarative and procedural knowledge, as these two aspects of metacognition might not always agree with each other due to complex learner behaviour that needs further attention. Specific attention was given to the impact that the social network platform had on the learning experience. See Figure 1 below. This was mainly due to the fact that this accessible platform facilitated collaboration and that individual needs are, counter intuitively, often easier met in collaboration with others. The social networking site also provided the space where learner identities could evolve by interacting in the second language via posts made to group members. Another significant aspect of the social networking site was that it provided opportunities for declarative and procedural knowledge to develop in reaction to prompts and incentives, but metacognition also developed spontaneously and without incentives via this platform. As the platform facilitated a true community of practice, learners had the opportunity to develop their metacognition regarding specific linguistic challenges, but also with regards to strategies on how to communicate with specific types of patients. The variety of learner needs that could be met was also a reflection of the variety of learning opportunities provided by the blended learning platform.*

*Part Four will focus on the interplay between meta-metacognition and metacognition.*



*Figure 1: Learner metacognition facilitated by membership of a Facebook community of practice*

### *Guidelines and principles to support (meta-) metacognition in healthcare communication training*

*Having moved from programme and material design (meta-metacognition) to the process of metacognition in learning and the facilitation of learner metacognition, the final part of this thesis will focus on both learner metacognition and meta-metacognition by outlining how the data are able to inform the pedagogics and didactics of vocation foreign language learning.*

*Part four, therefore, contains a set of pedagogically informed guidelines to support learner metacognition and meta-metacognition.*



## **6.1 CHAPTER NINE:**

### **Guidelines to foster metacognitive skills in online professional communication training**

#### **Introduction to Chapter Nine**

*The guidelines outlined in the published conference proceedings reflect a design for support so that the learner can optimise their online learning, especially via an autonomous online platform, such as the NoM and MoM platforms discussed earlier. These guidelines are based on principles that emerged from the data, which were obtained from three studies. The seven principles form the basis of the declarative knowledge that is embodied in the guidelines.*

Van de Poel, K. & Fourie, C. (2016). Guidelines to foster metacognitive skills in online professional communication training. In EDULEARN16. Proceedings of 8<sup>th</sup> International Conference on Education and New Learning Technologies (pp. 672-681). Barcelona: IATED.

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### **Abstract**

Language learning occurs almost inevitably in a blended environment and due to constant technological developments, this learning context is continuously evolving. It can subsequently be challenging to meet the changing needs of individual language learners in a dynamic blended learning context. This study's suggested answer to the challenge is guidelines that would develop students' metacognitive awareness, as fostering students' metacognitive skills can encourage learning performance (Veenman, et al., 2006; Van Lier, 1997) The guidelines are based on three case studies, which involved the design and implementation of twin communication training programs for (pre-) professional doctors and nurses in three different settings. Based on the experience and analysed data from the first group of students, a taxonomy for developing metacognitive awareness was designed, which in turn informed the design of tasks for the following two case studies. These tasks were specifically designed to encourage metacognitive awareness. The results from the third case study were compiled as principles for guidelines, which are directed at fostering metacognitive awareness in a blended communication training context.

**Keywords:** *blended learning, language for specific purposes, metacognitive awareness raising*

### **6.1.1 Introduction**

There is an increased research interest in how to support and enable students to navigate language learning and training processes in order to meet their own needs as effectively and efficiently as possible (Basturkmen & Elder, 2006; Long, 2005; Van de Poel, et al., 2013; Hutchinson & Waters, 1987). Furthermore, the focus in language learning has shifted towards the view that language developmental stages differentiate more from learner to learner than previously thought and therefore learners require resilience and the ability to adapt in the language learning context (De Bot, et al., 2007). This evolution is synchronizing with the evolving development of electronic learning platforms as support mechanisms. Accordingly, learning occurs inevitably in a blended environment, which can include face-to-face teaching, coaching or tutoring through social networking platforms and self-directed learning with autonomous online programs.

Contributing to the discussion, this research paper will investigate the applicability of guidelines designed to develop second language students' metacognitive awareness in a blended communication training environment for (pre-) professional medical and nursing communication training students. The motivation behind fostering students' metacognitive skills is to encourage autonomous learning by improving student wellbeing and efficiency (Veenman, et al., 2006; Van Lier, 1997).

### **6.1.2 Literature review**

#### **6.1.2.1 The Importance of Metacognitive Awareness Raising**

Metacognition is a widely used term in educational psychology. In education it is generally accepted that metacognition refers to learners' awareness about their own knowledge and understanding, as well as their awareness about the regulation of learning activities (Veenman, et al., 2006; Schraw, 1998). For the purposes of this research, metacognition will be divided into two broad types of awareness where

the first type, declarative knowledge, refers to knowledge and awareness about the self (such as needs, strengths and weaknesses) knowledge and awareness about the task itself and knowledge and awareness about learning strategies (such as planning, monitoring and evaluating). Procedural knowledge, the second type of metacognitive awareness, comes into action the moment when declarative knowledge is being applied in a problem solving situation to regulate learning and is therefore more dynamic (Veenman, et al., 2006; Schraw, 1998; Tarricone, 2011; Deed, 2009).

Research has shown that raising metacognitive awareness can improve learner performance and achievement on top of intellectual ability and not as a component of intelligence. Metacognition, though initially domain specific, can also be transferred and applied across domains and furthermore, it is possible for learners to train metacognitive skills (Veenman, et al., 2006; Van der Ster & Veenman, 2010; Veenman & Spaans, 2005; Flavell, 1979). Training metacognition is an active process as these skills develop through experience (Shea, et al., 2014) Opening up the benefits of metacognition from the individual learner to a more social perspective, researchers Shea et al. (2014) argue that metacognitive awareness can also be shared in a group in order to improve collective task performance. It is therefore not surprising that Van Lier (1996) claims that raising learner awareness should be a foundational principle guiding the design of any language learning curriculum and syllabus.

#### **6.1.2.2 Interaction, Tasks and Learning Communities**

Taking into account that raised metacognitive levels will improve learner performance (see 2.1) tasks should also provide students with a means that would enable them to communicate ideas about their individual learning processes (Rudduck & Flutter, 2000). This can be done if tasks contain the language of metacognition that would provide students with the concepts to be addressed. These

tasks or strategic questions can generate the conversations between peers, as well as between learners and teacher, about individual learning experiences and processes that goes beyond the cognitive demands of what is needed to complete tasks (Van der Ster & Veenman, 2010; Pike, et al., 2010). Learning communities can be a setting not only for task performance, but also for these conversations that can facilitate metacognition (see 2.1). Furthermore, learning communities can encourage learners to engage in their own learning and to collaborate with peers and the lecturer to achieve a goal (Inkelas & Weisman, 2003). Research has also linked learning communities and the interactive collaboration hosted by these communities with desired outcomes such as students' persistence to engagement in learning (Inkelas & Weisman, 2003; Wang, 2004).

In the communication training and language learning environment interaction takes on additional importance in the language curriculum (Van Lier, 1996) as "interaction is both a means and a goal in language learning" (Van den Branden, et al., 2007) Therefore, tasks in the language learning environment are continuously aimed to increase learner activity and engagement so that it is necessary for learners to make use of the target language in a meaningful and relevant way (Buller & Buller, 1987).

### **6.1.2.3 Language for Specific Purposes: Doctors and Nurses**

In medical and nursing communication training interaction is crucial as western medicine is increasingly becoming more patient centred and by implication the interaction between doctors, nurses and their patients is becoming more important (Van de Poel, et al., 2013). Research shows that a corresponding relationship exists between improving doctor-patient communication and improved patient health outcomes (Buller & Buller, 1987; Stewart, 1995). At the same time, doctors and nurses are becoming more mobile and the need for nursing and medical communication training in a second language increases. Furthermore, misunderstandings and

cultural misconceptions between colleagues can result in humiliation and frustration (Gasiorek & Van de Poel, 2012; Dörnyei, 2007).

Due to long working hours, doctors and nurses often have scheduling and time constraints during the process of learning a new language. These language learners would benefit from a language training programme that fosters metacognitive awareness (see 2.1) which would encourage learner wellbeing and efficiency (Veenman, et al., 2006; Van Lier, 1997). Tasks that are relevant and meaningful to their professional careers, should not only stimulate interaction, but provide these learners with the means to raise metacognitive awareness (see 2.2).

### **6.1.3 Research Focus**

The aim is to investigate the principles behind tasks that were specifically designed to encourage metacognitive awareness in a blended communication training environment for medical and nursing (pre-) professionals, and secondly, to base guidelines for communication training on these principles.

### **6.1.4 Professional communication training: Three Case studies**

The research done for this conference is part of a continuing project aimed at developing online autonomous communication training programmes for professionals learning a second language ([www.comforpro.com](http://www.comforpro.com)). Three case studies were elected, two of which involved medical communication training courses for doctors and one case study that involved a communication training course for nurses. The case study with nurses as participants will be the main focus of the data analysis and discussion.

The initial case study for this research was performed in February – April 2014 at the University of Stellenbosch, South Africa, where first year medical students have to complete a communication course in Afrikaans, which is one of the country's eleven

official languages. Apart from using a blended approach that utilised the online platform for autonomous learning, as well as face-to-face teaching with eight face-to-face sessions (two hours each), a closed Facebook group, run by the lecturer, was created.

Based on the experience and analysed data from this first group of students, a taxonomy on raising metacognitive awareness was created (Tarricone, 2011). Tasks were then specifically designed according to this taxonomy for the following two case studies:

The same online program was operationalized in February 2016 for the second case study amongst qualified medical professionals immigrants in Sweden and accordingly learning Swedish. To support these students a closed Facebook group was operated from the University of Antwerp, Belgium. Apart from the online module, the students also followed a communication course in Sweden. Though there was brief communication, the remote online tutor had little contact with the communication teacher of these students and no knowledge about the content of this course.

Thirdly, using an online program supported by the same pedagogical principles and structured in a similar way than the medical programme, a study was done with a group of professional nurses in Antwerp, Belgium. These students were taking part in a blended communication training course in English to further their professional qualifications. Apart from the online module, these students were also members of a dedicated closed Facebook community and had three face-to-face teaching sessions (one hour each).

### **6.1.5 Participants**

The participants for the South African case study (N = 35; 17 male and 18 female) were first year medical students, enrolled for a compulsory 16 hour (eight sessions in eight weeks) communication course in Afrikaans for medical purposes at the University of Stellenbosch, South Africa. These students were all at beginner level and had a variety of African home languages such as Tsonga, Xhosa, Sotho, Pedi, Tswana and Zulu.

The learners in Sweden (N = 25) were qualified (and or specialised) medical professionals all learning Swedish at beginner level. In order to obtain citizenship and to practice as professionals, these doctors had to reach higher fluency levels in Swedish. The home language of most of these students was Arabic and English functions as a lingua franca.

The Belgium participants (N = 23, 3 male, 20 female) were practising nurses with diploma qualifications who elected to do the Nurses on the Move (NoM) communication course in English as part of their professional bachelors degree. The home language of 96% of the students was Dutch.

### **6.1.6 The Content of the Online Programs for Medical Professionals and Nurses**

A task-based approach is followed in both programmes and the structure and layout of both are similar. Both programmes also contain audio support and audio recordings. The programme for the medical professionals consists of ten units that follow the consultation timeline approximately. Each unit consists of medical scenarios and this is followed by sound, vocabulary, grammar and communication support and training exercises applicable to that unit. These exercises are corrected after each attempt and the correct answer with support is given. An online library with comprehensive sound, grammar, meaning and communication training

resources also exists. The programme for the nurses has five units or topics that follow the key communication functions of nurses. Each unit also consists of scenarios that are followed by sound, vocabulary and grammar training exercises. The First Aid Kit or library contains a wordlist as well as communication tips and grammar support. The NoM course is singled out by also having video clips added to scenarios, as well as Real Life Cases that are gamified with interactive video scenarios. The NoM course also has a validation test at the end of each unit.

### **6.1.7 Blending with Facebook**

The three closed Facebook groups functioned as learning communities, but each had a slightly different focus in purpose, which was echoed in the tasks given to the students. For the pre-professional medics in South Africa the purpose behind creating this Facebook group was to lower the threshold for online learning and they accordingly received only two tasks, one obligatory and one voluntary, which were both not challenging. The obligatory task was to co-create an online wordlist and the voluntary task was to post a personal anecdote in the target language. As the Facebook group for the doctors in Sweden had to function as online support - since they did not receive significant classroom support for the use of the programme - they received voluntary tasks, guidelines and tips about the use of the online programme. The course for the nursing students in Belgium lasted only five weeks with three contact sessions and the purpose behind the Facebook group was to extend the face-to-face classroom to an online platform. These tasks were more varied and required of students to engage more in learning (see below for more detail).

A taxonomy on raising metacognitive awareness in a blended environment was created after analysing the data from the first case study in South Africa (Tarricone, 2011). This taxonomy, alongside a communication function focus and linguistic focus, guided the design of the tasks for the following two case studies. This

taxonomy was divided into three categories of declarative knowledge: The first category refers to the learners' process of gaining knowledge about themselves as language learners or communicators in order to work towards a (new) identity as a medical (pre-) professional. Category two refers to the process of gaining knowledge about the task of learning medical communication in a second language and the learners' goal of becoming increasingly more effective as learners. Lastly, the third category refers to the learners' process of gaining knowledge about language learning strategies in order to be continuously more efficient as language learners. For each of these categories the metacognitive components and their descriptors are given.

Therefore, the tasks given to students via Facebook had either a linguistic focus (language learning), a communication function focus (language for specific purposes), a metacognitive focus, or a combination of these (though as most instructions required a response in the target language, these instructions automatically had a linguistic focus. For the purposes of this research the discussion an analysis will mainly apply to the metacognitive focus of the tasks. The potential of raising students' metacognitive awareness via Facebook was analysed in a previous article, see Chapter 2.

Instructions for tasks with a specific focus on raising awareness about learners' personal needs included the following:

- Introduce yourself
- Post how you feel about ...
- What did you like about...
- What did you find difficult about ...

In other tasks the focus shifted from the individual learner to the tasks and learning in general, especially in collaboration with others (the fact that all Facebook posts are visible to group members makes this possible) e.g.

- Comment on what others posted ...
- You may agree with another student's response ...
- Take comments of others into account when you ...
- What did you learn from ...

Some instructions introduced and raised awareness about learning strategies, for example

- Take comments of others into account when you ...
- Edit your written response according to ....
- Advice on the future tense can be found in the First Aid Kit...
- Write a language learning strategy for yourself to follow after completion of the course ...

### **6.1.8 Data**

A variety of data sets were collected in order to address the research questions. Sets of quantitative and qualitative data were collected and included tests, pre- and post-course questionnaires (containing Likert scale type and open-ended questions) as well as written posts from the Facebook groups. Questionnaires were submitted to Survey Monkey Gold ([www.surveymonkey.net](http://www.surveymonkey.net)) as separate sets of data. All data the data in text format were analysed according to the principles of grounded theory (Dörnyei, 2007). The students' online logs were also tracked via the Moodle platform on which the online modules are hosted. Moodle provided versatile and user-friendly tools for tracking. Tracking for this article was done by considering the number of logs and/or the number of sessions a specific aspect of the online

programme (e.g. Scenario 1.1, Test Topic 2, Words to Know 3.1) was visited. A *log* refers to each online click made on the computer or laptop by the student to navigate through and interact with the program and could, for example, be a click to read a scenario, do a quiz, look at the course overview or view a grade overview report. The results from the tracking were analysed with the focus on how the incentives provided through task instructions influenced the online behaviour and learning strategies of students.

## 6.1.9 Results

### 6.1.9.1 Tracking Online Behaviour

Over a period of 8 weeks the 35 South African medical students made 2753 logs in total (average of 79 logs per person and 1,4 logs per person per day) and over a period of 10 weeks the 25 Swedish medical professionals made 5102 logs (average of 204 logs per person and 2,9 logs per person per day). The 23 qualified nurses made over a period of 6 weeks a total of 15 038 logs (average of 654 logs per person and 15,6 logs per person per day).

For the NoM online programme, the total number of logs per main categories were as follow: Scenarios – 2564, Quizzes – 4125, Real Life Videos – 3122, Tests – 2209, First Aid Kit with Wordlist, Grammar and Intercultural tips – 11

4.

The logs per student ranged from 1291 down to 20 logs with an average of 654 logs per person. The three students with less than 300 logs each also failed the course. The number of logs does not always correspond with the number of sessions. A session refers here to continuous logging with one hour or more intervals between different sessions. See *Fig 1: Logs per student* and *Fig. 2: Number of online sessions per student*. To illustrate this point, consider students with a similar number of logs such as *Student W* with 1025 logs and *Student F* with 993 logs. Both of these students also

went through all the scenarios, Real Life Cases and completed all the tests and quizzes. However, *Student W* only covered a third (five sessions) of *Student F*'s 16 online sessions.

Figure 1: Logs per student

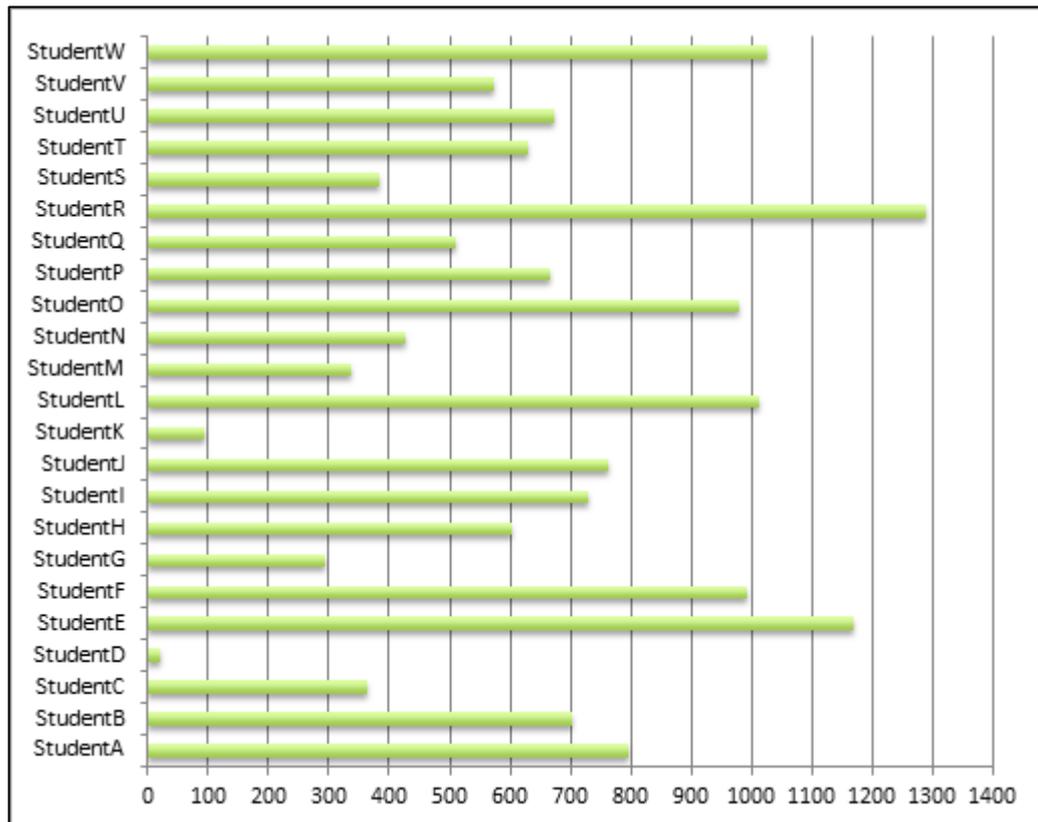
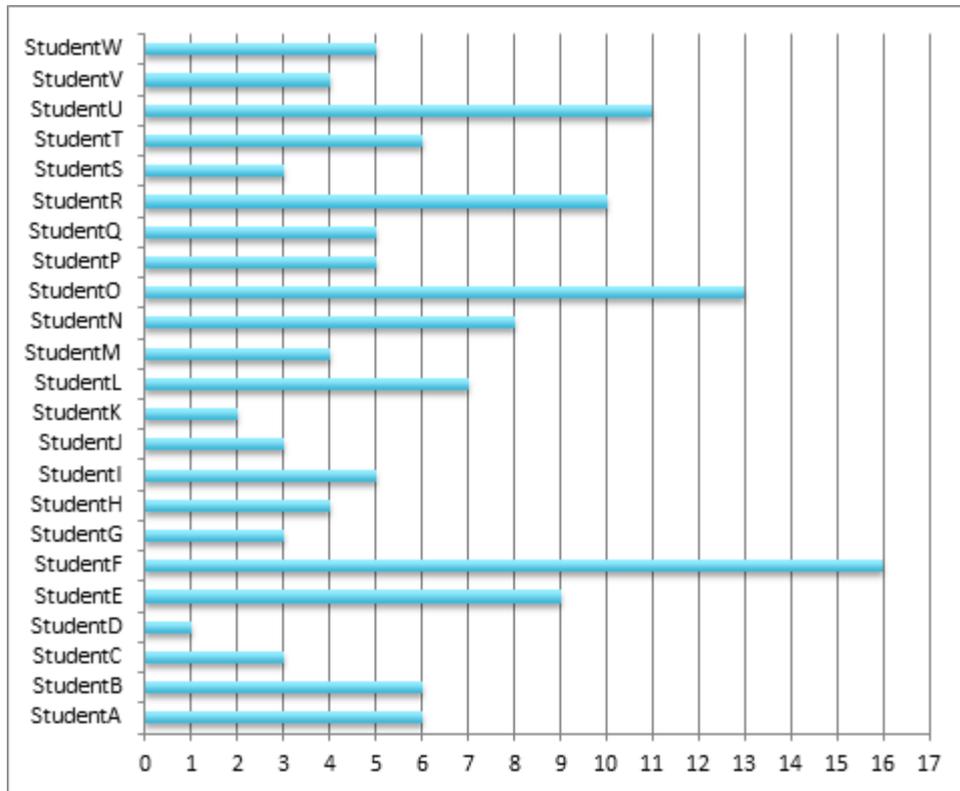


Figure 2: Number of online sessions per student



Tracking also indicated how tasks influenced the online behaviour, for instance The Real Life Real Life Cases were part of the context for the compulsory Facebook tasks during the first four weeks of the course and correspondingly more students engaged in with these. During the third week students were encouraged to do *Words to Know* from Topic 3 as a task and likewise to complete the *Communication Functions* from Topic 4 which was set as a task during the fourth week, again with correspondingly more people completing these quizzes.

#### 6.1.9.2 Questionnaires

Results of seven selected 6-point Likert scale questions (where 1 referred to most negative and 6 to most positive) are provided from the post-course questionnaire in order to provide a general overview of how students experienced the course. From these questions (see *Table 1: Selected Likert scale questions with results from post-course*

questionnaire) it is clear that students perceived the NoM-course as beneficial to their communication skills as well as relevant and applicable to their professional contexts. According to the students the NoM-course also suited individual learning styles.

Table 1: Selected Likert scale questions with results from post-course questionnaire

Question	Median	Mean	Standard Deviation
My English medical vocabulary has improved	5	5	0,71
I feel more comfortable with medical English now	4,5	4,6	0,66
The NoM materials are applicable to my professional context	5	4,65	0,79
The NoM materials are relevant for my professional context	5	4,8	0,78
I liked the materials used in class and online	5	4,45	0,97
I now know how to further improve my medical English	5	4,75	1,13
The NoM course suited my individual learning style	4,5	4,4	1,07

Selected results from the analysis of open questions are as follow:

Most of the students (22 of 23) claim that interaction, including speaking, listening, role-play, emersion in target language and everyday conversations is the best way to learn a new language. (*Pre-questionnaire - Q 9 What is the best way for you to learn a new language.*)

Students claimed that the online module ensured individualised and convenient learning that suited their busy time schedules, but that they appreciated support and feedback from the teacher and students. (*Post-questionnaire – Q9 What I liked about NoM online.*)

Criticism against the NoM online module and face-to-face teaching included, apart from technical issues, a need to learn spoken English – more interaction (*Post-questionnaire – Q2, 3, 6*)

The classroom was valued for its safe, friendly and relaxed atmosphere as well as for the fact that it was acceptable to make mistakes and that feedback was received. (*Post-questionnaire - Q6 What I liked about the lessons*).

Thirteen out of 15 students replied that they prefer a blended environment with face-to-face teaching on the question whether Facebook can replace face-to-face teaching (*Post-questionnaire - Q15*). However, students valued the closed Facebook group, which facilitated peer and lecturer support, was easily accessible and generated convenient learning as well as quick responses to questions. (*Post-questionnaire - Q13*)

#### **6.1.10 Principles for Guidelines**

From the data certain principles emerged which were used as the foundations for learner guidelines on how to optimise the use of the online module. These principles are:

- learner *awareness* about own learning needs and
- learner awareness about strategies on how to meet these needs should be raised
- learners should understand how *training* benefits the language learning process
- learner needs and learning *styles* are unique
- the learning process should be *interactive*
- *engagement* in learning activities (and tasks) facilitates and encourages learning
- learners need *support* during the learning process

### 6.1.11 Guidelines for learners

Based on the principles and the results from the data, the following guidelines, addressed to the learner, were formulated. (Due to a lack of space, examples are not included):

- Take charge of your own language learning process by *using* the language and by deliberately *training* those aspects that you find challenging. (The most efficient way to learn a new language is to get in contact with that language and its speakers as much as possible. The *NoM*-learning platform can then function as a training platform to speed up the learning process and help you focus on learning language that is suitable for use in a nursing context.)
- Determine what your needs are (Tips are given how to determine needs)
- Meet your own needs (Tips are given on how these can be met via the online platform.)

### 6.1.12 Discussion

As the learner populations and context of each course varied, only tentative comparisons are possible between the three case studies, but these are still significant. Compared to the Swedish and South African communication training courses, the number of logs for the Belgian learners using the Nursing program (which had less topics than the Medics programmes, but included video learning material) was high (see 6.1), indicating more active online behaviour and more engagement in learning, which in turn results in learner persistence and the likelihood to reach the goal of learning a new language (Inkelas & Weisman, 2003). From the data, various reasons are possible for the increased online activity. These reasons are reflected as the principles grounding the guidelines for learners in a blended communication training environment.

The first two principles refer to raising students' metacognitive awareness about their own needs and how to meet these needs. This is reflected in the data as Facebook tasks were also specifically designed to encourage metacognitive awareness (see 4.3) not only providing learners with the necessary vocabulary and means to reflect on their own learning and needs, but also providing them with strategies to address these needs (Deed, 2009; Van Lier, 1996).

Due to learners' need for an unrealistic and instant answer to the challenge of gaining speaking skills in a second language (see 6.2) the third principle was added to make learners' aware of their responsibility to *use language* in real life situations, and also to *train their skills* via the online module. Learners are also made aware in the guidelines of how they could determine their own unique and changing needs, with examples of how these needs can be met.

According to the fourth principle learning styles are unique. The online module encouraged unique learning styles and individualised learning (see 6.1) which students also valued in the post-questionnaires (see 6.2).

The fifth and sixth principles refer to the importance of interactive learning and learner engagement. The Belgian students not only received more tasks via the Facebook group, compared to the other two case studies, but these tasks also extensively integrated the online material with Facebook posts and discussions in class - more so than with the South African and Swedish case studies. This generated interaction amongst peers and with the teacher (see 6.2) and subsequently learner engagement (see 6.1 for examples of how tasks increased online behaviour). The video material for the Real Life Cases (the online programmes for the medics do not have video material) also facilitated learner interaction and engagement. The importance of learner engagement in tasks (Pike et al., 2010) is also reflected by the fact that students with minimal logs, failed the course (see 6.1). Lack of interaction

(Van Lier, 1997) could be a reason why the First Aid Kit with additional material on communication functions and grammar was barely used, as these resources were not interactively integrated into the programme (see 6.1).

Finally, learners referred to the need for support during the learning process. The Facebook platform functioned as a transparent and user-friendly platform (see 6.2) which was not only used as an extension to the classroom, but which also facilitated a supporting learning community that facilitated a safe environment to experiment with language and interact in spite of mixed fluency levels and backgrounds.

However, the majority of learners indicated that the Facebook group cannot replace the face-to-face teaching and learning experience in the classroom and that they preferred blended learning. This lack of face-to-face teaching could be the reason why the participants of the Swedish case study engaged less than the Belgians on the Facebook platform.

### **6.1.13 Conclusion**

The dynamic process of learning a second language is constantly influenced by technological developments and new online learning tools. However, there is still no magic recipe with instant results for adults learning how to communicate in a new language. Doctors and nurses who need to learn a new language for professional purposes can find themselves in challenging situations as the quality of doctor-patient and nurse-patient communication can influence the health and wellbeing of patients. This study used the results of analysed data from three different case studies and incorporated findings from existing research to identify principles, which inform guidelines to optimize communication training for professionals in a blended environment. In essence, these principles and guidelines suggest that communication training will be more efficient and effective as learners become more resilient when their metacognitive awareness is raised about themselves and their individual learning needs, as well as about strategies to learn a new language.



## 6.2 CHAPTER TEN:

### **Guidelines to support metacognition in a blended learning context for communication training with a healthcare focus**

#### 6.2.1 Introduction

In any second language learning classroom the teacher/lecturer will be faced with learners who display a variety of language abilities at different developmental stages. In the process of learning, the learners' proficiency levels will not improve at similar incremental levels, but they may develop randomly, taking unpredictable steps with regard to a variety of linguistic aspects (De Bot, Lowie & Verspoor, 2007). In a communication training context for healthcare professionals, the proficiency levels may vary even more, as learners often come from a range of educational and language or cultural backgrounds and are potentially and primarily not interested in learning a foreign language to improve and widen their vocational radius (Van de Poel & Gasiorek, 2012).

Taking cognizance of this inter- and intra personal diversity, teachers (by implication also lecturers and tutors) should support their learners to gain insights in their own needs with regards to the functional and structural ability to use a second language in a multilingual healthcare context. Improved levels of metacognition will enable learners to be(come) more aware of their own needs (and distinguish them from their wants and wishes) as well as to enable them to develop the necessary skills and identify the tools to improve their learning challenges, independent of their intellectual abilities (Schraw, 1998; Tarricone, 2011; Veenman, 2013). Therefore, if teachers support the development of learners' metacognition, they can also at the same time access opportunities to address the variety of

language learning needs. In order to individually tailor the approach, blended learning seems a way forward.

The preceding articles and chapters in this thesis explored the dynamics behind metacognition in healthcare communication training environments. Based on a review of the literature, metacognition was divided into two main categories: declarative and procedural knowledge. First, **declarative** knowledge was analysed and defined as the learners' awareness about themselves as learners, their awareness about and understanding of the process of learning a new language as well as their awareness of strategies available to address vocational communication challenges. Secondly, **procedural** knowledge was defined and analysed as the metacognitive skills which learners display in the process of addressing communication challenges and is thus supporting and underlying declarative knowledge. The focus on particular characteristics (strengths or challenges) of each learning platform in a blended learning context, such as, for instance, the engagement in autonomous online learning, participation in an online community of practice or the added value of face-to-face interaction, will stimulate specific aspects of metacognition to create a dynamic learning experience (see definition of *metacognition* in Introduction).

### 6.2.2 Research focus

Based on the insights gained through the different studies on how to support the development of metacognition in healthcare communication training, the purpose of the current chapter was twofold. First, and based on the summarised essence of metacognition, a taxonomy of metacognition applicable to a healthcare context was compiled to delineate the different defining characteristics and concepts that inform metacognition. Secondly, a collective set of *guidelines* were assembled in order to support course design, but which can also be used by the teacher/lecturer in the process of teaching and learning.

### **6.2.3 Methodology**

A meta-synthesis (Ghanbarpour, 2017; Norris & Ortega, 2007) was applied to the selected articles and chapters in this thesis by first summarising the essence of metacognition. In the next step the common themes were identified and organised as classified concepts in a taxonomy of metacognition, applicable to healthcare communication training. Following on this I will formulate the outcomes of this thesis as a set of guidelines on how a blended learning context can support metacognition in healthcare communication training. The final step will be to visualise the findings of the thesis in a model.

### **6.2.4 Results**

In the text below the focus shifts from didactics to a developmental perspective (at curriculum and syllabus level) to a pedagogical and approach level for teaching and learning. Interventions at every level work in unison.

#### **6.2.4.1 Metacognition and the dynamic nature of declarative and procedural knowledge: a summary**

Learners benefit when they can improve their metacognition, as improved metacognitive levels are associated with improved learning outcomes, independent of cognitive abilities (Veenman, 2013).

##### *6.2.4.1.1 The dynamic nature of declarative and procedural knowledge*

1. Declarative knowledge manifests itself as learners' reflections and relies mainly on prompts and guidance to encourage reflection. These prompts are often embedded in tasks or administered during pre- and post-course questionnaires. The diversity and number of the prompts often determine the number and types of declarative responses. However, these reflections can also be spontaneous (see Part Three, Chapter 9).

2. Procedural knowledge or skill manifests itself as learners' thoughts and actual behaviour in the process of addressing challenges and tasks. Therefore, procedural knowledge relies on learners' attempts to address tasks and challenges. The diversity and extent of procedural knowledge triggered by communication training tasks can vary unpredictably between individual learners (see Part Three, Chapter 9).
3. The type of learning platform informs both declarative and procedural knowledge. For instance, the Facebook platform will in terms of declarative knowledge deliver more nuanced and varied responses, compared to those triggered by the questionnaires. Community learning will, in terms of procedural knowledge, often facilitate skill that relies on collaboration, whereas more individualised steps to address challenges might manifest on the autonomous online module (see Part Three, Chapter 9).
4. Furthermore, a learner's declarative and procedural knowledge can either confirm each other, or might contradict each other. If declarative knowledge contradicts procedural knowledge (when, for instance, a learner claims to have intermediate proficiency, but displays beginner proficiency during tasks) it can be an indication for lecturer and learner to explore the issue (see Part Three, Chapter 9).
5. Records of learners' declarative and procedural knowledge can be used to feed into needs analyses that ultimately inform the syllabus.
6. Communities of practice, such as facilitated by Facebook, are important to individuals as metacognition can be transferred to all members engaging with the same task.
7. Improved levels of metacognition will also improve a healthy learner identity (see Part Three, Chapter 6), improve skills to address learning tasks and the skill to employ a variety of strategies (see Part Three, Chapter 9).

#### 6.2.4.1.2 *Facilitating declarative knowledge*

1. Prompts and questions should be used to encourage learner reflection. See below for recommended prompts to support declarative knowledge about the self, about the task of learning a second language for healthcare purposes and about strategies for learning how to communicate. It should be pointed out that these lists are not complete and will have to be adapted to suit the didactics of the individual contexts.
2. Prompts and questions can be used pre- or post-course, or on-going and embedded in tasks.
3. The reflections can be carried out orally, on paper in class as well as via the online community of practice where posts are visible to all and where peer feedback and interactive comments are possible.
4. Learners may also reflect without prompts, if a safe space for spontaneous comments and feedback is provided, such as with the online community of practice.
5. Procedural knowledge or lack thereof can suggest that prompts for reflection have to be given.
6. Prompts to support **declarative knowledge about the self:**

##### CONFIDENCE

- Confidence talking to patients/peers/seniors
- Self-perceived level of proficiency in the target language

##### COMPETENCE

- individual professional experiences where communication in the target language was a challenge
- individual social experiences where communication in the target language was a challenge
- own practice as healthcare (pre-)professional
- comments of others regarding healthcare issues and scenarios

## PERSONAL & CULTURAL

- easy/difficult in providing feedback and receiving feedback on family or personal interests
- family lives
- hobbies and interests
- other languages used by learners with perceived levels of proficiency in each language

### 7. Prompts to support **declarative knowledge about the task of learning how to communicate:**

- personal needs in terms of:
  - communication for healthcare purposes
  - communication for social purposes
- expected gain:
  - vocabulary,
  - pronunciation,
  - grammar etc.
- positive experience:
  - content
  - tasks
  - method of learning
  - blend
- challenges:
  - about the content
  - tasks
- method of learning
  - blend
- relevance of the course for (pre-)professional careers

- ease and challenges in learning
  - language
  - communication
  - with respect to the approach (platforms)
- feedback about communication-related challenges

8. Prompts to support **declarative knowledge about the strategies for learning how to communicate in a healthcare setting:**

- how learners think one learns a new language
- where do learners get support if they want to learn a language
- where do learners get support if they have to communicate in a foreign language to a patient or supervisor
- providing feedback on the (linguistic and functional) strategies used by other members of the community of practice
- how and where to train using the correct pronunciation/ sentence structure/ vocabulary
- which of the learning platforms suited their personal learning style best and why
- a plan or strategy to continue learning the new language

*6.2.4.1.3 Facilitating procedural knowledge*

1. Learners should be encouraged to perform communication-related tasks and challenges on all three platforms, as each platform will support different aspects of metacognition (See Part 3, Chapter 9).
2. In order to be process-oriented the tasks should first and foremost rely on interaction. Interaction can be verbal in class, such as role-play, or written such as Facebook posts. The tasks should be formulated in such a way that they require one or other kind of feedback or comments provided by the

users. However, the interaction can also consist of corrective feedback, such as with the online module.

3. Process-orientation means that the tasks should be relevant and directly related to the learners' professional healthcare context. The tasks should also be relevant in the sense that learners should be able to voice personal experiences and be exposed to personal experiences of others. It should be stressed that an online community of practice is a suitable platform for this.
4. Learners should be able to personalise the tasks, for instance by accommodating different learning styles, by allowing for personalised time management and by allowing for personalised feedback and comments (see Part Three, Chapter 7).
5. Learner engagement with materials and tasks should be encouraged whether it is on an individual basis or collaboratively.

#### **6.2.4.2 Taxonomy of metacognition in L2 communication training for healthcare purposes**

Based on the summary I compiled a taxonomy, which can serve as an outline to understand the significant processes and concepts involved in metacognition. This classification is meant to initiate, develop and support individualised as well as collaborative learning and to ultimately inform the teaching and learning experience. See Table 1 for a taxonomy of declarative knowledge and Table 2 for a taxonomy of procedural knowledge.

Table 1: Taxonomy of metacognition utilised in foreign language communication training contexts for healthcare purposes

1. Manifestation	2. Activation	3. Development & unfolding	4. Dynamic intra-metacognition	5. Transferability	6. Knowledge field	7. Features of knowledge fields	8. Descriptors
<b>A. DECLARATIVE KNOWLEDGE (DK)</b>							
Awareness & Reflection	Prompts Incentives Spontaneous	During task performance, deliberate awareness raising & observation	Can confirm or contradict PK. Can exist without ability to transform as PK	Individual or shared during collaboration	Awareness of self (identity)	Aware of and reflecting on different group identities	Receiving & providing feedback Communicating about healthcare related issues Receiving prompts to raise awareness (see Appendix 1)
					Awareness of task: learning a new language for healthcare purposes	Aware that tasks should encourage interaction, be relevant to healthcare context & be personalised	
					Awareness of strategies to learn a new language	Aware of various learning strategies	
					Engaging in task of learning a new language	Engaging in tasks that require interaction, that are relevant to healthcare context and that can be personalised	
					Utilising different strategies to address challenges	Using various overt or disclosed strategies	

Table 2: Taxonomy of metacognition utilised in foreign language communication training contexts for healthcare purposes

1. Manifestation	2. Activation	3. Development & unfolding	4. Dynamic intra-metacognition	5. Transferability	6. Knowledge field	7. Features of knowledge fields	8. Descriptors
<b>B. PROCEDURAL KNOWLEDGE (PK)</b>							
Skills to engage with tasks and challenges	Performing of tasks & challenges	During task-performance	Can contradict declarative knowledge (may not correspond with DK) Can exist without being verbalised as DK	Individual or shared during collaboration	Engaging in process to develop identity	Gaining experience in communication Gaining confidence in communication Validating growing identity by interacting with others	Receiving & providing feedback on linguistic features Receiving & providing feedback on healthcare issues
					Engaging in task of learning a new language	Engaging in tasks that require interaction, that are relevant to healthcare context and that can be personalised	Engaging in healthcare-related tasks Getting support Employing individualised learning style Incorporating other course materials
					Utilising different strategies to address challenges	Using various overt or disclosed strategies	Incorporating home&family life Demonstrating own feelings

### **6.2.4.3 Concluding Guidelines on how to optimise blended learning in a second language communication training context**

The resulting guidelines include proposals on how to optimise a blended learning context to support metacognition. These guidelines are organised into five main sections that will focus on (1) the steps that need to be taken at a curriculum and syllabus level, (2) how the choice of a learning platform is to be made, (3) which learning experiences are to be gained, (4) what role the lecturer plays (it will be scrutinised and its importance emphasized), and finally (5) how the role of the learner can be guided and outlined.

#### *6.2.4.3.1 The curriculum and syllabus as a basis for blended learning*

##### **1. The syllabus**

Communication training for healthcare purposes requires a functional syllabus that relies on relevant scenarios and conversations in a healthcare context as well as the linguistic structures to support communication functions.

##### **2. The needs analysis**

The curriculum should be based on a comprehensive needs analysis that is carried out amongst all stakeholders and should reflect political, socio-psychological and teaching trends.

##### **3. Pedagogics**

Instead of being directed by trends inspired by technological developments, reliable pedagogical principles should be considered when the curriculum is translated to the syllabus.

##### **4. Evaluation**

Furthermore, needs analysis and programme evaluation should be carried out among all stakeholders at planned and regular intervals and these reflections should feed continuously and systematically into the on-going development of the materials and teaching approach (see Part One, Chapter 2).

#### 6.2.4.3.2 *Blending different learning platforms (from me to you to us)*

##### 1. **Online learning**

The choice of online platform(s) to use alongside face-to-face teaching should be informed by the needs analysis. This thesis suggests the use of an autonomous online platform, as in the MoM- and NoM-modules, as they relied on a defensible curriculum (Weideman, 2017), embedded in the healthcare context and made accessible to the learner with a user-friendly interface. Apart from contact sessions and online materials, the third addition to the blend is a **social networking platform** (such as Facebook or Whatsapp), which can contribute substantially to the learning experience by offering space from which to operate an online community of (good) practice.

Facebook was chosen for this research trajectory because of its accessibility (in the South African context where computers were not available for every student), transparency and widespread acceptance. The research furthermore indicated that collaboration via a social networking platform such as Facebook facilitates not only learner engagement, but also creates avenues through which individual learning needs can be met (see Part Two, Chapters 3 & 4 and Part Three, Chapter 7).

2. The **developed syllabus** should be used as core content for all three platforms. Integrating content and tasks across platforms is required so that learning via one platform is complemented and reinforced by learning via another platform. From the learner's point of view, learning will become a dynamic process taking care of individual learning preferences (see Part Two, Chapters 3 & 4 and Part Three, Chapter 9).

#### 6.2.4.3.3 *The learning experience*

1. The classroom and (especially) the community of practice should be safe havens/spaces where learners feel free to make mistakes and expose themselves as individuals.
2. This safe atmosphere that also encourages collaboration will allow for the on-going process of identity formation, not only by integrating content from the healthcare profession, but also by acknowledging other learner group identities, such as family background, hobbies and other interests. Comments in the home language should be allowed within the community (especially by beginner-level students), not only to support comprehension and participation, but also in order to acknowledge cultural background, which is important for the identity formation process (see Part Three, Chapter 6).
3. The learning tasks should require of learners to be interactive in their attempts to solve challenges, to rely on interaction between peers, as well as between peer and lecturer. Tasks should furthermore be relevant to the healthcare profession, while learners should be able to personalise aspects of the content and learning environment to meet their individual needs (See Part Three, Chapter 7).
4. Learners should be able to use a variety of learning strategies, made possible by the three learning platforms. They should also be encouraged to use different strategies, such as with tasks that require of learners to provide feedback on peer contributions.
5. Communication functions required by the healthcare profession and the underlying linguistic competence should both addressed.

#### 6.2.4.3.4 *The role of the lecturer*

1. The lecturer should assume that learners have diverse language learning needs and that each learner's language learning progress will happen with unpredictable steps.

2. It is the lecturer's responsibility in the classroom to provide learners with guidance about the structure of the course, what is expected from them and how the learning platforms complement each other. The lecturer should also indicate how to get support when needed - for example in class, via the online module's helpline or peer support via the community of practice.
3. The lecturer should maintain needs analysis to address issues that may arise, such a need for translations or lack of computer literacy.
4. The lecturer should create opportunities where learners can become aware of their own learning needs and plan to meet their needs.
5. The lecturer can choose whether or not to be a member of the community of practice. The lecturer's voice is represented in the tasks' instructions. If the lecturer is not present online, his/her voice will be underlying the carefully constructed task instructions (see Part Three, Chapter 8).

#### 6.2.4.3.5 *The role of the learner*

1. Learners are encouraged to take responsibility for their own learning.
2. Learners should know and understand their changing needs.
3. Learners should be guided and encouraged to engage in learning and task fulfilment on all three platforms.
4. Learners are encouraged to take part in collaborative learning in order to meet their individual language learning needs (see Part Three, Chapter 7).

#### 6.2.4.4 **A model to support curriculum and syllabus design**

Figure 1 below visually presents the above results as a model - *Reciprocity & responsibility in curriculum and syllabus design: Meta-metacognition and metacognition*. It demonstrates the flow from needs analysis to syllabus, which should reflect relevant content as well the underlying linguistic structure and form and contain functional scenarios that creates the context for both language aspects and communication strategies to be taught. The specifications from the syllabus will feed into the teaching and learning approach, which again will feed again into continuous and

systematic evaluation of the preceding processes. The blended learning platforms utilised for this thesis, namely the face-to-face classroom, the autonomous online platform and the online community of practice (the Facebook group) is set at the bottom of the model from where the learning process manifests and grows. The arrows indicate a dynamic and reciprocal relationship between the various learning processes and the flow of metacognition.

The model is focussing on two responsible stakeholders that also stand in a reciprocal relationship as both have to accept co-responsibility and co-ownership for the learning and teaching process. The teacher/lecturer has to take responsibility as a manager and mentor in the learning process, by maintaining a continuous needs-analysis on the one hand and by managing often through task-instructions. In a blended context, the learning process becomes dynamic. Apart from the lecturer as support, the learner can also get support from the autonomous online learning environment, which should be user-friendly, allow for personalised learning and provide feedback. The learner's responsibility is to accept co-ownership of learning by engaging in tasks and activities. This will be more plausible if learning is tailored to suit individual needs and preferences. At the same time the learner can collaborate with peers in an online community of practice via a social networking platform, such as Facebook. The three platforms also create a reciprocal learning experience, as for instance the learner might train via the autonomous online platform for a role-play activity that will be performed in class, or might get support from peers in the community of practice to address a task due for class.

When this model is applied to a blended healthcare communication training context, the learner will be finding solutions for healthcare related communication issues either from the Facebook community, the online program or in class where collaboration with the teacher or peers is also possible. The learners should also integrate their specific experiences and needs from their (pre-)professional contexts

with conversations in class or via the Facebook platform so that communication related scenarios can be dealt with from a linguistic as well as functional point of view.

Support for the development of learner metacognition will be prompted opportunities to reflect via the content of tasks, via the community of practice that allows for awareness and reflection due to its transparent nature. The teacher also has the responsibility to raise metacognitive awareness, either in class or via instructions. The learner has the opportunity to demonstrate procedural knowledge via any of the three blended learning platforms.

Apart from individual learner metacognition, the model also functions at a meta-level, where the needs analysis that feeds into the syllabus, relies on reflection on content. This declarative knowledge can then manifest as the process of teaching and learning. In this regard the circular flow represented by the module not only demonstrates the dynamic process of learning, but also the dynamic process of engaging and reflecting during the curriculum and syllabus design.

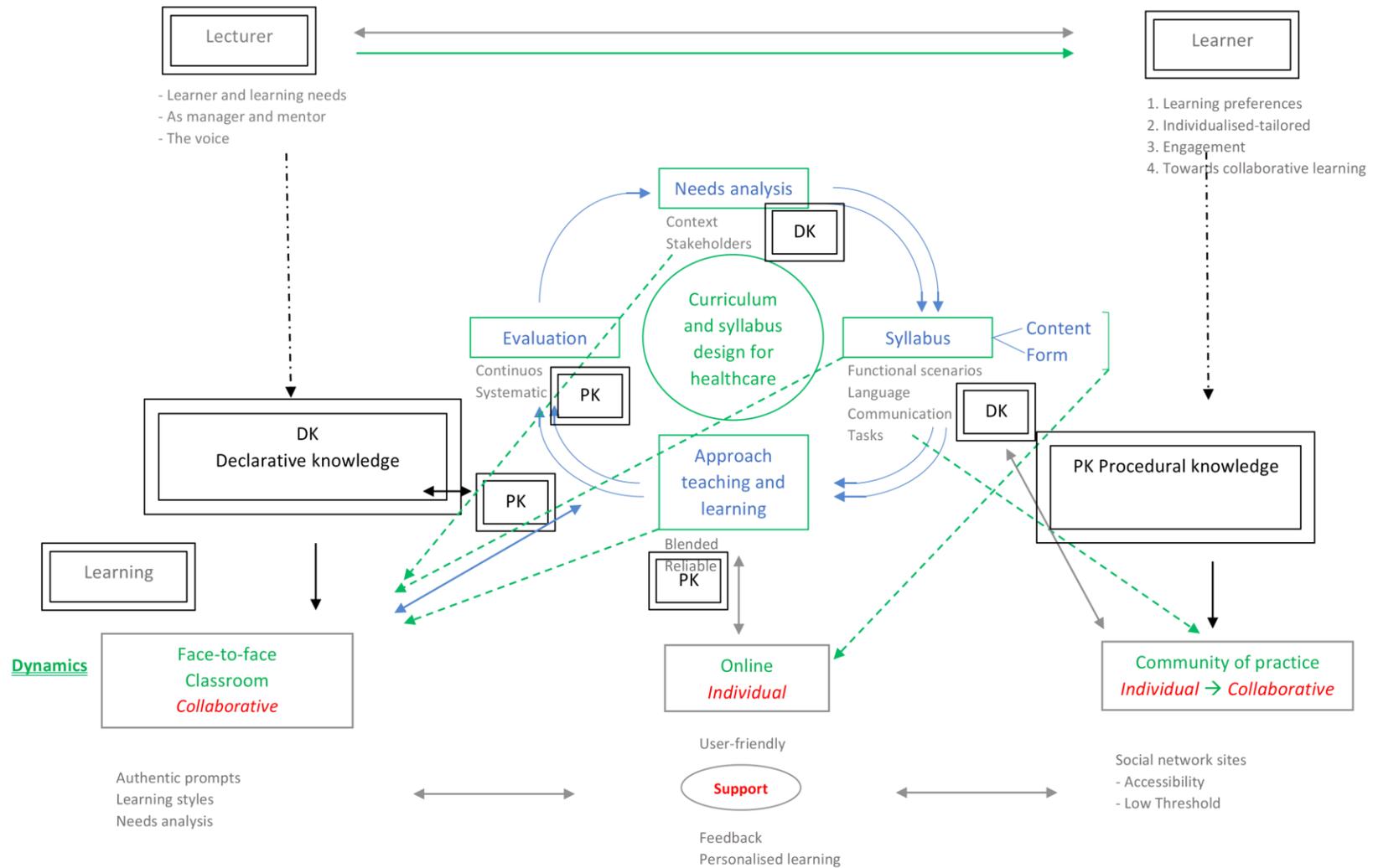


Figure 1: Reciprocity & responsibility in curriculum and syllabus design: Meta-metacognition and metacognition

### **6.2.5 Conclusion**

This final chapter endeavoured to provide a set of structured guidelines to support metacognition in a language for specific purposes environment – in this instance a communication training context for healthcare purposes. The guidelines can be utilised when designing a curriculum or syllabus, but also in the actual teaching/learning context of informed and inspired lecturers/teachers as well as learners. The purpose of these guidelines is to optimize communication training via blended learning by supporting the development of metacognition and in doing so, to attend to a variety of language learning needs conveyed by any group of second language learners.

## 7 Conclusion

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The non-sequentiality and variety of linguistic needs amongst any group of second language learners are often under-estimated by lecturers and teachers (De Bot, et al., 2007). By furthermore blending the familiar classroom with online learning platform/s, the linguistic needs of learners can seem scattered and beyond the teacher's scope and ability to address. However, within a healthcare communication training context the importance of officially addressing these linguistic needs remain paramount, because improved communication between patient and healthcare provided is linked to improved health outcomes for the patient and many healthcare students enter, soon after completing courses, positions where they have to accept responsibilities for the wellbeing of patients (Singh, et al., 2017; Thornton, et al., 2011; Buller & Buller, 1987; Stewart, 1995).

This thesis demonstrated how to optimise communication training for healthcare purposes, that takes place via a blended learning platform, by facilitating opportunities to enhance learner metacognition. Metacognition is known to improve learning outcomes independent of learner intelligence (Veenman, 2013). A popular term in educational psychology, metacognition is often seen as equivalent to a learner's ability to reflect on, or to become aware about aspects of learning. In agreement with Schraw (1998) and Veenman (2013) amongst others, this thesis highlighted that *metacognition* as a concept is only fully manifested when declarative knowledge or awareness about e.g. task demands, is implemented during task performance as procedural knowledge. In other words, metacognition simply as awareness or reflection (declarative knowledge), lacks validity, unless the skill to implement, for example a strategy, is demonstrated (procedural knowledge). (See Introduction and Part One).

Therefore, for any learning context to be able to enhance metacognition, both declarative and procedural knowledge should be supported. In order to do so, while – at the same time – addressing the complex issue of varied learner needs, this thesis suggests to offer learners communication training tasks based on a functional syllabus employed across different learning platforms. Within a blended learning context the tasks create the opportunity for learners to develop declarative and procedural knowledge in multiple ways, for instance awareness about pronunciation could be raised in class and systematically presented and trained via the online module, or awareness about politeness markers could be raised in discussions in class and via video-recordings online, while demonstrated and discussed from personal experience in written Facebook posts. (See Part One).

However, the results show that different sets of declarative and procedural knowledge, do not always complement each other; they can differ in often unpredictable–but dynamic–ways and demonstrate discrepancies about learner’s awareness, for instance about their own linguistic abilities and the proficiency that they demonstrate in class or via the Facebook group. With guidance from the teacher/coach/tutor, these contradictions and discrepancies between declarative and procedural knowledge can result in the learners’ deeper understanding of their own learning needs (see Part Three).

A significant finding arising from this study was the positive impact that the online Facebook community of practice had on metacognition. The transparent and accessible nature of all posts on Facebook groups turned out to be the ideal condition for educational prompts encouraging reflection and awareness. Furthermore, established online groups encourage collaboration amongst peers, which manifested as interaction, which is both the means and objective of the language learning process. By engaging in the different processes, learners gained experience and confidence, as well as opportunities to validate their identities in a second language.

These three fields (improved experience, confidence and validating identity) are significant aspects in the dynamic process to develop an identity (Ashmore et al., 2004; Pratt et al., 2006; Burford, 2012; Roberts, 2010), which shows how communication training can be combined with initiating processes to generate a sense of self and identity, as language and identity are interrelated (Joseph, 2004). In return, this identity formation process can contribute to the well-being of the healthcare professional (Van Bogaert, 2009; Pung & Goh, 2017).

The results also pointed at the reciprocal relationship between the teacher and learners in a blended learning context and that the learning process is not the sole responsibility of the teacher, but relies on the dynamic co-ownership of the process by the teacher and the learner. The teacher often has the role of a mentor who has to stimulate metacognitive awareness, while it is the learner's responsibility to engage in learning and to collaborate with peers and the teacher, for instance by providing and asking for feedback.

Within this dynamic context, where the learning and teaching process is co-owned by the teacher and learner and spread across different learning platforms, the needs of the learner as well as that of the teacher may change. Regular and on-going needs analyses should inform the teaching and learning process to facilitate the support needed. Examples of this process are provided in Part Two, which describes how senior medical students' need for medical vocabulary during ward visits were met with a personalised dictionary. This example agrees also with existing research that highlights the importance of real life clinical experiences to inform the communication training experience (Bombeke, et al., 2012) and highlights the reciprocal responsibility of both the teacher and learner in the communication training context. Another example explains how first year medical students' need to lower the threshold for online learning was addressed within a blended learning context. An example of how the teacher's needs can change from one blended

learning context to another, is discussed in Part Three where the impracticality of the teacher's Facebook group membership, was solved by presenting the teacher's voice in the instructions which learners received in the Facebook group.

This process of reflecting on needs and accordingly adjusting aspects of the syllabus is a significant principle underlying the constant unfolding of curriculum and syllabus design. In effect, the needs analysis can be seen as declarative knowledge (reflection and awareness) of the design process and the implementation of changes can be seen as procedural knowledge. As pointed out in the Introduction and Part One, this thesis placed curriculum and syllabus design within the realm of meta-metacognition where the declarative and procedural aspects are in a reciprocal relationship.

Accordingly, this thesis concluded with a set of guidelines and a taxonomy (see Part Four) that outlines how meta-metacognition can optimise the curriculum in a blended learning context. The roles and responsibilities of the teacher and learner, as the main stakeholders, are outlined against the backdrop of the three learning platforms, namely the classroom, the social networking environment as well as the autonomous online learning space. The hope is that these guidelines function as user-friendly support and motivate the community to optimise healthcare communication training courses by facilitating meta-metacognition and learner-metacognition. I hope that in the process the diverse and fluctuating needs of both curriculum design and the learner will be addressed with equally dynamic and proactive approaches embedded in metacognition.

As the purpose of this thesis was not to measure, but to explore the principles that support the optimisation of a communication training programme, the research conducted was mainly qualitative in nature. Consequently, the ensuing recommendations are for more quantitative and longitudinal research to explore

aspects mentioned in this thesis, such as specific linguistic support for the identity formation processes of healthcare professionals during communication training courses in (pre-)clinical environments, or to explore procedural knowledge by tracking the autonomous online behaviour of a large number of diverse healthcare professionals.



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