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PHD DISSERTATION

Raising health science students' terminological awareness with the aim of improving the effectiveness of healthcare communication in ELF contexts

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ABSTRACT

Current English for Specific Purposes (ESP) and thus English for Medical/Healthcare Purposes (EMP/EHP) practices fail to include the English for Lingua France (ELF) perspective when creating EMP/EHP materials, which would be paramount as most of the time healthcare providers who are NNSs of English engage in Medical English as a Lingua Franca (MELF) language use when they provide care to foreign patients. In line with this, it is proposed that needs analysis in EMP/EHP should be targeted at determining how the provision of quality patient care can be maximised in the challenging context of MELF communication.

To meet this aim, the literature regarding MELF communication is reviewed, to describe its characteristics, challenges, and the communication strategies used to negotiate the exchange of medical information. Additionally, after exploring how schemata govern the mental processes in MELF communication, it is proposed that terminological awareness (TA) is necessary for providers to effectively engage in MELF provider-patient communication as information exchange in healthcare communication is largely dependent on the use of medical terminology.

Accordingly, an empirical investigation was carried out with the help of two studies building on each other. The first study explored Hungarian healthcare providers' and their patients' experiences in MELF communication with the help of retrospective, qualitative interviews and open-ended, written surveys. Based on the findings of this investigation, a MELF-oriented, TA-focused EMP/EHP material was put forth with focus on the characteristics, challenges, and strategies healthcare providers need in order to function with TA. The second study tested the effectiveness of this material with the help of a qualitative quasi-experimental research design, comparing groups of Hungarian physiotherapy students and found that the number and diversity of MELF communication strategies and reflections on TA processes (i.e.,

exploitation, adaptation, and selection of medical terminology) in simulated MELF encounters show EMP/EHP learners' TA.

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LIST OF ABBREVIATIONS

EHP	English for Healthcare Purposes
ELF	English as a Lingua Franca
EMP	English for Medical Purposes
ESP	English for Specific Purposes
HCP	Healthcare Provider
MELF	Medical English as a Lingua Franca
NNS	Non-Native Speaker
NS	Native Speaker
PAT	Patient
RQ	Research Question
TA	Terminological Awareness
TC	Terminological Consciousness
TU	Terminological Unit
WHO	World Health Organization

1 INTRODUCTION

Healthcare communication is a complex issue that can take place between various healthcare professionals or between them and patients. Throughout, however, the main aim is to provide patient care and improve patient health outcomes (Van de Poel et al., 2013). Patients when seeking or requiring medical care meet a whole range of healthcare providers, for instance, doctors from different fields, nurses of all types, physiotherapists, midwives, paramedics, dietitians, pharmacists, and professionals in preventive medicine (e.g., health visitors, public health workers). Healthcare providers engage in communication with laypeople on various health issues, either providing information to or eliciting information from them. They take patients' medical history, provide information on certain conditions, explain procedures they perform on patients and also instruct them to cooperate during the procedures, give recommendations on healthy lifestyles, and provide mental support for patients, just to mention a few. Furthermore, in certain emergent scenarios healthcare professionals have to gain information from patients and sometimes patients' relatives in a very effective manner as time for talking with the patients is often very limited due to the patients' acute health conditions.

When attending to patients, providers must make sure that the care they provide is of appropriate quality. According to the WHO (World Health Organization, 2020), quality health services are effective, safe, people-centred (i.e., taking individual preferences, needs, and values into account), timely (i.e., without harmful delays), equitable (i.e., without discrimination), integrated well in the health system (i.e., coordinated and with access to all services available), and efficient in terms of utilizing resources. Nevertheless, several challenges may occur that can make it hard to ensure that patient care provided is at a quality level. Apart from issues that may emerge on systemic or financial levels, several communication problems may occur. Patients' personal traits and providers' attitudes toward them may also have a substantial

influence on how successfully quality care can be realised. Some patients may be taciturn, some talkative, and many of them may react emotionally or sometimes aggressively in physiologically or psychologically demanding situations such as bearing pain or getting bad news (Pilling, 2011; Van de Poel et al., 2013). Furthermore, patients may have personal problems, be in altered mental states (e.g., with dementia, developmental delays, limited intelligence, or under the influence of alcohol or drugs), may have impaired hearing or vision, or be victims of violence or trauma (Pilling, 2011; Van de Poel et al., 2013). Additionally, in many cases sensitive or taboo topics must be addressed, which can be even more challenging if the patient's family or friends are present at the provider-patient consultation (Pilling, 2011; Van de Poel et al., 2013).

All the challenges provider-patient encounters may pose must be addressed by healthcare providers, which entails that they must communicate in a way that quality patient care is ensured regardless of the challenges, i.e., in a way that both the provider and the patient perceive the communication to be successful. The success of communication largely relies on how participants convey the messages they wish to communicate (Frasier, 2016 based on Shannon & Weaver, 1949) and how they generate meaning by both sending messages and receiving feedback in an interactive manner (Schramm, 1997). Moreover, for provider-patient communication to be successful, as has been emphasised above, it is paramount that healthcare providers are capable of effective and appropriate communication in any circumstance, that is, in the shortest time possible with the greatest efficiency and in a person-centred and non-discriminative way. Since provider-patient communication is mainly realised via oral communicative interactions, i.e., the interlocutors engage in communication by speaking with each other, a great emphasis must be put on both verbal and nonverbal communicative behaviour, that is, how they express themselves, how they use language and nonverbal elements

(such as gestures or intonation) in their interactions. In other words, what they say and how they say it largely influence the outcomes of their encounters with patients, including the quality of the care, namely, health outcomes (King & Hoppe, 2013; Sharkiya, 2023), quality of life (Sharkiya, 2023), and patients' adherence (Zolnierek & Dimatteo, 2009) and compliance–i.e., the patient following the instructions of the healthcare provider, adhering to therapy in a way that it results in a lifestyle change.

The challenges are further complicated by a growing number of provider-patient communication taking place in international healthcare contexts, where in most cases English is selected as the mediating language by the interactants, as "the communicative medium of choice" (Seidlhofer, 2011, p.7), as a result of English having become a non-local means of global communication (Mauranen, 2018). In these encounters, interaction occurs either between native speakers of English (NS) and non-native speakers (NNS) or between NNSs whose shared language is English (Bosher & Stocker, 2015; Keresztes, 2009; Martin, 2015; Oliver, 2015; Sobane, 2015; Tweedie & Johnson, 2019). For instance, Hungarian healthcare providers may talk in English to patients whose first language is not English both in Hungary and abroad (Németh & Rébék-Nagy, 2015) as well as to patients whose mother tongue is English. Such use of English is considered communication in English as a Lingua Franca (ELF). This form of English language use in a healthcare setting was coined Medical English as a Lingua Franca (MELF) by Tweedie and Johnson (2018).

Since ELF and thus MELF communication involves people from various linguacultural backgrounds (Baker, 2018; Jenkins, 2015; Landmark et al., 2017; Mauranen, 2018; Pölzl & Seidlhofer, 2006; Seidlhofer, 2018), it can also pose further challenges for all interactants, as varying degrees of English proficiency and differing experiences in health and health care may

lead to misunderstandings or challenges in exchanging information (Sobane, 2015). In patient care, miscommunications can have a negative impact on providing safe and quality care, since language barriers can lead to limited access to quality health care, e.g., errors in diagnosis and treatment, insufficient understanding of patients' conditions and treatment options, medication mistakes, and reduced compliance (Deumert, 2010). The misunderstandings in MELF situations can also happen due to providers disregarding patients' health literacy, that is, how much they actually know about their health or medical conditions and physiological functioning (Schyve, 2007) or disregarding patients' beliefs and norms and relying on false assumptions (Martin, 2015).

The language barrier commonly present in MELF interactions is often rooted in the threefold nature of medical terms, that is, their cognitive, linguistic, and communicative components (Cabré, 2003). From the cognitive aspect, the meanings of terms may not be as fixed as one would assume, as can be seen in the observations of Cooke et al. (2000), who found that the term 'unconscious' can mean different things to people with different proficiencies of English. This example points out that even if a healthcare provider and a patient share the linguistic component of a medical term, in this case the word 'unconscious', it may activate a different cognitive component in their minds. Such mismatches do not make it possible for the term to reach the intended communicative goal, that is, to make meaning in the communication. When a larger difference in providers' and patients' cultural backgrounds is present, these misunderstandings can be graver, for instance, as Elderkin-Thompson, Silver, and Waitzkin (2001) point out, not understanding cultural metaphors used by the patients results in faulty interpretations of patients' complaints. In such circumstances, patients' 'yes' or 'no' responses are sometimes taken as signs of understanding, while in fact they are merely acts of politeness (Cass et al., 2002; Meeuwesen et al., 2007). Furthermore, all these uncertainties and extra

efforts in processing information lead to unnecessarily long provider-patient interactions (Ritala, 2022) and more tests ordered with the aim of compensating for the missing or uncertain information (not) provided by patients, which puts more strain on healthcare systems and result in unequal distribution of sources and facilities (Waxman and Levitt, 2000).

Since medical terminology is key in exchanging information in healthcare communication, providers must engage in interactions with their patients with a heightened focus on the medical terms they use in a particular encounter and how these terms are perceived and understood by their patients. In other words, healthcare providers must have awareness regarding the use of medical terminology and must consciously reflect on the terms used in provider-patient interactions. Awareness and conscious reflection regarding the use of terms are especially crucial in MELF communication where possibly a smaller extent of medical terminology is shared by the provider and the patient due to their differing linguacultural backgrounds, for instance, when a lay English term the provider assumes to be understood by the patient (e.g., *bowel*) may be unknown to the patient who would be familiar with the term *intestine* because that is the term used in their native language (e.g., *intestino* in Italian). Such mismatches of the provider's and the patient's medical terminology can largely reduce the effectiveness of MELF communication.

In order to ensure information exchange in MELF interactions, interlocutors tend to use a wide range of communication strategies to solve the problems emerging while negotiating meaning. The extended use of strategies is observable in any ELF communication (Jenkins, 2009) as well as in encounters where NNS of English are compensating for their limited knowledge of the language (Dörnyei & Scott, 1997). These communication strategies include checking comprehension, requesting confirmation and clarification, reformulating and

simplifying utterances, engaging in repetitions (Björkman, 2014; Cogo & House, 2018; Cogo & Pitzl, 2016; Kaur, 2011b; Ritala, 2022; Svennevig et al., 2019; Ting & Cogo, 2022). Moreover, interactants in MELF communication often work towards co-constructing meaning by using multilingual resources they assume to be shared (Cogo & House, 2018).

In line with the above, it is important that healthcare providers are prepared to cope with the challenges of MELF communication so that they can provide safe and equal quality care to any patient they meet. These needs must be reflected in English for Medical/Healthcare Purposes (EMP/EHP**)** classes where learning objectives and teaching methods need to be adapted in a way that EMP/EHP learners become capable of effectively communicating with patients from various linguacultural backgrounds, by adjusting their use of medical terminology in a way that it transmits information the most effectively possible. Accordingly, EMP/EHP teachers must be knowledgeable of what characterises MELF communication and the use of medical terminology in these encounters, what challenges healthcare providers face when using English medical terminology in MELF contexts, and what communication strategies can lead to effective and successful information exchange in MELF communication. Furthermore, EMP/EHP teachers must also have a solid methodological foundation for making decisions on how healthcare providers can be prepared for MELF interactions.

Henceforward, the focus of EMP/EHP research must be not only on the language produced in medical encounters but also on the relevant aspects of how language and medical terminology are used in MELF communication and what processes underlie this language use. In other words, pragmatic analyses of healthcare communication and MELF language use must be carried out and the findings must be implemented in EMP/EHP classes. Therefore, the findings of corpus-based discourse and conversation analyses that explore and describe the patterns of

healthcare communication products (e.g., Demjén, 2020; Huang & Yu, 2023) can serve as studies pointing at the problems and challenges of language use in health care, but EMP/EHP teachers must be careful not to translate the conclusions of such descriptive studies to prescriptions on language use but, rather, to raise learners' awareness of how language use can influence the outcome of provider-patient encounters. EMP/EHP teachers must keep in mind that their students must prepare for MELF communication, which may require increased negotiation and problem-solving in order to exchange vital medical information with the help of terminology, and, accordingly, EMP/EHP classes must provide learners with opportunities to engage in tasks where they can refine their communication strategies while coping with the challenges of MELF language use.

Concerning the use of medical terminology, its embeddedness in communication must be emphasised and EMP/EHP learners must be provided with a wider range of terminology than technical and semi-technical terms in the field of medicine (e.g., Nguyen Le & Miller, 2020, 2023) so that their communication with patients can be enhanced and that they have a broad selection of phrases that can be used to express various pieces of information to be communicated to patients. In this vein, medical terminology should be considered a means of communication, a tool that can be used in any possible way to reach one's communicative goals, that is, in provider-patient communication the provision of quality care, and EMP/EHP classes should provide opportunities to raise awareness of the various ways of using medical terminology and to gain practice in making conscious decisions on how to use terms in the most effective manner possible.

Consequently, mainstream EMP/EHP approaches focussing on language as a product of communication (Ferguson, 2013) must be revisited, and novel ways of teaching and learning

EMP/EHP must be found that shift the limelight to the processes governing healthcare providers' language use and use of medical terminology. Therefore, this PhD dissertation aims to explore encounters between healthcare providers and their patients in MELF contexts, with a specific focus on what challenges Hungarian healthcare providers face when they engage in MELF communication, especially with regard to their use of medical terminology–the main vehicle of information in healthcare communication. In addition, the ways of coping with these challenges, that is, the strategies used by both Hungarian healthcare providers and foreign patients in Hungarian healthcare contexts are to be described, and a proposition is made on how healthcare providers who are NNSs of English can be prepared to face the challenges of MELF communication with the help of improving their conscious use of terminology and thus their awareness regarding appropriate use of medical terms, within the framework of EMP/EHP classes.

In order to understand the processes underlying the conscious use of medical terminology in MELF provider-patient encounters, first the theoretical underpinnings of MELF communication and the development and assessment of terminological awareness are explored along with the argument on how these processes should be included in EMP/EHP class materials (Chapter 2). In addition, since MELF communication is a relatively new field of study and the data on MELF provider-patient interactions are scarce, the first part of the empirical investigation of this dissertation focuses on the processes that realise effective and successful MELF provider-patient communication based on qualitative data from retrospective accounts of Hungarian healthcare providers and foreign patients in Hungary with a focus on the use of medical terminology (Section 4.2). Building on the findings and the theoretical underpinnings, the requirements for a MELF-oriented EMP/EHP material developing terminological awareness are presented. The second part of the empirical investigation gives an account of the

application of such a material in a Hungarian EMP/EHP classroom. In addition, an assessment tool for terminological awareness is proposed and validated. With the help of a qualitative quasi-experimental method and using the assessment tool, the effectiveness of developing terminological awareness with the MELF-oriented material is tested (Section 4.3).

Since the main goal of this PhD work is to provide EMP/EHP teachers with insights into how they can include the ELF aspect in their everyday classroom practice, after the empirical results are outlined and discussed, the dissertation terminates in the formulation of the implications for language pedagogy (Chapter 5). In this way, the dissertation wishes to fill a niche in EMP/EHP practice by offering a MELF-oriented methodological framework that can be used as a basis for creating EMP/EHP materials which focus on developing and improving the mental processes governing terminological awareness necessary for effective MELF provider-patient communication.

2 THEORETICAL BACKGROUND

EMP/EHP practices are embedded in the broader context of ESP, which is being transformed due to a growing number of English specialised communication taking place in ELF contexts. In line with this, the foci of EMP/EHP research and classroom practice are presented by pointing to the need for a MELF-oriented language pedagogy approach. Accordingly, the processes of MELF communication are explored, with a focus on the challenges in MELF provider-patient interactions and the communication strategies applied to tackle these challenges–showing that terminological awareness is necessary for effectiveness in these interactions. Finally, the mental processes underlying terminological awareness are described and propositions are made on how the development and assessment of terminological awareness can be realised in MELF-oriented EMP/EHP classroom practice.

2.1 Foci of EMP/EHP research and its applications

EMP/EHP being a branch of ESP (Ferguson, 2013), in this section, first, the key concepts and processes of ESP are described, which is followed by reviewing the literature on EMP/EHP with a special focus on the Hungarian context, outlining the benefits and shortcomings of the findings in terms of EMP/EHP learning and teaching.

2.1.1 ESP

Research and classroom practice in EMP/EHP mainly build on general ESP concepts and approaches. According to Paltridge and Starfield (2013), “ESP refers to the teaching and learning of English as a second or foreign language where the goal of the learners is to use English in a particular domain” (p.23). The emphasis on particularity in ESP naturally leads to the necessity of a needs analysis, which determines what should be the focus of ESP classes, which has been the core practice in ESP since its proposition by Hutchinson and Waters (1987).

Dudley-Evans and St John (1998) underlined that the needs analysis should be concerned with what activities ESP learners need to or will have to carry out in their professional lives and that learners need to become capable of manipulating the registers, genres, and language associated with the identified target activities. These approaches still prevail in ESP practices, as it is reflected in one of the latest definitions of ESP:

> ESP is an approach to language teaching that targets the current and/or future academic or occupational needs of learners, focuses on the necessary language, genres, and skills to address these needs, and assists learners in meeting these needs through the use of general and/or discipline-specific teaching materials and methods. (Anthony, 2018, pp.10-11).

The language necessary for ESP learners' purposes is included in ESP classes by focusing on the linguistic patterns, the registers of language use, the vocabulary and grammar characteristic of a particular communicative situation (Halliday, 1978, 1989) learners need for their professional purposes and on the typical patterns or norms of language in the professional discourse community (e.g., healthcare professionals) of the learners. Accordingly, learners are expected to acquire the language (i.e., vocabulary and grammar) and norms of language use necessary for performing in the necessary genres (Anthony, 2018).

Genres refer to classes of communicative events within a discourse community and with the same communicative purposes (Swales, 1990), for example, a medical encounter with the aim of diagnosing a patient. As Swales (1990, p.58) defined it,

> a genre comprises a class of communicative events, the members of which share some set of communicative purposes. These purposes are recognized by the expert members of the parent discourse community, and thereby constitute a rationale for the genre. This rationale

shapes the schematic structure of the discourse and influences and constrains the choice of content and style.

ESP research and classroom practice are largely dependent on genres as they are considered language products that members of the discourse community must be able to perform (Anthony, 2018; Paltridge & Starfield, 2013). Discourse communities are determined based on their common goals and use communication to achieve these goals (Borg, 2003) and have six main characteristics according to Swales (1990): 1) an agreed set of common goals; 2) participatory mechanisms; 3) information exchange between the members; 4) community-specific genres; 5) a specialised terminology; and 6) a standard of knowledge needed for membership.

In the analyses of genres, discourse, and registers, corpora of language products are used (Nesi, 2013) to explore and describe the patterns of language and language use. Register analysis provides descriptions of the sentence structures and typical features of the language in terms of vocabulary by sorting words and phrases into general, semi-technical, and technical categories (Nation, 2001). Genre and discourse analyses are concerned with how discourse is created while interlocutors are working together toward reaching their communicative purposes and what structural and stylistic features are characteristic of a particular genre (Bhatia, 1993).

2.1.2 EMP/EHP learners' needs

As been argued above, the focus point of developing ESP and thus EMP/EHP materials is carrying out a needs analysis on what learners need to know and what skills they need to obtain in order to be able to use English in various target situations, for specific purposes, such as when communicating with patients (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987; Paltridge & Starfield, 2013). Therefore, EMP/EHP researchers or teachers usually try to identify possible target situations, either simply by asking their learners in what communicative

situations they need to function in English, or by carrying out more meticulous investigations to map communication in a specific field such as health care (Salager-Meyer, 2014a, 2014b). Furthermore, language use in certain target situations is commonly explored, either by relying on learners' experience in their profession, or by scientifically analysing real-life interactions and describing what is said and how (e.g., Rébék-Nagy, 2008; Szalacsek, 2007, 2009; Szántóné Csongor & Warta, 2014).

Analyses of medical communication are focused on capturing patterns of language use. The most common form of analysis in the field of medical communication is conversation analysis (Gotti, 2005), which is used to describe primarily doctor-patient or nurse-patient interactions (e.g., Ainsworth-Vaughn, 1998; Deppermann & Spranz-Fogasy, 2011; Heritage & Robinson, 2006; Hood-Medland et al., 2021; Robinson & Heritage, 2005, 2006; Robinson, Tate, & Heritage, 2016). The focus is on the overall structure of the interaction, the moves and sequences in the structure, and the designs of individual turns (Heritage & Maynard, 2006). These analyses include how providers and patients co-construct the interaction and can offer a descriptive account of the social and communicative aspects of the conversations, such as how certain wordings of questions can influence what and how much patients share with their providers (Deppermann & Spranz-Fogasy, 2012; Robinson, Tate, & Heritage, 2016) and how asymmetrical doctor-patient relations can be due to a larger percentage of questions raised by the doctor (e.g., Ainsworth-Vaughn, 2001; Ibrahim, 2001). The findings of such investigations can inform EMP/EHP teachers about how language use influences the communicative outcomes of medical encounters and thus they can raise their learners' awareness of the effects of language use.

Another common form of linguistic investigations in EMP/EHP research is register analysis (Dorgeloh, 2016; Halliday, Matthiessen, & Matthiessen 2004; Szántóné Csongor, Rébék-Nagy, & Hambuchné Kőhalmi, 2012), which looks at what textual variations may occur in certain discourses and genres and thus can only provide snapshot-like accounts of language use in the past (Widdowson, 2012). These analyses can offer insight into what the common forms of language use are in certain genres, but the individual variation among users of English cannot be grasped using this method. Therefore, the results of such analyses may serve EMP/EHP teachers as resources or samples of language use that can be shown to learners as possible ways of communicating, but these past occurrences of language use should not be presented as products necessarily to be mimicked.

2.1.3 Implementing research findings in the EMP/EHP classroom

Although a large number of linguistic analyses are carried out on medical encounters, only a small range of studies provide accounts of how the findings of these analyses should or could be implemented in EMP/EHP classroom practice. Furthermore, even those studies that aim to aid EMP/EHP classroom practice tend to have their shortcomings–as will be presented in the present section.

Compiling the most commonly occurring collocations (i.e. high-frequency words) in certain genres (Coxhead 2000, 2013; Lei and Liu, 2016; Nesi, 2013; Yang, 2015; Wang, Liang, and Ge, 2008) and listing technical and semi-technical terms in the field of medicine (e.g., Nguyen Le & Miller, 2020, 2023) with the help of corpus analysis can only provide us with a list of vocabulary that healthcare providers may need, but it is impossible to predict what each healthcare provider may find relevant in a specific communicative situation. As Widdowson (2012) argues, the results of corpus linguistics describe only an abstract version of reality, the

linguistic forms manifested in communication without their communicative functions intended. Thus, it is almost impossible to foretell what vocabulary should be taught to a group of healthcare providers in EMP/EHP classes. Nevertheless, the vocabulary lists created based on corpus analysis can be used as sources to formulate certain tasks for EMP/EHP classes such as vocabulary building, but it should not be presumed that the vocabulary healthcare providers may use in the future can be grasped and predicted.

Another vital aspect of EMP/EHP teaching is that the learners it wishes to prepare for future communication in English are NNSs. Thus, when language accounts of NSs are taken under scrutiny and displayed as language common in a specific field, such as health care, an EMP/EHP teacher may easily fall into the trap of presenting past NS language use as an idealised language product to be mastered and used in the future by NNSs. Analyses describing how doctor-patient interactions are characterised by metaphoric language such as 'medicine is war'; 'our body is a machine' (e.g., Salager-Meyer, 1990) or present findings that show that euphemisms are common in connection with taboo or sensitive topics (Ferguson, 2013) cannot be generalised for all medical encounters. Furthermore, it can be seen that there is a tendency to compare NNS language products to NSs' norms of language use, emphasising the shortcomings of NNS language use (e.g., Dahm, 2011; Hoekje, 2007; Jain & Krieger, 2011; Martin, 2015; Wette and Hawken 2016). In fact, as Widdowson (1994, 2003, 2015) and many other scholars (e.g., Hutton, 2010; Kirkpatrick, 2014) underline, English cannot be considered the property of native speakers, but all users of English are its owners. Larsen-Freeman (2019) also warns that no single use of a language should be "universally privileged" (p. 55). Therefore, EMP/EHP learners should be encouraged to use English to reach their communicative goals in any way they find effective instead of mimicking NS language use at all costs.

In addition, as Lesznyák (2004), Keresztes (2009), and Németh et al. (2018) stress, the intercultural aspect (i.e., people from different cultures communicating in English) of specialised communication must be included in classes and learners' own language and culture should be respected. However, NNS teachers, although aware of the lingua franca status of English, still tend to take NS norms as a reference and fail to empower their students to own the language (Bayyurt et al., 2019; Illés & Csizér, 2015). Furthermore, as Widdowson (2015) and Illés (2020) point out, teachers must also be conscious of not looking at ELF uses as varieties of English having set norms to be followed, similarly to NS norms, but how English is used–instead of what English is used–in ELF interactions must be the starting point for analysis. In other words, "the ability to accommodate to interlocutors with other first languages than one's own (regardless of whether the results is an 'error' in ENL) is a far more important skill than the ability to imitate the English of a native speaker" (Jenkins, 2007, p. 238).

The classroom practices that put communication in focus have the tendency to emphasise general communication skills and competencies a healthcare provider must possess, such as empathic and assertive communication and active listening (Eklics et al., 2019, 2024; Eklics, Fekete, & Szalai-Szolcsányi, 2023; Takács & Czar, 2021) and report that learners engaging in simulated provider-patient interactions gain confidence in professional communication by the constant feedback they receive from the simulated patients and instructors (Fekete, 2023; Fekete et al., 2023; Fekete & Eklics, 2020). Although these communication trainings focus on how learners take part in medical encounters on their own terms, their key aim is to provide medical students with opportunities to practise provider-patient communication in their mother tongue (e.g., Hungarian) or, in the case of international students, in English, which is the language of instruction of these students' medical programmes.

Practices where a multicultural classroom setting is created highlight the importance of medical students learning from one another, raising their awareness of intercultural differences (Németh et al., 2018). Hild et al. (2021) also found that Hungarian EMP learners' motivation increased when a multicultural setting was created by involving students from international programmes of medicine at the university. Such classroom environments, where EMP/EHP learners engage in simulated provider-patient communication with NNS users of English is a beneficial approach to including the MELF approach in EMP/EHP classroom practice, but a more systematic framework would be required for effectively developing strategies that help MELF communication be successful.

Studies presenting classroom settings where general communication skills and intercultural aspects of medical encounters are the focus tend to report students' motivations and attitudes such as asking them how important they find empathising with the simulated patient (e.g., Takács & Czar, 2021). The only form of assessment these studies give an account of is providing feedback to the students (Fekete, 2023; Fekete & Eklics, 2020), but the measures taken to assess the effectiveness of these practices are rarely reported. Exceptions are the studies by Fekete et al. (2023) who tested how emergency care providers' confidence in interpersonal communication changed after a short, two-session intervention and that of Bakó and Marshall (2023) which looked at changes in learners' intercultural communication practices including instances of language use (e.g., to what extent learners' showed consciousness of the challenges and were ready to adapt their language use so that the patient could understand it). Nevertheless, without systematic pre- and post-testing of a well-defined assessment framework, which looks at not only communication skills but also how EMP/EHP learners use their language resources, especially English in MELF encounters, learners' development cannot be claimed to have taken place.

Although the number of EMP/EHP studies is scarce, as Johnson and Tweedie (2024) conclude, and the publications in the field only show a thin slice of daily EMP/EHP classroom practice, it can be seen that the major foci of EMP/EHP research and practice lack the ELF aspect of healthcare communication.

2.1.4 ELF

In today's world, where the use of English is not limited to certain English-speaking countries but has taken on the role of a lingua franca, a contact language interlocutors use to communicate with each other (Jenkins, 2016; Mauranen, 2018) and which dominates communication globally (Graddol, 2006). Most approaches to ELF emphasise that any interaction in English that involves NNSs of English must be considered ELF communication, even if NSs are taking part in the interaction (Seidlhofer, 2004, 2011; Jenkins 2007; Mauranen 2012), which premise assumes that it is the use of the language and not the participants that determine the norms of the communication. Since ELF is about language use, it is considered a "communicative mode or situation, rather than a linguistic system" (Hall, 2018, p. 74). In other words, ELF "is not a variety of English but a variable way of using it" (Seidlhofer, 2011, p. 77).

In ELF communication, due to the increased chance for the interlocutors' linguacultural backgrounds to differ (Baker, 2018; Jenkins, 2015; Landmark et al., 2017; Mauranen, 2018; Pölzl & Seidlhofer, 2006; Seidlhofer, 2018) and their shared knowledge of the world to differ (Widdowson, 2007), there is an increased need for negotiation of meaning (Canagarajah, 2007; Pölzl & Seidlhofer, 2006), leading to the patterns or norms exhibiting increased fluidity (Cogo, 2012; Jenkins, 2015), which are thus less easy to capture as they are created in the process of communication (Seidlhofer, 2011). Language use may not necessarily comply with NS norms

but shows diversity and unpredictability (Kimura & Canagarajah, 2018) and interlocutors may develop their own genres and communicative styles for the time of the conversation (House, 2010).

Accordingly, without a fixed set of norms of language use and patterns of communication, it would be hard to talk about a discourse community in ELF specialised communication. Rather, a group of professionals such as healthcare providers should be considered a community of practice, a group of people "who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger, n.d.). Similarly to discourse communities, communities of practice are domain-specific, engage in joint activities, share information, and have shared resources and practices (Wenger, n.d.), but the conventions of such communities are less predictable than the norms of a discourse community in a NS environment due to their geographical unboundedness (Wenger, n.d.).

Therefore, EMP/EHP research and practice must take into account that EMP/EHP learners need to prepare for MELF communication, where no language product can be specified, and accordingly, the processes necessary to engage in ELF encounters must be the focus (Illés, 2020).

2.1.5 Towards a MELF-focused EMP/EHP practice

When the aim of EMP/EHP classes is to prepare learners for provider-patient communication in MELF contexts, applying general ESP practices that focus on learners' language products may create several challenges. Determining target future situations where EMP/EHP learners need to communicate with patients in English cannot take the context for granted, as they can take place anywhere in the world and the provider can meet patients of all sorts with different language backgrounds, with various accents or proficiency levels, and with

diverse levels of knowledge of medicine and medical terminology (Tweedie & Johnson, 2022). Furthermore, the patterns of these interactions are also less predictable, as the patients can have greatly different expectations of how the provider-patient interaction should go (Van de Poel et al., 2013).

In line with the above, instead of focusing on predicting and describing the patterns of language and language use in MELF encounters, the processes underlying healthcare providers' ways of using English in MELF interactions must be explored as negotiation of meaning is a key ability learners need to possess. Therefore, methodological solutions must be outlined that look at EMP/EHP learners as users (Illés, 2020) of English who engage on their own terms in MELF interactions and that develop and improve these users' capability of MELF language use.

Regarding the language necessary in MELF provider-patient interactions, the role of medical terminology must be underlined as exchange of information is tightly connected to the use of medical terms. However, it must be underlined that EMP/EHP learners' knowledge of medical terminology should not be considered a list of high-frequency words found in corpora, but be used as a tool, a resource to draw on while engaging in MELF encounters and learners' awareness of how these terms can be used to make meaning should be raised. In other words, instead of expecting EMP/EHP learners to use medical terminology similar to NSs of English and assessing the use of terms as a language product, the processes governing healthcare providers' choices of medical terms in MELF communication should be the focus.

2.2 MELF communication

MELF communication is fundamentally intercultural healthcare communication where English is used as the main choice of medium. Therefore, the aims of MELF communication

align with the aim of healthcare communication, which is providing quality care in an effective, person-centred, safe, timely, and non-discriminative manner (WHO, 2020). However, due to the increased chance for negotiation in (M)ELF encounters (Canagarajah, 2007; Pölzl & Seidlhofer, 2006), the consciousness of language use must also be increased, so that language barriers and differences in cultural backgrounds do not lead to unsafe, delayed, and non-equitable care. Therefore, MELF communication can only be considered successful and effective if quality patient care is realised in any circumstance regardless of whether the provider or the patient, or both of them, are NNSs of English and choose English as the contact language in the medical encounter (Graddol, 2006; Jenkins, 2016).

2.2.1 Characteristics of healthcare communication

In any healthcare communication, both the patient's and the provider's safety are paramount (Hull, 2022) and in MELF communication extra efforts are allocated to achieve it (Tweedie and Johnson, 2018). As Bagheri et al. (2015) found, an increased level of goal-orientedness and less small talk can be observed in clinical consultations in a multicultural setting. This entails that healthcare providers' attention in MELF communication is almost exclusively focused on the exchange of crucial medical information, which may result in a loss of certain relevant details that can emerge during an interaction where more non-medical talk is conducted. Non-medical talk and a more personal touch to healthcare encounters can ensure that the communication is not only about giving the patient sufficient information but also about expressing support and providing hope (van Servellen, 2009). As Pilling (2011, p. 59) highlights, the "use of the proper communication skills can increase patient satisfaction and compliance, which results in increased effectiveness of treatment". Thus, for the patient to feel safe and secure besides getting proper medical care, providers must use language consciously.

The ultimate goal of medical encounters is "to improve the patient's health and medical care" (Ha & Longnecker, 2010, p.38), and healthcare communication can be considered effective if it leads "to more knowledgeable patients" (Wright et al., 2013, p. 37) (i.e., it promotes health literacy in order to empower patients in understanding health-related information (Johnson et al., 2022)) and results in "shared understanding" (Van de Poel et al., 2013, p. 86) (i.e., what the patient understands and expects is in harmony with the healthcare provider's views of the patient's health condition (Van de Poel et al., 2013)). The reason why transmission of information has a highlighted role in healthcare communication lies in a feature unique to provider-patient communication: while the provider is a member of a community of practice and is knowledgeable in the concepts of medicine, patients are usually outsiders to this community and in need of explanations of medical concepts. The extent to which the provider can introduce the concepts to a patient gravely affects the effectiveness of information transmission and thus the effectiveness of care. As Tweedie and Johnson (2022) underline, several studies report that effective communication contributes to better patient outcomes (e.g., Benner et al., 2008; Lee et al., 2013; Meterko et al., 2010; Mustafa et al., 2013; Shoenthaler et al., 2009). Similarly, ineffective communication has been found to delay treatment, lead to misdiagnosis, result in medication errors and patient injury, or even death (Foronda et al., 2016).

In patient-centred quality care (Binnie & Titchen, 1999; Pilling, 2011; Shaller, 2007; Van de Poel et al., 2013; Van Servellen, 2009; Wright et al., 2013), patients should be first and foremost treated as individuals with respect and providers should avoid stereotypes on all levels such as gender, age, social status, or even substance dependence. Although most of the time cultural differences are emphasised when talking about communication between a healthcare provider and a patient who have different linguacultural backgrounds (Rose, 2013; Spector, 2013; Van de Poel et al., 2013; van Servellen, 2009), any communication can be called

intercultural to a certain extent and the inherent differences in the background knowledge and medical language use of a healthcare provider and the patient make medical encounters intercultural even if the interlocutors share a mother tongue (Koppán et al., 2019). Therefore, instead of merely possessing knowledge about health conceptions of the cultural groups the healthcare provider meets–as Spector (2013) suggests, patients should be first and foremost treated as "individuals rather than as representatives of a cultural group" (Van de Poel et al. 2013, p. 8). No matter who the patients are and where they come from, they meet a healthcare provider with certain ideas, concerns, and expectations about the care they seek (Van de Poel et al., 2013) and providers must be prepared to be open to these expectations.

Healthcare providers, thus, must actively listen to patients' individual needs and use facilitative skills (e.g., nonverbal and verbal encouragement, echoing, paraphrasing), directive skills (e.g., asking questions, asking for clarifications, sharing reasons for actions), and structuring skills (e.g., timing or highlighting the information, summarising) which all transmit to patients that the healthcare providers are paying attention and understand them (Johnson et al., 2022; Van de Poel et al., 2013). Moreover, adapting language in healthcare communication is of utmost importance, since "talk is the main ingredient of health (medical) care. It is the fundamental way in which the provider-patient relationship takes form and the fundamental instrument by which therapeutic goals are achieved" (van Servellen, 2009, p. 83). Therefore, finding the appropriate language at every point of communication is crucial for effective provision of care. Van de Poel et al. (2013) describe appropriate language as "understandable, respectful, and honest" (p. 35). By understandable they mean simple (i.e., jargon-free) and recognisable words that the patient can interpret. They also add that ambiguities should be avoided. Respectful language is in part demonstrating active attention besides using descriptive (i.e., non-judgemental) expressions. Furthermore, honesty must be highlighted in these

interactions, as there are numerous occasions when it is a challenge for providers to be completely truthful about a diagnosis, treatment options, or prognosis.

In addition, providers must devote special attention to displaying nonverbal behaviour which matches and supports verbal communication, otherwise, the patient's trust in them may be undermined, for example, if a serious message is delivered with a less serious or smiling face. Gaining patients' trust early on in the medical encounter has been found to be crucial for the communicative situation and for patient care to be successful, especially in more difficult conversations (Silverman et al., 2013; Sehouli, 2020; Wong & Wong, 2022). In line with this, nonverbal communication, similarly to verbal communication, should always be adapted to the patient's expectations. This implies that healthcare providers should be successful in "decoding nonverbal cues from patients, such as confusion, expression of pain, fear, anxiety, physical sensitivity toward touch, and discomfort" (Wright et al., 2013, p. 35). In conclusion, it can be claimed that communication with patients requires a high level of consciousness on the part of the healthcare provider. Since "[m]uch of how we communicate is automatic and unconscious" (Van de Poel et al., 2013, p. 4), finding the appropriate verbal and nonverbal language in healthcare communication can only be achieved by communicating with the patient's needs in mind.

2.2.2 The processes underlying MELF communication

The very complex nature of provider-patient communication involving focus on information exchange to reach a shared understanding of the medical issue, building trust by actively listening to the patient and thus providing quality patient care puts language use in the limelight. Particularly so, when English is used as a lingua franca in medical encounters. The nature of MELF communication can very well be more flexible and creative than

communication between NSs of English (e.g., Pitzl, 2012, 2018), as constant adaptation may be present while the healthcare provider and the patient find their shared knowledge of the language and the world. This entails that the norms of language use cannot be predicted, but rather "ad hoc, pro tem norms" (Seidlhofer, 2011, p. 18) are characteristic of the discourse in MELF contexts; that is, it is the interlocutors, the provider and the patient who work out the norms for the communicative situation they engage in.

Norms are created based on previous experience (Eysenck, 2012; Widdowson, 2012) and they can ensure that communication is economical with time and effort and is thus effective and successful. In MELF communication, the temporary norms of language use are therefore heavily influenced by what preconceptions the provider and the patient have about the communicative situation (ideational schemata) (Widdowson, 2004, 2007). Ideational schemata provide the frame of reference; that is, a "customary and predictable way of seeing things" (Widdowson, 2007, p.130) and focus the communicator's attention. This means that patients may have largely different ideational schemata about a communicative situation with a healthcare provider than what the provider may assume based on their own ideational schemata and thus they have to work out norms of communication for the time of their interaction in order to make the communicative situation effective and successful for both of them.

Beside relying on past experiences, schemata are also exploited to gain ideas on what to expect (Widdowson, 1983). Both the provider and the patient bring their own values and beliefs into the environment (Baird & Baird, 2018; Heist & Torok, 2020; Hull, 2022; Verma et al., 2016). Ideational schemata have an effect on what role to take in the interaction, how to behave, how much to talk, what to share, what language to use to express themselves, what structure to follow while engaging in communication, etc. These expectations regarding interactions are the

interpersonal schemata (Widdowson, 2004, 2007). Consequently, the provider's and the patient's interpersonal schemata are affected by their ideational schemata; that is, their previous experiences have an enormous role in what the possible ways of communicative behaviour are and how to engage in communication. When people engage in communication, they do it with pretextual assumptions (Widdowson, 2004) regarding the communicative goals to be achieved– in other words, they have a set of assumptions, a pretext of what their interlocutors' communicative goals can be in the situation and what communicative goals they can and want to achieve. For healthcare providers, this aim is usually to get as much information from the patients as possible to provide them with the care they need. Providers gain information with the routines of asking questions from patients based on what the providers learnt and experienced to be working well with patients. Similarly, patients usually have the communicative aim to share some information with the provider so that they can get help for their medical problem and based on their assumptions on what is relevant with regards to their medical problem, they share their way of seeing their problem. Nevertheless, it can be assumed that many patients have different views on what counts as relevant information to share with the provider compared to what the providers find relevant.

In MELF communication, the more the interactants' linguacultural backgrounds differ, the higher the chance is for their ideational and interpersonal schemata to be different and thus what they assume to be the norm of behaviour and language use in a medical encounter is likely to differ as well. Conceptions of health and illness can be culturally bound, which can also have an impact on a person's help-seeking behaviour (Lovering, 2006; Molina & Kasper, 2019). It is possible that the patient may come from a culture where people are reserved about their medical problems and find it hard to talk about them. For example, in certain cultures, people do not talk about their pain (Fles et al., 2017; Rassool, 2015; Lovering, 2006). If such patients

meet providers who have gained experience in cultures where people openly share their problems, the providers may not get all relevant information from the patients with their routine questioning methods as they may not even assume that there is more to the problem than what the patients are sharing. Accordingly, MELF interactions require both the provider and the patient to be open to each other's ways of thinking and be more adaptive in order to compensate for their differences, but the main responsibility lies in the healthcare provider's hands.

The aim of the compensation must be to find a common ground, the framework for their interaction; that is, the ideational and interpersonal schemata that are shared among them (Widdowson, 2007). The less shared understanding the provider and the patient have of the medical encounter, the more adaptation of perspectives and communicative behaviour must be necessary for the interaction to go smoothly with the least possible effort. The healthcare provider must be open to exploring the patient's schemata in order to find ways of adjusting language use and communicative behaviour that help interact with the patient the most effectively and successfully possible.

2.2.3 The use of medical terminology in MELF communication

Using language effectively in MELF encounters can involve any form of creative and flexible use of language resources. Therefore, healthcare providers must be prepared to use English in a non-conventional manner since they have to discover their patients' language use and estimate how they can adapt their own language use to their patients' so that they find a common language to communicate with. This entails that sticking to norms such as not using Latin medical terms while talking to a patient may hinder communication in certain encounters. When NNSs (and NSs) engage in communication in ELF, the context of their communicative situation is inherently multilingual (Jenkins, 2015; Mauranen, 2018; Seidlhofer, 2018) and

intercultural (Baker, 2018). Accordingly, when interlocutors communicate, they rely not only on their knowledge of English, but on all the experiences they have in their mother tongue (L1) or other languages they are familiar with, as well as on their experiences in communication of any sort. Furthermore, providers must anticipate differences in nonverbal communication as well (Sobane, 2015; Tweedie & Johnson, 2018); thus, they need to actively listen to what their patients mean and elicit as much verbal information as possible in order to make sure they understand patients' gestures.

Most of the verbal information in healthcare communication is encoded into terminological units, TUs (Cabré, 2003; Faber, 2012) that are mental structures or schemata, which can be examined from three aspects: (1) cognitive; i.e., the concept to which it refers, (2) linguistic; i.e., the denomination, the word itself, and (3) communicative; i.e., what connotations the term carries when used in a communicative situation (Cabré, 2003; Faber, 2012; Fóris, 2005, 2012, 2013). In communication, when the linguistic denomination of a term is used in an utterance, both the speaker using the term and the interlocutor(s) have an idea, a concept, a cognitive frame of schemata in their minds activated by the utterance of the denomination, they link connotations or emotions to the term, drawing conclusions on its level of formality or appropriateness (Cabré, 2003). Accordingly, the chance for a TU to be interpreted exactly the same way by both the provider and the patient is scarce, if not impossible. The cognitive, linguistic, and communicative values of TUs must be worked out in their interaction. With high probability, the provider and the patient have different TUs activated by the particular medical encounter as their ideational schemata offer different pre-selection of TUs, and based on their interpersonal schemata, they can have a different assumption as to what TUs should be used in order to appropriately engage in the communication.

Medical terminology is characterised by an extensive use of Latin and Greek words, which is typical not only in English but in many other languages as well, such as Hungarian or other European languages. The terms that have a Latin or Greek origin usually mark the more formal register, used primarily by the professionals in the medical communities of practice. If a concept denominated by the term is widely understood by laypeople as well, it usually has another general equivalent used in the informal register, mainly in the vernacular–for example, 'tibia' (formal) and 'shinbone' (informal). However, in some cases, the Latin or Greek terms are spread among laypeople, and they might not even have an informal equivalent at all, for example, 'appendicitis' in English, which can be explained as 'an inflammation of the appendix, which is the worm-shaped pouch attached to the cecum, the beginning of the large intestine' (Gale Encyclopedia of Medicine, 2008). In such cases, most NSs are familiar with the term itself as no short English informal term is used to denominate the concept. On the other hand, whether there is a vernacular equivalent for a Latin or Greek term depends on the language. As for 'appendicitis', for example, Hungarian has the term 'vakbélgyulladás' while healthcare professionals mainly use 'appendicitis'. In MELF communication, the healthcare provider must anticipate that the use of formal or informal denominations may be different in the patient's language use. As Seidlhofer (2011) explains, "in the case of ELF we are looking at variable usage more in terms of registers" (p. 86, original emphasis). For example, when talking to a French patient, a Hungarian provider may assume that the laic patient will not understand a Latin term, like 'tibia' and decide to use the term 'shinbone' instead. In this case, it is likely that the French patient would not understand the word, unless they are very well-versed in English. The lack of understanding then would probably make the provider start pointing at the patient's or their own leg, or maybe an X-ray, etc., while the simple solution of trying to say 'shinbone or tibia' at the first attempt might have led to instant understanding, as in French only

the word ‘tibia’ is used to denominate the concept. This sort of phenomenon is the most common in Romance languages (Ruiz Rosendo, 2008). Another example of this is when healthcare providers need to decide whether they use the Latin ‘uterus’ or its informal English equivalent ‘womb’, and they select ‘womb’ assuming that the patient will be familiar with it. In fact, for a patient with a Romance L1, ‘uterus’ would activate the necessary conceptual framework with a higher probability because, for example, the word exists as ‘utérus’ in French, ‘utero’ in Italian, and ‘útero’ in Spanish. Although in these languages there is another denomination as well (French: ‘matrice’, Italian: ‘grembo’, Spanish: ‘matriz’), they are used almost interchangeably with the Latinate one (Google Translate, frequency indices, 2018). Furthermore, as Ruiz Rosendo (2008) explains, most of the time Spanish lacks “term-coupling” (p. 242) that is common in English medical language. She lists a few examples, like the English doublet ‘coagulation’-‘clotting’, which is used in Spanish only as ‘coagulación’. Therefore, if a healthcare provider assumes that a Latin or Greek term may be known by the patient coming from a different linguacultural background, the use of terms could be negotiated easier and faster, leading to effective ELF communication in health care.

Even if the patient is familiar with the denomination used by the provider and identifies nearly the same concept as the provider, to make sure that the pragmatic value the patient attaches to the term does not influence the communicative goal of the interaction negatively is the hardest task for the provider. Emotions, for instance, which the patient may connect to certain medical conditions, can be a factor that can lead the communication in a very different way than was intended by the provider. For example, a mother whose appendix perforated due to a late-diagnosed appendicitis as a child and spent weeks in the hospital fighting off a severe infection might react with a high level of anxiety if she is told that her 3-year-old son has appendicitis, which then would influence her perception, leading to misunderstandings and thus

less successful interaction with the provider. This situation indicates that one single term can immensely influence the mental constructs of interlocutors if the term bears high relevance for some reason. Therefore, the healthcare provider must be conscious of not only the actual meaning of a medical term and whether the information was conveyed but also of its communicative effects on the patient.

In conclusion, healthcare providers must be prepared for variable ways of using English when engaging in MELF encounters and for a constant adaptation of their medical terminology in order to ensure a smooth flow of information while interacting with their patients in English. Providers must always make decisions on their use of medical terminology with regard to the patients' linguistic, cognitive, and communicative expectations.

2.3 Challenges in MELF communication

In healthcare communication conveying information precisely is critical, providers must follow certain protocols while adhering to legal frameworks and working under time pressure (Tweedie & Johnson, 2022). All these circumstances contribute to the ritualised and almost prescribed manner of medical encounters (Bigi & Rossi, 2020), which can be both aids and impediments to effective and successful MELF communication. As Martin (2015) points out, the "highly structured and predictable routines" (p. 2) that dominate provider-patient consultations in contexts where the participants share the mother tongue and the national culture are well researched, but less is known about situations where the patient comes from a linguacultural background different from that of the provider. If we take a look at the studies focussing on communication where non-native speakers of English (NNSs) are involved, it can be clearly seen that a large portion of these studies describe the difficulties and limitations of

such conversations due to the patients' limited English (e.g., Roberts et al., 2005), to culture-related communication problems (e.g., Schouten & Meeuwesen, 2006), or to ambiguity in the speakers' utterances and a lack of world knowledge (e.g., Kaur 2011a).

These challenges can be observed in various environments, for instance, a study on Finnish nurses' experiences found that when communicating with patients in English, nurses are unsure whether patients understand everything and providing care to foreign patients requires extra effort and time (Ritala, 2022). Similarly, studies focussing on providers working in English-speaking countries find that both verbal and nonverbal communication is challenging, which is often exaggerated by expatriate providers' limited experience in the country's healthcare system and culture (Dahm, 2011; Hoekje, 2007; Martin, 2015; Michalski et al., 2017; Triscott et al., 2016; Wette & Hawken, 2016). They cannot necessarily rely on the structured routines and patterns they are used to when meeting patients with linguacultural backgrounds similar to their own. This means that healthcare providers can expect to move out of their comfort zones, leave their routine behaviour behind, and break free from the patterns that normally help them automatically keep communication with their patients going.

2.3.1 The challenge of increased adaptation

The increased need for stepping out of pattern-driven behaviour also means an increased amount of adaptation. In MELF communication, as has been elaborated above, the healthcare provider must constantly adapt their perspectives on the medical encounter based on the patient's background knowledge about the particular medical condition and the healthcare situation and the patient's language proficiency and knowledge of medical terminology.

Patterns, otherwise referred to as schemata, are dynamically organised mental structures, which help us function with the optimal minimum effort (Kahneman, 2011). They are constantly created and re-organised by our everyday experiences, resulting in a continuous refinement of our perceptions, knowledge, and coping mechanisms. In every moment, schemata filter the world for us, which, on the one hand, enables us to function with the least effort optimal in a certain situation, while, on the other hand, they select only those elements of situations for us that are found to be relevant based on our previous experiences (Eysenck, 2012; Larsen-Freeman, 2012).

In communication, schemata determine what is considered routine communicative behaviour, what is expected to be as normal, and what elements of the communicative situation are conceived as relevant in trying to understand others or deciding what language to use to make ourselves understood (Eysenck, 2012; Widdowson, 2003, 2004, 2007). In healthcare communication, the healthcare provider's schemata filter the information about the patients; that is, providers rely on their previous experiences and have presumptions about the patients' expectations, beliefs, concepts, and knowledge. These presumptions affect the provider's communicative behaviour: how much they talk, what information they share, and how they word their utterances. As has been elaborated above, the filtering and creation of preconceptions are ruled by ideational schemata, the communicative behaviour by interpersonal schemata (Widdowson, 2007).

In situations where healthcare providers can follow their routines, ideational and interpersonal schemata ensure that communication flows smoothly, with cognitive ease. Language is used with automatic awareness (Tőrey, 2014), the schemata filter information to suppress ambiguity and to create coherent stories for the mind, so that communication with the

patient could be realised with little or no effort (Kahneman, 2011). This automaticity is operated by online, pattern-driven mental processes, which are constantly checked and either supported or, in case of incoherent information input, interrupted by the offline response mechanism of the mind, consciousness (Tőrey, 2014). If consciousness finds anything in the communication that is not coherent with previous experience, the mind allocates more focus, i.e., cognitive effort to realising communication by finding non-routine solutions, so that functioning could be channelled back to less energy-consuming automatic mental processes (Goleman, 2013; Kahneman, 2011; Tőrey, 2014).

As has been discussed earlier, the main aim of specialised communication is to transmit information. For a healthcare provider assessing the shared knowledge with the patient may be a considerable challenge. For example, when giving the diagnosis of urocystitis to the patient, the provider must explore whether the term 'urocystitis' is familiar to the patient or not. If not, will 'urinary tract infection' or rather 'bladder infection' be an understandable term for the patient, or will a lengthier explanation be needed? If indeed a longer description is necessary, how lengthy should it be and what words should be used? Saying 'problems with urination due to bacteria' or 'you have bacteria in your pee, which causes you the pain' is better?–These questions may arise in communication between NSs in any language as well. The central concern here is what denomination will activate the relevant frame, the relevant schema in the patient's mind, the frame that the healthcare provider aims to evoke in order to have a shared understanding of the concept. In MELF communication, where not only the healthcare-related conceptual schemata of the interlocutors must be adjusted and negotiated, but also common linguistic resources are to be worked out, the healthcare provider must devote increased cognitive effort to reach a mutual understanding with the patient. Pretextual assumptions must be fine-tuned according to the proceedings of the communicative situation. The patient's frames

of reference, their schemata, must be explored with active listening, and language use must be adapted accordingly, with special care for terms that carry information in healthcare communication.

2.3.2 The need for extra efforts and time

The non-routine ways of engaging in MELF communication in order to reach common grounds in language use and in the patient's care, to establish a shared understanding of the communicative situation (Cogo and House, 2017), create the necessity of conscious negotiation (Canagarajah, 2007; Pölzl & Seidlhofer, 2006), with less reliance on automatic behaviour, resulting in a "higher degree of dynamism" (Illés, 2020, p.107). This also means that more cognitive effort (Goleman, 2013; Kahneman, 2011) is required from the healthcare provider compared to healthcare situations where the provider and the patient share a linguacultural background. Furthermore, it must also be considered that stepping out of everyday, pattern-driven routines and coping with the challenges of MELF may not come naturally as providers must have a readiness to change, putting an extra psychological demand on them (Bakó & Marshall, 2020).

Under such circumstances, which are filled with cognitive and psychological challenges, the mind has to keep moving the focus from one activity to the other, from the provision of medical care to the negotiation of meaning, since the mind can allocate conscious effort to one mental process, to one activity at a time (Kahneman, 2011). Accordingly, the communication may easily turn slower as the provider's mental resources get more focused on language use, on getting information across, and on negotiating meaning; thus, the risk of allocating less conscious focus to the actual medical care may increase, which may also lengthen the time required for providing care.

Allocating extra time and effort to cultural and linguistic adaptation in MELF encounters to ensure safe, person-centred, and equitable care can endanger other aspects of quality patient care, such as effectiveness, timeliness, and efficiency of utilising resources. Accordingly, healthcare providers must be conscious of these dangers and engage in the use of strategies that ensure an automatic yet effective way of communicating with patients of any linguacultural background.

2.4 Strategies in MELF communication

ELF and therefore MELF communication is characterised by extensive use of communication strategies (Björkman, 2014; Cogo & House, 2018; Cogo & Pitzl, 2016; Jenkins, 2009; Kaur, 2011b), which do not only address challenges by compensating for limited language proficiency but also enhance the co-construction of meaning (Seidlhofer, 2011; Vettorel, 2018). Communication strategies are defined as "communicative devices that speakers rely on to negotiate and construct meaning in interaction, which contribute to effective and successful communication" (Kaur, 2022, p. 36). In line with this, Tweedie and Johnson (2022) also conclude that the use of strategies in medical encounters is vital in realising successful MELF communication by ensuring understanding and they warn that non- and misunderstandings lead to "dire consequences for the safety of patients" (Tweedie & Johnson, 2022, p.113). Svennevig et al. (2019), analysing simulated emergency calls involving NNSs of English, also underline that the use of communication strategies results in fewer misunderstandings.

Raising explicitness as a form of pre-empting misunderstanding is widely applied in ELF communication, the main forms of which are asking for clarification and confirmation, using

discourse markers, paraphrasing and reformulating, simplifying language, using plurilingual resources, and repetition with the aim of achieving mutual understanding (Caprario, 2023). Adaptation of language use in MELF encounters has been reported by Finnish nurses (Ritala, 2022), who expressed that they accommodate the language they use with their patients in order to increase understanding, which is mainly realised with the help of simplifying medical terminology. Lexical simplification and reformulation were observed to lead to successful emergency communication as well (Svennevig et al., 2019). Similarly, explicitation with the help of left-dislocation of key information and decomposition of longer instructions to smaller chunks were found to increase the successfulness of emergency calls (Svennevig et al., 2019).

Repetition has been reported to be a common and important strategy used in MELF interactions (Ritala, 2022; Ting & Cogo, 2022; Tweedie & Johson, 2022). Nevertheless, it must be noted that repetition can be used with various functions. Other-repetition is a form of confirmation of understanding (Ting & Cogo, 2022), a way the provider expresses active listening (Tweedie & Johson, 2022). In addition, Ting and Cogo (2022) also noticed a large number of repetitions not only by the provider but by the patients as well while they were mutually contributing to make meaning clearer. These repetitions included both verbal and nonverbal information, especially to help describe patients' symptoms or conditions (Ting & Cogo, 2022), where nonverbal repetition mainly included the patient replicating gestures the doctor used to make their message more explicit.

In nurse-patient MELF interactions, Tweedie and Johnson (2022) found further forms of raising explicitness, all pointing toward the crucial role of precise information exchange in medical encounters. Patient-initiated repair of information regarding the types and dosage of medications was observed when the nurse seemed to misunderstand and disregard a piece of

vital information. Similarly, the nurse used the pre-emptive strategy of spelling out numbers (e.g., 'Forty. Four zero.' Tweedie & Johson, 2022, p.25) in order to reduce or eliminate the chance of misunderstanding.

Finding a common ground has been reported to be initiated by the healthcare providers, as they were relying on their biomedical knowledge to assume their patients' medical problems and symptoms and formulated questions in a way that they included the key lay medical terms so that their foreigner patients could have the vocabulary to talk about their complaints (Mori & Shima, 2014). Similarly, constant reaffirmation of medical terms (e.g., mucus, phlegm) can be observed in the conversation of a Japanese doctor with a patient from Ghana in Japan, both in the form of making sure they mean the same concept by the two terms and by adding Japanese equivalents (Mori & Shima, 2014).

Besides compensatory strategies aimed at solving challenges due to language difficulties, large amounts of information can be gained from nonverbal cues, such as the use of gestures (Ting & Cogo, 2022), looking at patients' visible symptoms or measurable parameters. These are equally important in making meaning (Blommaert, 2010; Canagarajah, 2018), and in MELF encounters, they must often be heavily relied on as in healthcare communication an "exceptional level of communicative precision" (Tweedie and Johnson, 2019, p.6) is necessary since many times patient's lives and their quality of life is at risk (Tweedie & Johnson, 2022). Nevertheless, as Hull (2022) warns, certain gestures must be used with caution in healthcare contexts as they may be misinterpreted as easily as verbal utterances.

Taguchi and Ishihara (2018) emphasise that a great variety of communication strategies is necessary to reach mutual understanding in ELF communication. As has been found in the studies exploring the use of strategies in MELF encounters, the key focus of strategic language

use is to exchange medical information, such as the patient's symptoms, prior and present conditions, forms and dosages of medications by raising explicitness, expressing confirmations, relying on nonverbal cues and measurable parameters, and finding a common ground by explicitating the main medical terms or using simplified language to express medical concepts in the particular healthcare encounter.

2.5 Terminological awareness in MELF communication

Using a wide range of communication strategies in order to enhance the exchange of information in MELF encounters must be as automatic as possible so that conscious efforts can be dedicated to providing quality patient care. Therefore, all the adaptations of language use, medical terms, and the perspectives on the provider-patient interaction must be carried out with ease, in a flexible manner, without unnecessarily lengthening the time of the medical encounter. Accordingly, healthcare providers' pattern-driven, automatic functioning–i.e., awareness (Tőrey, 2014)–must be refined in a way that it finds efficient solutions to almost any challenge faced in MELF communication. In line with this, the language in medical encounters, consisting of a large number of TUs (terminological units), must be produced with cognitive ease and consciousness in the negotiation of TU use be minimised. For this, the provider's ideational and interpersonal schemata must be flexible so that language resources can be exploited intuitively and creatively (Kahneman, 2011).

2.5.1 Need for flexibility and creativity

Ensuring that healthcare providers engage in flexible language use when communicating with patients in English can be challenging since their schemata, their preconceptions and attitudes toward the English language can be rather rigid. For instance, Situmorang and Sembel (2019) found that although nursing students can be aware of the lingua franca use of English or

know about the varieties of English, their inflexibility can be noticed when they express that they prefer to study a standard, NS variety of English in EMP/EHP classes. Similarly, NNS teachers tend not to let go of using NS norms as a reference (Bayyurt et al., 2019; Illés & Csizér, 2015). Furthermore, healthcare students and providers can already have certain experiences in health care characterised by fixed preconceptions and rituals, since their attempts to be acknowledged by the community of healthcare professionals may mean that they need to adopt practices that do not include openness to alternative communicative solutions. For this reason, EMP/EHP students can easily have a resistance to change (Bakó & Marshall, 2020) and thus their EMP/EHP teachers must find ways to make their students' schemata flexible.

As schemata are formed and shaped by experiences (Eysenck, 2012; Widdowson, 2012) and "it is in the using that you learn" (Larsen-Freeman, 2007, p. 783), it is of utmost importance that EMP/EHP learners are provided with the opportunity of meeting several different communicative challenges characteristic of MELF interactions and that they are motivated to find optimal solutions to the discrepancies they come across. They need to be challenged to break free from any rigid pattern of communicative behaviour or language use and to freely employ various communicative strategies and put their verbal and nonverbal resources to use in order to exchange information with their patients and create an environment supportive of safe and quality patient care, where both the provider and the patient feel comfortable.

The flexibility necessary for effective MELF communication can be achieved only if EMP/EHP classroom activities provide students with challenges that must be creatively solved (Keresztes, 2009) while engaging in the process of making meaning (Illés & Akcan, 2017). This entails that learners use language in the classroom as they would be and are using it in real life, i.e., in out-of-classroom encounters (Illés, 2001, 2020), in other words, use language *as*

communication (Widdowson, 1978, 1979, 1983) rather than preparing for communication with native speakers.

(M)ELF interactions display a high degree of adaptation and blending English innovatively and creatively to co-construct meaning with their interlocutors (Cogo, 2012; Pitzl, 2018), which results in "the creation of new (i.e. non-codified) linguistic forms and expressions in ongoing interaction/discourse or the use of existing forms and expressions in a non-conventional way" (Pitzl, 2012, p.37). At the same time, as De Bono (2015) argues, creativity can be conceptualised as the "habit of pausing and putting in the effort to find a new idea" (p.20) and he emphasises that it is possible to develop creativity with deliberate techniques. This less intuitive kind of creativity is termed *serious creativity* or *lateral thinking* (De Bono, 2015), which involves broadening perceptions and breaking free from patterns deliberately. Such creative behaviour requires motivation, a "willingness to stop and look at things" (De Bono, 2015, p. 78). Thus, it can be stated that it is possible to be creative under cognitive strain as well, but willingness and therefore motivation are necessary for this conscious creativity. Such creativity is, in fact, a way of problem solving when the discrepancy perceived is not approached with a routine solution but with creative thinking. In order to develop such a deliberate form of creativity, the flexibility of learners' schemata must be increased in order to ensure creative language use; that is, a more creative exploitation of possible language solutions and their adaptation to the needs of the communicative situation.

2.5.2 The complex dynamic nature of schemata

Complex dynamic systems are characterised by a large number of interacting elements ensuring non-linear emergence of complex interconnectedness as well as internal re-organisation through interaction with the environment (Barabási, 2012; Larsen-Freeman,

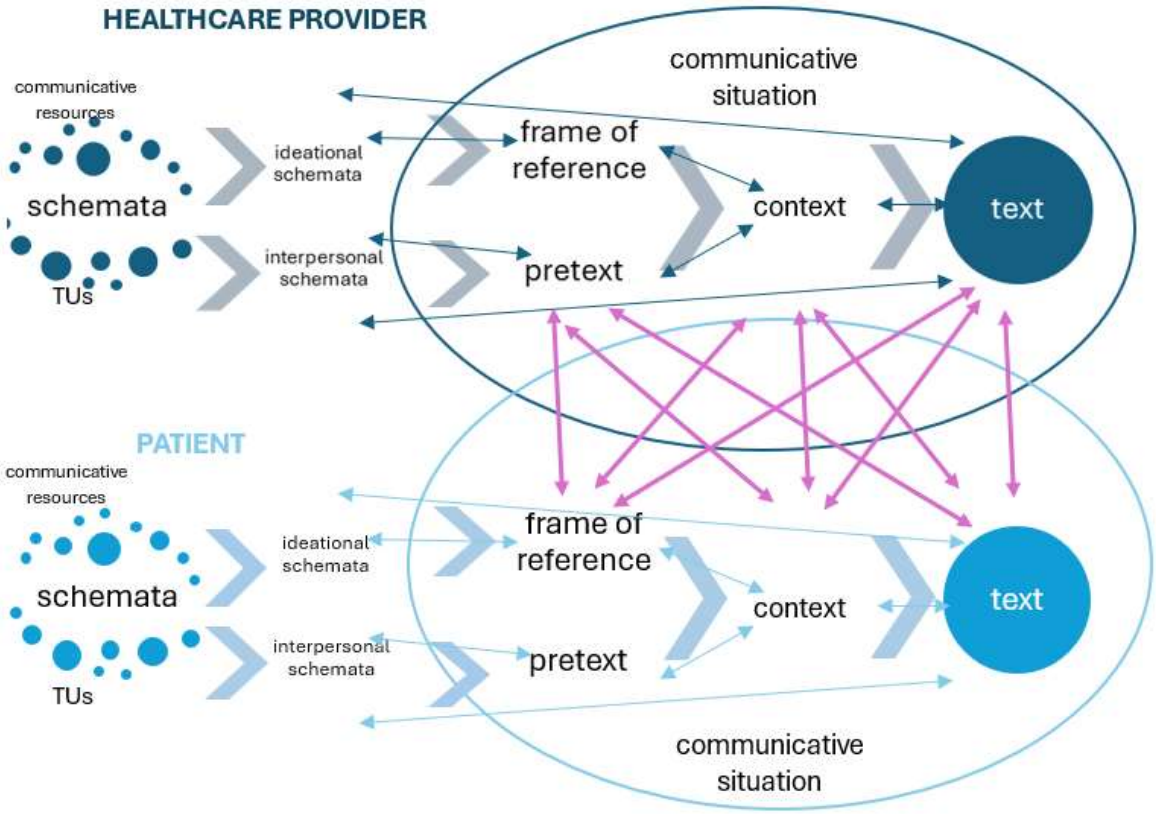
2012). Schemata are inherently dynamic as they continuously reorganise and get modified in interactions based on the feedback coming from the situation (Widdowson, 1984; Wildfeuer & Pollaroli, 2018), but the extent to which reorganisation and modification happen is largely influenced by the nature and frequency of challenges met in the interactions. Since (M)ELF communication exhibits an increased number of challenges, simulating MELF interactions in class naturally offers opportunities for modifying schemata and thus preparing learners for language use outside the classroom.

The dynamic nature of MELF language use means that no idealised norms of language use can be followed and TUs are not considered to have set communicative values (e.g., terms do not necessarily belong to a particular register), but all language resources and communicative patterns (e.g., ways of engaging in the interaction) are creatively used as tools in order to exchange information and realise an optimal environment for quality patient care. In practice, this entails that it is vital that EMP/EHP learners develop a wide range of language solutions for communicating a medical concept, be it a type of pain, an anatomical structure, or the disease of an organ. Furthermore, since the schematic mental representations of language and TUs are formed by experience, by using them on several occasions and, to make them flexible, using them in various new environments must be made possible to increase the number of their elements and their connections in the system. Accordingly, learners' language solutions must be recycled in as many contexts as possible in order to make sure that their minds link several language solutions to each concept they may need in communication with their patients. Such a complex and dynamic system of TUs can increase the chance of finding an optimal solution to a challenge faced in MELF interactions.

When people enter a communicative situation, based on their previous experiences certain schemata are activated in their minds, creating the context, i.e., the schematic, mental representation of the situation (Widdowson, 2004). This mental context creates a filter on the communicative situation, inherently determining how the person engages in the communication. The ideational schemata activated by the communicative situation determine the frames of reference; that is, the preconceptions about what is possible and typical in that communicative situation, which then further focus their attention on the proceedings. The interpersonal schemata activated determine the pretext; that is, the pretextual assumptions on what communicative goals and language use the interlocutors may have and how they may engage in the interaction (Widdowson, 2004). Therefore, the appropriateness of language use, of text produced in the communicative situation, and the success of communication are highly dependent on the extent ideational schemata are exploited and the extent interpersonal schemata are adjusted to the interlocutors' needs. See Figure 1.

Figure 1

The complex dynamicity of provider-patient communication.



The complex dynamicity of communication lies in the constant interaction between the texts produced at each turn and the schemata of the interlocutors, refining the context in their minds turn by turn (Widdowson, 1984; Wildfeuer & Pollaroli, 2018). For example, based on the terms selected by the patient, the provider's frames of reference and pretextual assumptions keep changing to adjust their own terms in a way that the patient can understand them. Then, based on feedback from the patient, either by seeing that the patient replies in a coherent manner or realising that the patient has misunderstood something, the provider's reflection on their own texts produced or terms used further shapes their schemata and thus the mental representation of the communicative situation. (See Figure 1.) The more flexible providers' schemata are, the

more possible texts they can produce, or, in other words, the better they can exploit their schemata, the better they can adjust their language use to enhance the effectiveness and success of their communication with their patients.

2.5.3 Terminological awareness (TA) and terminological consciousness (TC)

The capability necessary for exploiting schemata for communication is a "procedural ability" (Widdowson, 1983–although at this point referred to as "capacity", p.41), a tool for solving problems in communication (Seidlhofer, 2011) either with automatic adjustment, or with more conscious selection of language and communicative resources. This procedural ability relies on mental structures (Illés, 2020) responsible for processing the information offered by ideational and interpersonal schemata (Widdowson, 1984). As has been described above, the two mechanisms of the human mind are (1) awareness, an online automatic processing of information with the help of schemata, and (2) consciousness, the offline reflective mode, which is mobilised when the automatic processing with awareness fails to provide a coherent interpretation of the information. The characteristic features of these two mental mechanisms are presented in Table 1 based on Goleman (2013), Kahneman (2011), and Tőrey (2014).

Table 1
The characteristics of the two mental mechanisms of the human mind.

AWARENESS	CONSCIOUSNESS
schematising, pattern recognition	reflecting on unexpected, out-of-pattern
on-line, automatic	off-line, activated with cognitive strain
quick	slow
little or no effort, cognitive ease	effortful, cognitive strain
involuntary attention, scanning	voluntary attention, focusing
prone to mistakes	accurate

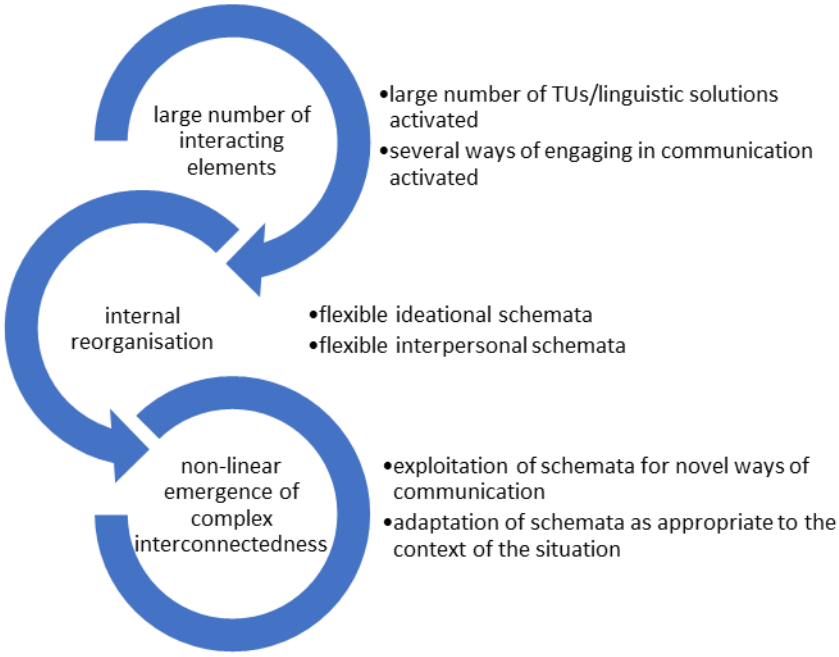
Terminological awareness (TA) is thus a mental state where schemata automatically offer specialised language use that is appropriate in a particular communicative situation. It ensures that terms are selected with cognitive ease based on intuitive assumptions, letting the user of the language creatively exploit mental resources. Since this mental state is a function based on schemata, experiences in specialised language use enhance it continuously. In order for language users to develop schemata that ease communication, they must possess an openness to alternative perspectives that allow for the modification of their schemata. Alternative perspectives require consciousness, as cognitive strain and voluntary attention are necessary to break free from the patterns that schemata offer.

Terminological consciousness (TC) is then an alert mental state where the mind works with a reflective mode in order to find alternative uses of specialised language for establishing appropriateness in a particular communicative situation. TC is turned on when the mind finds a discrepancy between expectations and the actual effect of language use, for example, when the interlocutor does not seem to understand the term used. In these instances, the language user must move "sideways across the patterns" (De Bono, 2015, p. 32); that is, look at the situation from an alternative perspective, with lateral thinking, with serious creativity (De Bono, 2015). Such creativity requires a pause in proceedings and a reflective mental state to be able to understand and solve the discrepancy perceived. Schön (1983) emphasises that when someone "becomes aware of his (sic) frames, he also becomes aware of the possibility of alternative ways of framing the reality" (p. 310). Although Schön (1983) uses the adjective 'aware', it is evident that it refers to consciousness as defined in this present dissertation; that is, a reflexive way of looking at and exploring one's own schemata. Therefore, it is a prerequisite for TC to function that the language users are conscious of their frames or schemata affecting their selection of terminology in communication.

Accordingly, the two fundamental processes of TA are the exploitation of ideational schemata–i.e., the communicative and linguistic knowledge and the adaptation of interpersonal schemata–i.e., the ways of engaging in communication. In TA, the exploitation of ideational schemata entails that alternative communicative and linguistic solutions are found with a flexible frame of reference, while the adaptation of interpersonal schemata means that broadened perspectives and alternative pretexts, or pretextual assumptions, determine what language use can be considered appropriate in a communicative situation. The effortless functioning of these two mental processes can be realised if the schemata ruling them are capable of increased dynamism, a large number of interacting elements, i.e., a large number of TUs or linguistic solutions, are available for use, and several ways of engaging in communication with various strategies using the TUs are possible. Such a flexible set of schemata per se accelerates the improvement of TC and thus TA, as every time the elements of this complex dynamic system are activated, internal reorganisation of the schemata happens, further enhancing flexibility and non-linear emergence of complex interconnectedness of the elements (c.f. Barabási, 2012; Larsen-Freeman, 2012). See Figure 2.

Figure 2

The complex dynamicity of schemata in TA.



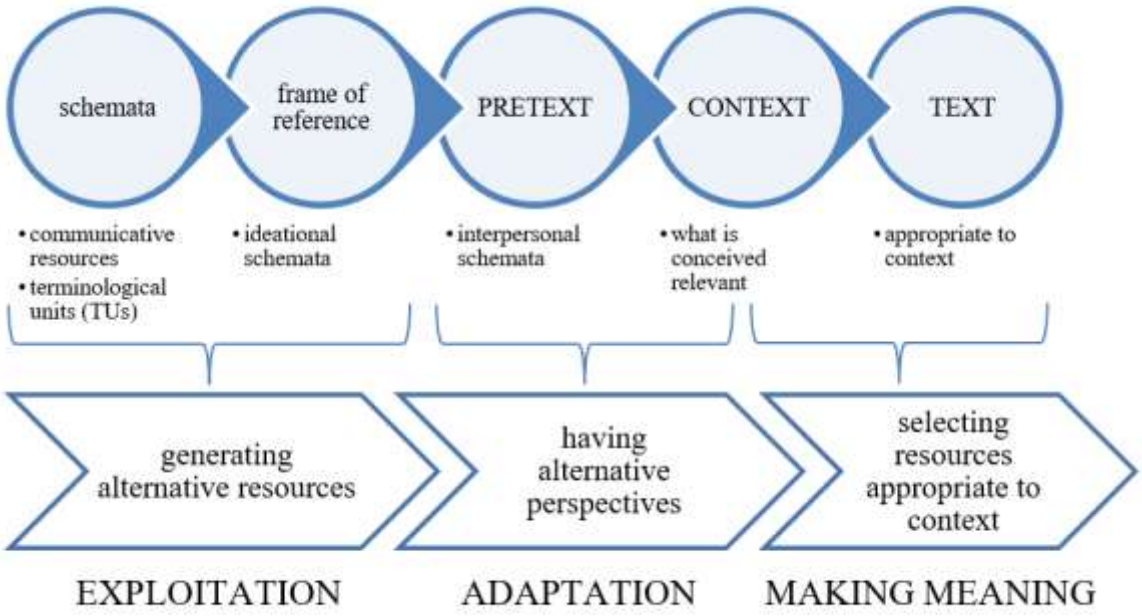
With increased dynamicity of schemata, TA can ensure an automatically appropriate language use and thus make communication effortless. First, it can generate alternative communicative and linguistic resources (TUs) while exploiting ideational schemata, which results in a flexible frame of reference instead of heavily relying on rigid patterns or preconceptions of a medical encounter. Secondly, it can offer alternative perspectives by activating several possible ways of engaging in communication, laying the ground for the flexible adaptation of interpersonal schemata, instead of adhering to a rigid pretext (set of assumptions) on what can be appropriate in the communicative situation. Thirdly, since flexible schemata ensure openness to the interlocutors and that providers can perceive what is relevant for their patients, e.g., what language resources (TUs) are shared among them, TA can automatically adjust linguistic and communicative resources to the temporary norms worked out together with the interlocutors. (See Figure 2.) To provide an example, when the provider

wants to tell the patient the diagnosis of urinary tract infection, (1) the provider should have several TUs to express this, such as UTI, urocystitis, urinary bladder infection, urinary vesicle infection, bladder problem, or even “pee bag problem”; (2) the patient’s language use and cultural values (e.g., to what extent it is a taboo talking about bodily fluids) should be monitored; (3) that linguistic solution (TU) should be used first which is assumed to be most probably understood and accepted by the patient.

The complexity of the functioning of TA lies in the constant interaction between the feedback from the communicative situation and the provider’s mental representation of the situation and is based on three main processes governing language use: generating alternative solutions by exploiting the complexity of schemata, adapting these schemata among various alternative perspectives, and selecting TUs in a way that they are deemed appropriate to the context by the provider. These three processes keep being repeated in the refinement of language use. See Figure 3.

Figure 3

The main basic processes governing terminological awareness (TA) in MELF communication (Bakó, 2022, p.38).



As long as no discrepancy is detected in MELF communication, the provider's TA handles the communication with an auto-pilot mode endorsed by TC–and thus leaving all conscious efforts to providing care. However, if TC detects any discrepancy, such as the patient presumably misunderstanding the provider, it allocates conscious attention to the proceedings and generates alternative TUs and ways to engage in communication. When alternative resources and perspectives are activated by TC, the provider can put them to use in order to ensure understanding. Furthermore, using these alternative language and communicative solutions functions as a testing procedure as well, as TC can judge the appropriateness of the TUs and strategies used, which can help to refine language use in the situation–thus the temporary norms of communication can better be established with the patient. These procedures

lead to an increased flexibility and interconnectedness of ideational and interpersonal schemata, as every conscious problem solving results in the reorganisation of schemata.

2.6 TA and TC aspect in the MELF-oriented EMP/EHP classroom

In line with the above, TC is vital for developing TA, but TC can only be elicited if there are discrepancies to be solved. In EMP/EHP classes students can gain practice in solving such discrepancies by consciously adjusting their language use when communicative problems occur. Each attempt at ensuring understanding makes schemata more fine-tuned and flexible, and consequently language use becomes more creative, leading to a higher chance of solving communicative discrepancies effectively. Accordingly, tasks in the EMP/EHP classroom must raise learners' TC and make them motivated to engage in out-of-pattern communicative behaviour, which involves creative problem solving (Goleman, 2013). As has been pointed out earlier, simply meeting challenges does not necessarily motivate providers to solve them as they may find it easier to stick to their routine behaviour relying on rigid patterns since their minds tend to function with the optimal minimum (Kahneman, 2011).

2.6.1 Characteristics of MELF-oriented EMP/EHP tasks

Accordingly, tasks in EMP/EHP classes must be pedagogical tasks (Nunan, 2004), which make learners work with the language and mobilise their knowledge in order to express meaning and to reach a non-linguistic outcome (e.g., sharing a diagnosis with a patient). Therefore, a great emphasis must be put on simulated MELF interactions, during which learners can work out the norms of communication online while exploiting their communicative resources to make meaning (Widdowson, 2003). The main characteristic feature of a simulated provider-patient interaction is the use of scenarios in the patient's role only, so that the learner engaging in the communication in the role of the healthcare provider can engage in the

interaction on their own terms (e.g., Eklics et al., 2024). This feature of simulations differentiates them from role plays, where learners act out imaginary roles in imaginary situations with fixed steps or lexical lists provided (Ladousse, 1987). Scenarios are strategic interactions that present students with problems mimicking real-life situations to be solved but students decide how they face the challenges based on their own experiences and knowledge (Di Pietro, 1987). Furthermore, Di Pietro (1987) proposes that "the use of strategic interaction in the classroom serves to 'defuse' the potentially stressful occurrences that often happen to foreign-language learners when they become involved in real-life situations" (p. 68). He also suggests that scenarios are "real life happenings that entail the unexpected and require the use of language to resolve them" (p. vii), thus they foster using language as communication. Therefore, with the use of simulated MELF encounters in EMP/EHP classes and letting students engage in communication as they would in real life, the emphasis is put on learners' procedural ability (Seidlhofer, 2012; Widdowson, 1984, 2003).

However, constant problem solving and creative language use increase task performance demands, and EMP/EHP teachers must ensure that learners feel motivated enough to solve the problems in simulated MELF encounters. A useful tool for analysing how demanding a task is and which dimensions of the task pose the greatest challenges for learners is Robinson's (2011) Triadic Componential Framework, which puts cognitive processes in the limelight (Table 2). Altogether there are three main dimensions in this model: task difficulty, task condition, and task complexity (thus called *triadic*) with two sub-categories in each. *Task difficulty* comprises ability requirements in terms of task-relevant resource differentials (e.g., working-memory, reasoning) and affective variables (e.g., openness, task motivation, anxiety), which show how large variation among learners in task performance can be expected. The second dimension is *task condition* concerned with interactional demands on participation (e.g., the number of

participants, the need for negotiation) and participant variables (e.g., same proficiency, shared cultural knowledge) (Robinson, 2011). As for the third component, *task complexity*, whose main focus is the cognitive demands a task poses, is further divided into resource-directing variables, such as the need for intentional reasoning or perspective taking, and resource-dispersing variables, such as how much planning time is needed or to what extent the steps in the task are interdependent (Robinson, 2011).

Table 2
The Triadic Componential Framework for pedagogic L2 task classification (Robinson, 2011, p.6)

Task complexity (Cognitive factors)	**Task condition (Interactive factors)**	**Task difficulty (Learner factors)**
(Classification criteria: cognitive demands)	(Classification criteria: interactional demands)	(Classification criteria: ability requirements)
(Classification procedure: information-theoretic analyses)	(Classification procedure: behavior descriptive analyses)	(Classification procedure: ability assessment analyses)
Sub categories:	Sub categories:	Sub categories:
resource-directing variables making cognitive/conceptual demands	participation variables making interactional demands	ability variables and task relevant resource differentials
+ here and now		
+ few elements	+ open solution	h/l working memory
+ spatial reasoning	+ one way flow	h/l reasoning
+ causal reasoning	+ convergent solution	h/l task-switching
+ intentional reasoning	+ few participants	h/l aptitude
+ perspective-taking	+ few contributions needed	h/l field independence
	+ negotiation not needed	h/l mind-reading
resource-dispersing variables making performative/procedural demands	b. participant variables making interactant demands	affective variables and task relevant state-trait differentials
+ planning time	+ same proficiency	h/l openness
+ prior knowledge	+ same gender	h/l control of emotion
+ single task	+ familiar	h/l task motivation
+ task structure	+ shared content knowledge	h/l anxiety
+ few steps	+ equal status and role	h/l willingness to communicate
+ independency of steps	+ shared cultural knowledge	h/l self-efficacy

In MELF communication with patients, interactional and cognitive demands are very high. As for interactional demands, the two-way flow of the information, the possible divergence of patient's and provider's opinions (e.g., disagreement on treatment, patient's fears), the need for negotiation, the limited shared knowledge, the unequal roles, and different cultural background

can all pose challenges for the healthcare provider. These communicative demands are further complicated by cognitive factors, such as reasoning and taking alternative perspectives, which have an effect on language production. According to Robinson (2011), resource-directing demands "push the learners to greater accuracy and complexity" of the language produced (p. 18) but at the same time negatively affect fluency, while resource-dispersing demands have a negative effect on both accuracy and fluency in language use. This is in line with the argument that the mind is capable of focusing with consciousness on one procedure at a time (Kahneman, 2011). Resource-dispersing factors, such as short planning time or little prior knowledge focus attention on non-linguistic challenges and, therefore, let the mind's auto-pilot functioning, i.e., awareness (schemata) direct language use, resulting in communication based on previous experiences. At the same time, resource-directing factors focus more on selecting appropriate language, thus on conscious language use with high accuracy. In both cases, fluency depends on the workings of awareness, so previous experience determines the level of fluency, but the language produced will always be less fluent than in simpler tasks (Robinson, 2011).

An approach where complexity is introduced gradually can be a good solution to ensure that the tasks include challenges that the students are prepared and motivated to face. In this way, the automatic procedures of TA can be fine-tuned for effective language use. First of all, resource-dispersing should be gradually increased so that the heightened attention to language use (i.e., TC) could be in the focus of development. The more experience EMP/EHP learners gain in selecting TUs appropriately, the less demanding language-resource-directing becomes, and consequently, the more effectively learners can use language in complex MELF provider-patient interactions. In other words, if the exploitation and adaptation of language resources happens automatically in accordance with the temporary norms of MELF communication, the healthcare provider can channel conscious attention to actual patient care.

As Goleman (2013) points out, creative problem solving can be induced when people see their goals clearly and have freedom in terms of how they reach them and can devote sufficient time to solve problems. Therefore, it is of utmost importance that EMP/EHP classes offer the opportunity for a gradual improvement of TC so that the development of TA can be realised. For this, the processes of TC must be defined separately, and tasks should be designed to address these processes one by one. Otherwise, the complexity and challenges of MELF communication may result in learners' resistance to change. For example, if EMP/EHP learners have to solve a medical problem in a simulated provider-patient interaction that is too difficult for them simply because they do not obtain enough information about the medical condition or its treatment, they will not be able to channel conscious efforts to creatively using language in an out-of-pattern manner. Similarly, if they have to face challenging MELF interactions without having broadened their perspectives or having activated alternative resources, the chance for relying on learnt patterns or switching back to an auto-pilot functioning increases, and thus their TC is not turned on and TA cannot develop.

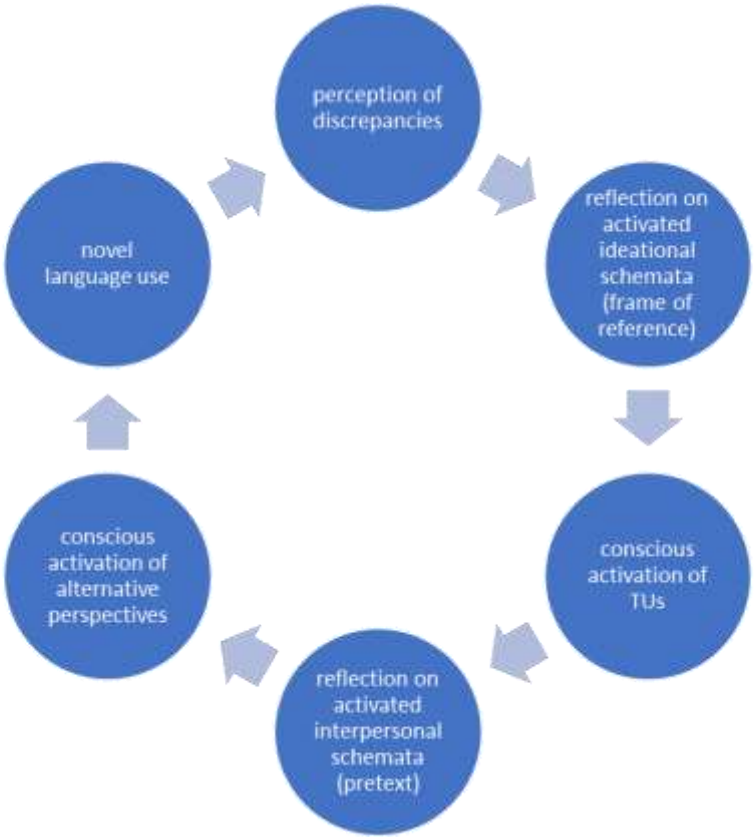
2.6.2 Components of TC to be included in MELF-oriented EMP/EHP tasks

The components of TC are (1) enhanced perception of discrepancies in MELF communication with conscious reflection on the perceived effectiveness of the communication–i.e., judging the appropriateness of language use; (2) reflection on ideational schemata activated by the communicative situation–i.e., raising consciousness of preconceptions and norms of language use; (3) conscious activation of TUs–i.e., exploitation of resources with possible alternative language solutions; (4) reflection on pretextual assumptions activated automatically; (5) conscious, deliberate modification of these perspectives (Schön, 1991); (6) the selected TUs must be put to use–i.e., adaptation of the activated resources to alternative perspectives so that

the effectiveness of exploitation and adaptation can be evaluated and further fine-tuned. These processes display a cyclical nature as each process further shapes schemata and thus every next step is determined by the modified schemata–see Figure 4, but it must also be underlined that their order is not necessarily fixed this way, as reflection on activated interpersonal schemata may precede the activation of alternative TUs.

Figure 4

The process of TC.



By gradually improving TC with tasks that focus on one step in the process at a time, EMP/EHP learners can develop the capability of automatically engaging in creative language use, in the creative exploitation and adaptation of TUs in MELF encounters. Furthermore, with improved TC, they can solve discrepancies in communication fast by turning to conscious

negotiation of meaning and further refine their TA every time they need to solve a communicative problem consciously. Therefore, relying on these mental processes, learners become autonomous language users (Illés, 2012, 2019), who can improve their capability of communicating in MELF contexts at every attempt. Accordingly, tasks in EMP/EHP classes designed based on the framework proposed in this dissertation can enable EMP/EHP learners and healthcare providers to develop TA, an automatic yet effective way of exploiting and adapting language resources appropriate in any MELF situation and keep on refining this capability with conscious and creative problem solving using various strategies.

2.6.3 Developing TA in the EMP/EHP classroom

As has been indicated above, TA can be developed if TC is gradually activated in EMP/EHP classes. Accordingly, in this section, the processes underlying the components of TC are detailed with pedagogical methodological recommendations regarding the implementation of the process-oriented framework of TA in classroom practice, namely the need for reflections and the conscious activation of alternative perspectives and TUs. Nevertheless, it must be emphasised that the recommended task designs here are just samples of tasks capable of improving TC and it is believed that as long as an EMP/EHP teacher understands how the mental processes of TA and TC work, any task created that focuses on the processes of TA and TC may prove to fruitful in preparing learners for MELF communication. This section approaches the development of TA via the components of TC proposed in the previous section,

2.6.3.1 Reflection on perceived effectiveness. Seeing the discrepancies in communication and judging the appropriateness of language use can only be realised if learners reflect on the effectiveness of communication in medical encounters. This entails that EMP/EHP learners must engage in activities that make them reflect on all the factors

influencing the provision of quality patient care. Eliciting reflection on how effective learners perceive their communication and language use, their perspectives can also be broadened, as they need to take into account their patients' possible perceptions as well. This can compel them to adjust their perspectives and language use to their patients' needs and listen to their patients more actively.

Activities that involve watching or simulating MELF interactions and asking students to identify factors having an impact on the effectiveness of the encounter can make them more conscious of discrepancies, which is the starting point of improving TC and thus TA. If learners cannot see communicative problems to be solved, no change in their schemata ruling communication can be expected. In these reflections, not only the interlocutors' general social and individual differences should be explored, but also the differences in their language use as well as beliefs and values regarding a medical encounter. By putting linguacultural differences in the limelight, EMP/EHP learners can realise that communication in English can be effective even if NS norms are not necessarily followed and they can observe how interlocutors in MELF interactions can develop their own norms for the time of their encounter. On the other hand, if they watch, listen to, or act out a MELF interaction where something goes off and communication seems less effective, they can start pondering what discrepancies had been disregarded by the interlocutors and what strategies might have helped increase the effectiveness of the communicative situation.

2.6.3.2 Reflection on frames of reference (ideational schemata activated). Assessing patients' frames of reference has already been mentioned as a way of exploring factors responsible for the effectiveness of a medical encounter. Apart from realising that others may have a different way of seeing things, i.e., different schemata (Sharifian, 2009), it is equally

important that providers or EMP/EHP learners reflect on their own preconceptions that influence their conception of the communicative situation. Raising consciousness of their stereotypes and realising how they can narrow their conceptions of other people or the whole interaction can induce heightened focus on discrepancies in the communication as well as motivate them to step out of pattern-driven communicative behaviour. With their consciousness raised, their readiness to change their habits (Bakó & Marshall, 2020) can also be initiated. Having a broadened perspective and openness to patients can lay the ground for more conscious and flexible communicative behaviour and language use.

For example, tasks, where learners are shown videos or photos of various people and are instructed to discuss their first impressions of these potential patients, can elicit information on not only how they see others but also on their own schemata. If EMP/EHP learners are asked to contemplate what these potential patients' expectations and fears could be, they become more open to taking others' views into account and they can also reflect on the filtering effect of schemata, which determines how they and their peers perceive others. Such activities can help them realise that a patient can be approached from several perspectives and that their own preconceptions may be greatly different from other providers' approaches. These tasks can also provide the opportunity to explore what past experiences have formed their preconceptions and to induce changes in their patterns of thinking.

2.6.3.3 Reflection on pretextual assumptions (interpersonal schemata activated).

Besides eliciting reflection on preconceptions and stereotypes, a more focused reflection can be stimulated on actual language use. Tasks with this focus can make EMP/EHP learners assess the appropriateness of certain uses of language to provide information or support to patients and prepare them for activating alternative linguistic and communicative solutions.

Furthermore, the reasons behind their judgements on appropriateness can be explored in this way, which can help them become more flexible and thus adjust their interpersonal schemata more flexibly. Their confidence in using their language resources more freely can also be encouraged as well, since the relativity of terminological variation can be drawn into the focus. By becoming conscious of how individuals' different linguacultural backgrounds and diverse experiences in language use may result in various patterns of terminological variation, a more flexible use of TUs can be ensured that can help the EMP/EHP learner in accommodating to any patient's language use.

First and foremost, EMP/EHP learners must raise their consciousness of terminological variation. Terms can show dialectal, functional, discursive, interlinguistic, or cognitive variation (Faber, 2012 based on Freixa, 2006). Dialectal variations emerge from the different origins of the authors, resulting from differing geographic, temporal, and social contexts. Functional variations are created according to the register of terms, i.e., with what purposes, by whom in what roles, and in what genre of text terms are used (Halliday, 1979). Discursive variations are selected based on the style the authors wish to use (including avoidance of repetitions). Variations are considered interlinguistic when in a language a term has more denominations from various languages, for example, when an English word is used parallel to a vernacular word such as "stroke" in Hungarian for "szélütés". Cognitive variations are induced by different conceptualisations of the same TU. Although all these terminological variations emerge in accordance with the social norms of the interlocutors and selecting the appropriate terminological variant is a schematic and automatic procedure based on previous experience, learners must become conscious of the variable use of TUs and be prepared to draw on these resources with raised consciousness, with alternative perspectives.

When EMP/EHP learners are given tasks where they have to explain a longer unit of information to a number of potential patients, such as a presentation of treatment options or the characteristics of a medical condition, they are encouraged to formulate the same information in various ways. If in these tasks they are provided with visual triggers–videos or photos of patients, or with simulated MELF interactions, they can explore their pretexts regarding their language use, their choices of medical terminology, or any patterns of their communication. They can see how talking to different people can result in different language use in order to transmit the same pieces of information. The relativity of the appropriate use of TUs can be put in the focus, so, for example, EMP/EHP learners can see that the assumption that Latin medical terms should not be used with laypeople may not always apply. In other words, they can become conscious of their customary ways of using language and how they decide on selecting certain TUs over other language solutions.

2.6.3.4 Conscious activation of TUs. Activating alternative solutions in language use should be encouraged so that EMP/EHP learners can realise the adjustment of their schemata when finding ways of communication which are understandable by their patients. If their perspectives are flexible, they can see that there is always more than a single solution to communicating their ideas and exchanging information. They should be compelled to develop a wide range of language solutions for every concept so that they can always select TUs that they deem to be appropriate for making meaning with their patients. In other words, they should be resourceful (Firth, 2009) to increase the chance of creating optimal language use in a MELF situation. Furthermore, learners' consciousness can be raised with regard to the cognitive, linguistic, and communicative values of TUs and make them reflect on how medical terms can take on different values when talking to different patients.

In tasks where EMP/EHP learners need to find synonyms and reflect on what cognitive, linguistic, or communicative values each synonym may possess when talking to the same patient–or how the same TU can activate different schemata in different patients, the relativity of TU values can be put in the focus. They can realise that the effective use of certain words with a particular patient does not mean that the same term would be used with the same effectiveness when interacting with another patient. Learners can see how an oddly selected TU can lead to misunderstandings or what emotional connotations certain TUs may activate in patients. Furthermore, activating synonyms for the same concept can increase EMP/EHP learners' resourcefulness, the potential of their flexible schemata.

2.6.3.5 Conscious activation of alternative perspectives. Having reflected on patterns ruling their communication and having exploited their language resources, learners are prepared to meet challenges typical in MELF interactions so that they can further broaden their perspectives and find alternative solutions for communicating their ideas. For interpersonal schemata to become more flexible, interpersonal engagement is necessary. Therefore, it is important to provide learners with opportunities to deliberately adjust their language use with broadened perspectives on what TUs can ensure the information exchange with a particular patient and what values that TU may have for that patient. This may involve finding alternative ways of expressing the same ideas depending on what pretextual assumptions they have about the patient they are talking to.

Accordingly, EMP/EHP learners should engage in simulated MELF interactions, where they need to meet certain challenges and find creative solutions in order to achieve their communicative goal in the situation. One way of creating such challenges is engaging in tasks where one learner engages in the communication as the healthcare provider, and the other

learner plays the role of the patient. The student playing the patient's role must be instructed to create challenges that must be solved by the student playing the provider. They may be given various instructions regarding the personality or characteristics of the imaginary patient, be asked to deliberately misunderstand some information, be non-cooperative, etc. With the help of such MELF simulations with built-in challenges, the learners playing the provider can engage in the interaction on their own terms, as they would do outside of the classroom, and detect discrepancies in communication and find creative solutions to them. On the other hand, learners playing the role of the patient can gain insight into how patients may behave in MELF interactions and can broaden their perspectives.

2.6.3.6 Reflection on novel, modified TU use. Similar to initial reflection on perceived effectiveness, after facing simulated challenges of MELF interactions, students should be asked to reflect on their novel, modified TU use and communicative solutions. Students can reflect on how effectively they explored their patients' perspectives and adapted their activated resources to their own–maybe modified–pretexts. In other words, they can evaluate how effectively they exploited and adapted their schemata in the simulated medical encounter and thus they can draw conclusions on what could have increased their effectiveness. This way they can further refine their schemata and strategies and put them to work at the next attempts of solving communicative problems in simulated or real-life MELF provider-patient interactions.

In addition, the reflections after simulated MELF communication can be carried out by the pair of students acting out the simulation, which can provide them with the opportunity of getting feedback right after engaging in an interaction. They can gain perspectives on how their communicative behaviour and language use had been perceived by their interlocutor, what discrepancies they detected or missed. During these shared reflections both students' ideational

and interpersonal schemata can be taken into account, which can not only increase their openness toward others, but their schemata can also be made more flexible–laying the ground for a more creative and effective language use at their next attempts at MELF interactions.

2.7 Assessment of TA

While the development of TA can be ensured with sufficient practice in solving communicative discrepancies in simulated or real-life MELF interactions, assessing healthcare providers' capability of doing so is a more challenging undertaking. As has been discussed in the previous sections, the capability of using language appropriately and effectively is reliant on mental processes, which are hard to capture, especially when they reach the level of automatization. Therefore, detectable traces of TA must be identified that can be used as the basis for estimating healthcare providers' levels of effectiveness in MELF communication.

2.7.1 Detectable processes of TA

As has been argued above, the fundamental aim of MELF communication is to provide quality care without the challenges inherent in the situation unduly having negative effects. Therefore, the actual effectiveness of MELF encounters could only be evaluated if healthcare outcomes were taken into consideration as well, which are out of the scope of EMP/EHP classes. Nevertheless, the perceived effectiveness and success can be assessed if the interlocutors–both the provider and the patient–reflect on the communicative situation. Furthermore, the focus of TA assessment must be how language, how TUs are used to make meaning effectively in the MELF encounter so that the extent of the successful contribution of language use to effective communication must be explored.

TA is an automatic functioning of the mind, and thus one way of eliciting it is with conscious reflections. Providers must be asked how successful they found the communication

and based on their retrospective reflections their awareness of their and the patient's schemata can be observed. If they report that they take patients' perspectives into account, the exploitation of ideational schemata can be detected. Similarly, reflections on the conscious adaptation of TUs express providers' intentions on selecting TUs appropriately. However, it can still be anticipated that providers carry out exploitation and adaptation of their use of medical terminology in such an automatic manner that unless they meet discrepancies in the communication, their TA cannot be assessed. Therefore, apart from asking them to consciously reflect on their language use, their observable attempts at making meaning must be explored. Moreover, when challenges characteristic in MELF encounters are created during assessment, whenever providers find discrepancies to be solved, their conscious engagement, TC can be provoked.

As Vettorel (2019) underlines, communication strategies "can be seen as underlying tools that speakers strategically employ in meaning co-construction" (p. 188); that is, while they are being used to creatively and effectively exploit language resources to reach a communicative goal (Tarone, 2016). By focusing on the use of strategies in MELF communication, healthcare providers' adaptability, i.e., their ability to cope with the challenges of communicative situations can be put in the limelight and thus assessment can shift away from evaluating NNSs' language use in comparison to NS norms (Harding, 2015). In other words, the aims of the assessment should be to test whether the interactants' communicative goals are achieved (Jenkins & Leung, 2013; Chopin, 2014) and how effective their communication is (Harding & McNamara, 2017). Hence, assessment can become user-centered and norm-defocused (Newbold, 2015).

In the case of TA assessment, those MELF strategies should be put to focus that are attempts to adapt schemata and language use in order to enhance information exchange in the encounter and appropriateness of language use. Table 3 summarises these strategies according to the main processes governing TA and provides a list of possible traces of each process in providers' reflections. Chunking information (Svennevig et al. 2019) and using plurilingual resources (Caprario, 2023) point at attempts of generating alternative TUs to convey medical information as these strategies aim at exploiting schemata in a way that more optimal language solutions can be reached. As for adapting these schemata, finding a common ground by taking perspectives into account can be detected by the use of strategies such as reaffirmation of medical terms (i.e., making sure what the patient means by a certain term) (Mori & Shima, 2014), using verbal and nonverbal repetition for reassuring understanding of medical information (Ting & Cogo, 2022), and asking explicitly for clarification (Caprario, 2023). The selection of appropriate TUs can be captured by those communication strategies that involve the use of medical terms in a conscious manner, such as accommodation to the patient by simple language use (Ritala, 2022), lexical simplification and reformulation (Svennevig et al., 2019), as well as paraphrasing (Caprario, 2023). Furthermore, reflection on perceived effectiveness and appropriateness of TU use overtly reveals TA.

Table 3
Detectable processes of TA by reflection and communication strategies

	reflection	strategies
exploitation of schemata	• attempts at generating alternative TUs	• decomposition of longer instructions to smaller chunks • using plurilingual resources
adaptation of schemata	• awareness of patients' perspectives • awareness of own perspectives • attempts at finding a common ground	• reaffirmation of medical terms • verbal and nonverbal repetition for reassuring understanding • asking for clarification
selection of appropriate TUs	• conscious adaptation of TUs to patients' perspectives • reflection on perceived effectiveness and appropriateness of TU use	• accommodation by simple language use • lexical simplification • reformulation • paraphrasing

Additionally, since a great variety of communication strategies are needed in order to negotiate meaning in MELF communication (Taguchi & Ishihara, 2018) and the increased dynamicity of schemata necessary for optimal TA functioning is displayed by several ways of engaging in communication (see Section 2.5), it can also be assumed that the more diverse communication strategies a healthcare provider adopts, the higher their TA is.

2.7.2 TA assessment task conditions

Nevertheless, detecting these strategies, especially as a teacher or examiner when aiming to assess healthcare providers' communicative capability and terminological awareness, and not as a researcher having access to recordings and transcriptions, is a highly challenging task. When planning tasks to assess healthcare providers' capability of communicating with terminological awareness, the challenges of the simulated MELF encounters must be controlled

and optimised, the detection of strategies used must be unified, and the measures regarding the effectiveness of communication must be introduced.

First of all, it must be ensured that the simulated MELF interactions exhibit enough discrepancies for the interactants so that negotiation of meaning can take place. As Harding (2015) proposes, the task should be interactive, goal-oriented, with anticipated breakdowns in communication, and eliciting negotiation of meaning by a minimum of two interlocutors. One way of achieving this is to use patient scenarios in the simulated interactions (Eklics et al., 2019; Takács & Czar, 2021). Preparing a person for simulating the patient's role based on a list of patient characteristics can ensure that each student is presented with similar challenges and thus they are provided with nearly the same opportunities to activate strategies. Furthermore, if the simulated patient roles are played by professional actors, as in the project of Eklics et al. (2019), the authenticity of the interaction can better be realised and the negative influences of the examination situation, such as stress, can be decreased. Furthermore, more aspects related to differences in cultural backgrounds or health beliefs can be incorporated into the simulations with the help of pre-written scenarios.

Secondly, it must be clearly determined what forms of reflection and what moves should be considered strategies and how they should be detected. Table 3 above summarises these, but it must be underlined that the assessment of certain processes and strategies can only be carried out in a relative manner. Effective exploration of patients' perspectives can only be assessed if (simulated) patients are also asked questions about their perspectives retrospectively. Similarly, whether a common ground was achieved can only be decided if the (simulated) patients' judgement on this aspect is also elicited. In line with these, both the provider and the (simulated) patient's opinion on the perceived effectiveness of the MELF encounter must be taken into

account. In terms of strategies to ensure appropriate TU use, simple language use or lexical simplification can be evaluated only with reference to certain norms, thus, providers must report these references in order to show their TA.

Thirdly, a framework must be created that is capable of assessing to what extent TA processes are carried out and how effectively the strategies are used in reaching communicative goals. As for the TA processes of exploitation, adaptation, and selection of TUs, providers must display awareness in all three processes in the reflections. Concerning strategies, their diversity should be explored as it points to the increased dynamicity of their schemata and the application of a wider range of strategies can result in a higher possibility of positive outcomes.

3 RESEARCH QUESTIONS

In line with the aims of this PhD dissertation formulated in Chapter 1, the research questions (RQ) target (1) the exploration of MELF provider-patient communication so that a MELF-oriented EMP/EHP material focusing on the development of TA and TC can be created that builds on the characteristics of MELF communication, including its challenges and the strategies used to cope with these challenges; and (2) the assessment of how the MELF-oriented EMP/EHP material presented is capable of developing Hungarian health science students' TA and TC. RQ1 with its three subquestions (RQ1a, RQ1b, and RQ1c) wishes to elicit data for reaching aim (1) and RQ2 for aim (2).

RQ1: What characterises the use of medical terminology in MELF provider-patient communication?

RQ1a: What MELF communication is considered successful by providers and patients?

RQ1b: What challenges do providers and patients encounter when exchanging information in MELF communication?

RQ1c: What strategies do providers and patients use in order to ensure the proper exchange of information in MELF communication?

RQ2 How does TA/TC improvement affect TA/TC in MELF communication?

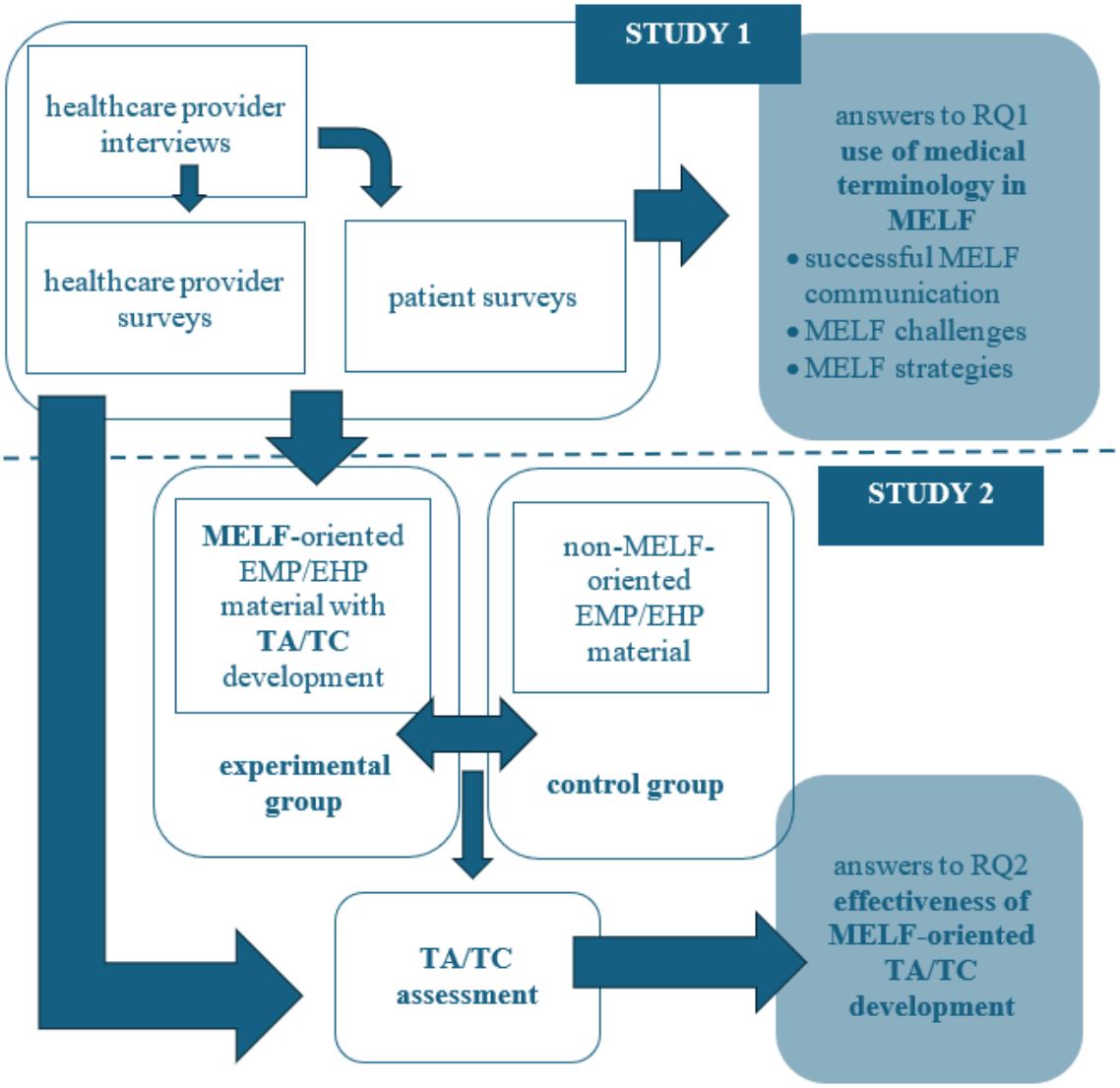
4 RESEARCH METHODS

4.1 Research framework

The empirical research of this PhD dissertation is built up of two studies, the second study building on the results of the first. Study 1 aims to answer RQ1 with the help of qualitative interview and survey data from Hungarian healthcare providers and foreign patients in Hungary. The findings of this inquiry serve as the ground for the creation of an EMP/EHP material preparing Hungarian healthcare providers for MELF encounters with patients by providing information on what characterises MELF provider-patient encounters, what challenges EMP/EHP students must practise to cope with, and what strategies they need to gain practice in. By informing the creation of a MELF-oriented EMP/EHP material, the findings of Study 1 feed into Study 2, which is a qualitative quasi-experimental investigation of an EMP/EHP classroom practice with the focus of developing TA and TC in MELF provider-patient encounters. Study 2 compares four groups of Hungarian physiotherapist students, two as experimental and two as control groups. The experimental groups follow the MELF-oriented material created based on the findings of Study 1 with the aim of developing TA and TC, while the control groups do not receive this treatment. In Study 2 RQ2 is answered, as all four groups' TA and TC are assessed at the beginning and end of their 10-week EMP/EHP course in order to investigate the effectiveness of the MELF-oriented EMP/EHP material.

Figure 5

The framework of the research



4.2 Study 1–investigation of the use of medical terminology in MELF

The first part of this PhD research is an investigation of empirical data with the aim of answering RQ1; that is, to see what characterises the use of medical terminology in MELF provider-patient communication in Hungary from three aspects: how successful MELF

provider-patient encounters are realised, what challenges are faced in these interactions, and what strategies are used to ensure the exchange of medical information.

However, there are a range of logistical and ethical issues that make the investigation of medical encounters in real life highly challenging–e.g., personal attendance of a researcher cannot be scheduled as foreign patients can visit a provider at any point in time, providers who are willing and are also allowed to record their conversations with patients are hard to find, and the confidentiality of patient care may be violated. Accordingly, this study was based on a series of retrospective interviews and open-ended surveys with both Hungarian providers with experience in communicating with patients in English and foreign patients who have been to healthcare facilities in Hungary and communicated with Hungarian healthcare providers in English.

Fundamentally, using this retrospective method sheds light on how providers and patients define successful communication, what aspects of the communication are relevant for them and what communicative goals they have. Furthermore, understanding what challenges providers face in MELF communication and what strategies they apply to meet these challenges form the ground for pedagogical decisions to be made by the EMP/EHP teacher, as it can become clear in what areas healthcare providers (HCPs) need to excel and what capabilities they must possess when trying to successfully communicate with foreign patients in English. Such an emic perspective (Widdowson, 2004) helps us understand how users of a language experience communication and sheds light on the schematic representations of MELF communication in their minds.

It must be noted, however, that with this method the effectiveness of the communication cannot be evaluated. The *effectiveness* of healthcare communication could only be assessed if

therapeutic consequences could be matched with actual patient-provider interactions (including verbal and nonverbal communication). The present study focuses on what communicative goals providers and patients have and what helps them achieve these goals. This is considered to be the *success* of healthcare communication, which can best be explored if we examine what is relevant in patients' and providers' cognitive frameworks.

The aim of investigating how successful MELF communication is created is to fully understand the communicative goals of patients and providers, which can thus inform EMP/EHP teachers on how providers use language and medical terminology to reach their goals. Seeing these characteristics of MELF communication, EMP/EHP teachers can create tasks, which 1. are aligned with HCPs' communicative goals, 2. make HCPs face the challenges of MELF communication, and 3. enable HCPs to practise strategies that can help them achieve their communicative goals while meeting the MELF challenges.

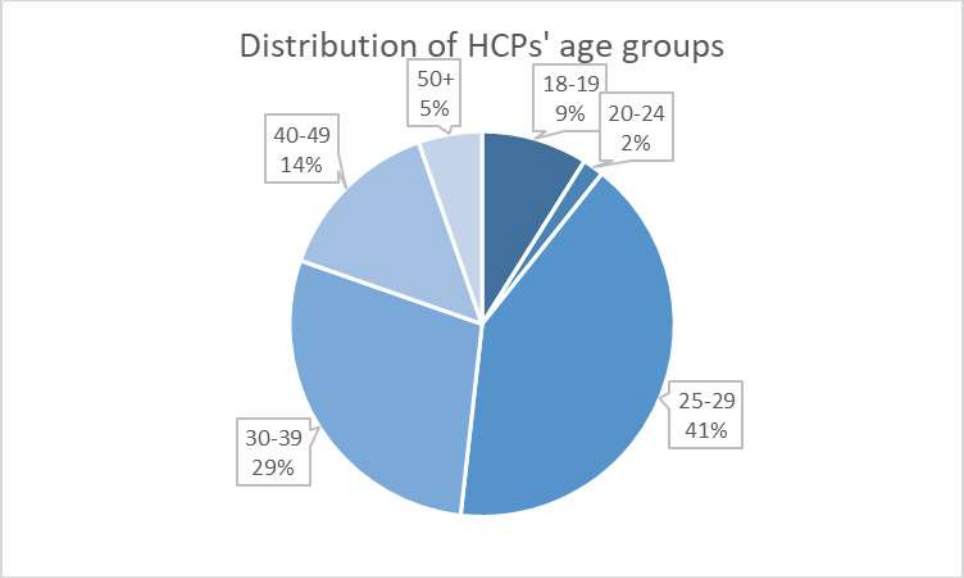
4.2.1 Study 1 - Research participants

The ground rule for finding participants was to collect healthcare providers from various fields and with diverse levels of English proficiency with experience in communicating in English with patients and contacting a large number of foreigners who have been to healthcare facilities in Hungary and communicated in English with Hungarian healthcare providers in order to achieve maximal variation in the sample. There were more rounds of interviews to fine-tune the interview schedule and later the open-ended surveys, and altogether 57 healthcare providers (18 by interview, 39 by survey) and 42 patients (by survey) were reached. Due to incomplete surveys, one provider and two patients had to be excluded from the study, so the data of 56 healthcare providers and 40 patients were investigated.

4.2.1.1 Healthcare providers (HCPs). As for participants' descriptive data, Hungarian HCPs were asked to share their gender, age, profession, and level of English proficiency. Altogether 11 doctors (1 GP, 2 ER, 4 internists, 3 orthopaedists, 1 paediatric doctor), 9 nurses, 9 physiotherapists, 7 midwives, 5 paramedics, 12 dietitians, 2 pharmacists, and 1 medical hotline operator were included in the study. As for their gender, 75% were females (n=42), 25% were males (n=14). Data on their age was collected in six age groups: between the ages of 18-19 (n=5), 20-24 (n=1), 25-29 (n=23), 30-39 (n=16), 40-49 (n=8), 50+ (n=3). As can be seen in Figure 5, around two-thirds of HCPs were in their late twenties or their thirties.

Figure 6

The distribution of healthcare providers (HCPs) age groups.



HCPs' level of English proficiency was self-reported by the participants. In the interviews, they were asked to describe their level of English, in the survey, they were presented with the choices with Hungarian descriptions of the levels, which were translated to the proficiency levels as indicated in Table 4. The distribution of the proficiency levels is presented in Table 4 with numbers and percentages and for clearer presentation in Figure 6 as well.

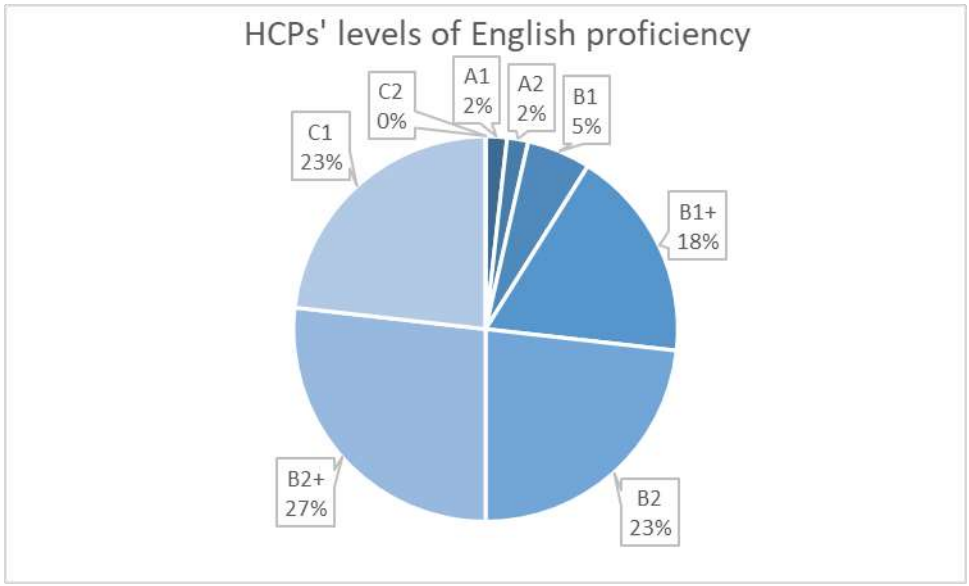
Table 4
The distribution of self-reported English proficiency levels of HCPs

Descriptions in the survey	proficiency level	distribution
just basic words	A1	n=1, 2%
I can communicate with simple sentences	A2	n=1, 2%
elementary	B1	n=3, 5%
above elementary, but below intermediate (e.g., I have an intermediate language exam but I don't really use the language, or I'm preparing for an intermediate exam, etc.)	B1+	n=10, 18%
intermediate	B2	n=13, 23%
above intermediate, I use English a lot	B2+	n=15, 27%
advanced, I understand almost everything, I'm in contact with English on a daily basis	C1	n=13, 23%
my second native language is English	C2	n=0, 0%

It can be seen that 73% of HCPs reported to speak English at a level of B2 or higher. (Figure 6)

Figure 7

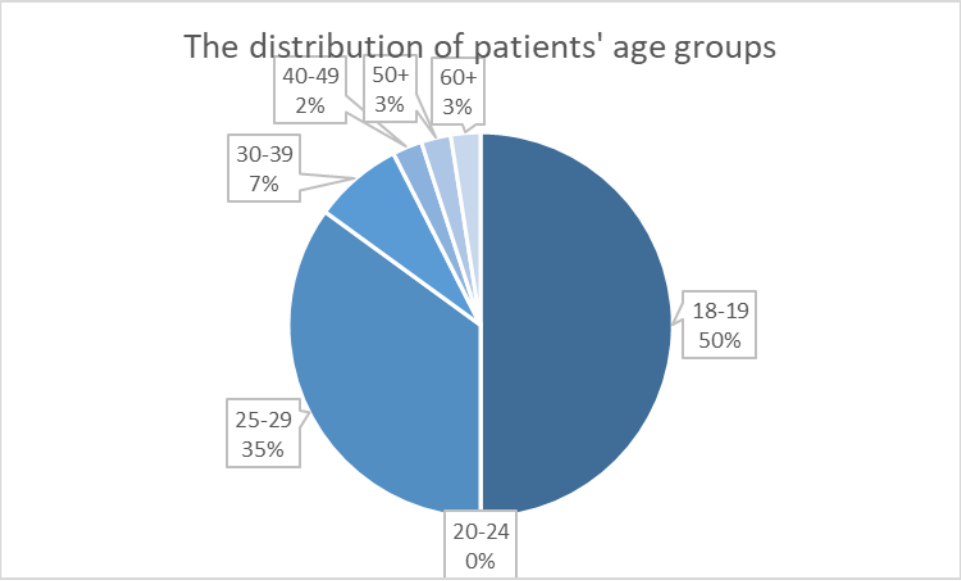
The distribution of English proficiency levels of HCPs.



4.2.1.2 Foreign patients. Foreign patients reported their gender, age, and nationality. Their gender was distributed almost equally: out of the 40 patients 21 were females, 19 were males. Most patients were in the age groups of 18-19 (n=20) or 25-29 (n=14) as can be seen in Fig.7. This was most probably due to the way of data collection, as the main sources of participants were university students and people accessed via a Facebook group "Foreigners in Hungary".

Figure 8

The distribution of patients' age groups.



As for their nationalities, patients showed a great diversity: 5 patients were from Spain, 3 patients from the USA, 2-2 patients from China, France, UK, Mexico, the Netherlands, and Poland, and only 1-1 patient from Azerbaijan, Brazil, Canada, Germany, Estonia, Greece, India, Ireland, Iran, Iraq, Japan, Kazakhstan, Kenya, Laos, Malta, Pakistan, Russia, and Turkey. Furthermore, there were two English-Hungarian bilinguals, one from the USA and one from Canada.

4.2.2 Study 1–Research instruments and data collection

In order to gain rich data displaying the individual perspectives of Hungarian healthcare providers on MELF communication and the use of medical terminology with foreign patients, qualitative data was collected with the help of semi-structured, oral interviews and open-ended, online, written surveys. The interviews provided in-depth data about communication with foreign patients and created a basis for the development of the online, written surveys, which helped reach a larger number of participants, ensuring maximal variation among them to capture the diversity of MELF encounters while maintaining the richness of the data with the help of open-ended questions. Furthermore, to triangulate the data gained from healthcare providers, data from foreign patients in Hungary were also collected with online, written, open-ended surveys similar to those filled in by providers in order to include perspectives on MELF provider-patient interactions in Hungary not only of the providers but of the patients as well.

Therefore, data collection was carried out with the help of three instruments: semi-structured, oral interviews with Hungarian HCPs; an open-ended, online, written survey with Hungarian HCPs, and an open-ended, online, written survey with foreign patients in Hungary (PATs) and in more rounds over a time span of nearly five years, from May 2014 till March 2019. The reason for this cyclicity was that the instruments were developed and refined with every round. As presented in Table 5, the surveys were created based on data collected formerly. The HCP interview guide was developed based on theoretical data presented in Chapter 3 and a piloting process in May 2014 followed by five more rounds until January 2019, during which period the interview questions and methods were refined after each round. The survey for foreign patients (PAT survey) was created in January 2015 based on the analysis of the first round of interviews that took part in May 2014 and was further refined based on the responses

of the patients in July 2015 and January 2019. Similarly, the survey for providers (HCP survey) was created in July 2015, building on the findings of two rounds of interviews in May 2014 and January 2015 as well as on the data from the PAT survey in January-February 2015 and was further refined based on responses from the interviews and surveys in January 2019.

Table 5
Timeline of data collection

	instrument	providers	patients
2014 May	4 interviews	5	
2015 Jan-Feb	PAT survey		18
	4 interviews	4	
2015 Jul	PAT survey		5
	2 interviews	2	
2015 Jul-Nov	HCP survey	12	
2016 May	1 interview	1	
2019 Jan	PAT survey		19
	6 interviews	6	
2019 Jan-Mar	HCP survey	26	

Participants were contacted based on personal acquaintances. Interviewees were mainly friends, former students, or contacts of these people. In the case of healthcare providers, the surveys were sent out as a Google Form to former students and their university groups and colleagues at the medical university, as well as the interviewees were contacted to forward the survey to their professional contacts. In addition, the text to be forwarded included a request to forward the survey to further colleagues and contacts. Thus, recruiting participants for survey completion relied on snowball sampling.

As for foreign patients, a similar pattern was followed: foreign students at Hungarian universities and the Hungarian Institute were contacted either via official routes or by asking colleagues, especially teachers of Hungarian as a foreign language, to reach out to former

students. Furthermore, a private Facebook group, ‘Foreigners in Hungary’ was contacted to post the survey on multiple occasions in the group.

Data analysis happened along with data collection in an iterative manner for two reasons: to ensure data collection as long as no new concepts were emerging–in other words to reach data saturation; and to make reflection on the research process possible in order to minimise subjectivity of the researcher and optimise the methods of data collection.

4.2.2.1 Interviews with Hungarian HCPs. Altogether 17 interviews were conducted, out of which three were done over the phone, and on two occasions two providers were present. The interviews were 38 minutes long on average, the shortest being 15 minutes and the longest 80 minutes. For individual lengths, see Table 6, where interviewees are anonymised with their main descriptive characteristics: first the provider’s profession appears in a shortened form and doctors appear with a number of their speciality assigned, among other professions numbers are added if there were more participants from the same profession (survey included); after the slash the age group is given, followed by the gender (F/M) and the level of English proficiency. For example, doc2ortho/25+F_C1 is the second doctor being interviewed, is an orthopaedic specialist, between the ages of 25-29, a female, and reporting an English proficiency level of C1. In the third column, the date of recording is given.

Table 6
The list of interviews with HCPs

interviews	length	date
doc2ortho/25+F_C1 AND doc3GP/25+M_C1	0:31	2014 May
doc4ortho/30+F_C1 (by phone)	0:26	2014 May
pharm2/25+M_C1 (by phone)	1:20	2014 May
med.hotline/40+F_B2+	1:02	2014 May
doc5ER/30+M_B2+	1:08	2015 Jan
doc6ER/30+M_B2+	0:22	2015 Jan
doc7intern/30+F_B1+	0:23	2015 Jan
doc7intern/30+F_B1+ AND doc8intern/30+M_B2+	0:36	2015 Jan
doc9intern/30+F_B2 (by phone)	0:15	2015 July
doc10ortho/30+F_B2	1:08	2015 July
doc11intern/30+M_B2+	0:28	2016 Apr
paramedic5/30+M_B1	0:27	2018 Dec
midwife7/25+F_B2+	0:21	2018 Dec
nurse8/30+M_C1	0:23	2019 Jan
physio8/25+F_C1	0:31	2019 Jan
nurse9/25+F_B2	0:39	2019 Jan
physio9/40+F_B2+	0:51	2019 Jan

Interviews were conducted in Hungarian, the mother tongue of the interviewees. They were informed that the aim of data collection was to research patient-provider communication in English with the goal of understanding the issue better and thus developing materials for English learners in the fields of medicine and health sciences. Each participant consented to be interviewed and voice-recorded for later transcription. They were reassured that the data would be stored securely, with access to the recordings and the transcripts by me (the researcher and interviewer) only and that their full names would not be recorded. All interviews were voice-recorded with a Sony© IC Recorder (ICD-UX522), which was placed visibly on the table during the interview and a small red light indicated that the recording was in progress. All voice recordings were transcribed using MS Word and in the transcription phase, each participant was given a code as included in Table 6, and thus complete anonymity was ensured. Participants

also consented that the data gained can be published in a way that their anonymity is not breached.

The interview structure and the content of the questions were refined after each round of interviews. For the first round, the list of questions was created based on literature data, experience in patient-provider communication, and with the help of a brainstorming session on the contextual features of provider-patient communication in English with first-year students in a *Medical translator and interpreter post-graduate programme*, who were also experienced, Hungarian healthcare providers from various fields of medicine and the health sciences.

In the first round of interviews, interview questions focused on interviewees' work experience in English-speaking environments and the typical communicative situations they engaged in. The interviewer took notes of these situations and further questions were asked about each situation the interviewees mentioned. These further questions included inquiries about patients' nationality and characteristics, interviewees were asked to describe their communication with the foreign patients they mentioned, and they had to explain what influenced their language use and how they decided on how to talk to patients. The data collected in the first round was analysed with a focus on what contextual features providers find relevant in MELF communication and was published in Bakó (2014)

In the second round of interviews, building on experiences gained in the administration and analysis of the first round, the questioning technique was improved to be more focused. The main improvement was that apart from asking about the communicative challenges and how these were solved, providers were also asked if they found the communication successful and why. This change can be observed in Figure 9, where instances of providers' experiences of unsuccessful and successful communication are displayed, and it is evident that while in the

first four interviews, only unsuccessful communication emerged, in the second four interviews, successful conversations were also elicited from the interviewees.

Figure 9

Instances of providers' experiences of unsuccessful and successful communication in interview data.

	doc2ortho/25+F_C1 AND doc3GP/25+M_C1	doc4ortho/30+F_C1	pharmacy2/25+M_C1	med.hotline/40+F_B2+	doc5ER/30+M_B2+	doc6ER/30+M_B2+	doc7intern/30+F_B1+	doc7intern/30+F_B1+ AND doc8intern/30+M_B2+	doc9intern/30+F_B2	doc10ortho/30+F_B2	doc11intern/30+M_B2+	paramedic5/30+M_B1	midwife7/25+F_B2+	nurse8/30+M_C1	physio8/25+F_C1	nurse9/25+F_B2	physio9/40+F_B2+
HCP experienced unsuccessful comm		x		x	x			x	x	x	x	x		x		x	x
HCP experienced successful comm					x	x	x	x	x	x	x	x	x	x	x	x	x

By the third round of oral interviews, the online written survey for Hungarian HCPs had been created based on the first two rounds of interviews, and it can be seen that the open-ended questions of the survey were more often included in the interviews of the last rounds (see Figure 10). The main impact of the survey questions was that apart from consistently asking about how successful providers found the communication with foreign patients, interviewees were asked to give possible explanations on what caused the challenges and questions regarding the patients' behaviour were also included (highlighted in red in Figure 10). These topics emerged in earlier rounds of interviews as well (marked with 'o' in Figure 10), but in the last rounds, explicit questions were formulated in these matters (marked with 'x' in Figure 10).

Figure 10

Topics emerged in the interviews.

	doc2ortho/25+F_C1 AND doc3GP/25+M_C1	doc4ortho/30+F_C1	pharmacy2/25+M_C1	med.hotline/40+F_B2+	doc5ER/30+M_B2+	doc6ER/30+M_B2+	doc7intern/30+F_B1+	doc7intern/30+F_B1+ AND doc8intern/30+M_B2+	doc9intern/30+F_B2	doc10ortho/30+F_B2	doc11intern/30+M_B2+	paramedic5/30+M_B1	midwife7/25+F_B2+	nurse8/30+M_C1	physio8/25+F_C1	nurse9/25+F_B2	physio9/40+F_B2+
Please, describe your knowledge of medical English in a few words.		x								x				x	x		
In what situation(s) have you met foreign patients in your work?	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
In what context(s) have you met foreign patients?	x	x	x	x		x									x		x
How successful did you feel when communicating with foreign patients?	o	o	o	o	o	x	x	o	x	x	x	x	x	x	x	x	o
What was the nationality of the patients you talked to?	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
What challenges did you face when talking to these patients?	x	x		x	x	x	x	x			x		x	x	x	x	x
What do you think caused these challenges?	o	o	o	o	x	o	o	o	o	o	o	x	o	x	x	x	x
What did you pay attention to when you were trying to express yourself?	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Please, give a few examples of what kind of medical words you used with each patient.	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
In what ways did you try to cope with the communicative problems in this/these situation(s)?	x	x	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x
In what ways was the communication with foreign patients different from when talking with Hungarian patients?	x	x	o	o	x	x	x	x	x	x	o	x	x	x	x	x	x
Please, describe the behaviour of the foreign patient(s) in these situations.	x	o	o	o	o		o	x	o	x	x		x		x	x	x
If there is something you recalled while answering the questions of this survey but I didn't ask about, please, write it here.	x	x			x	x		x	x	x	x	x	x	x	x	x	x
What languages do you speak apart from Hungarian and English? OPT	x				o	o		o	x	x	x	o		o			o

Note. The sign 'x' marks explicit questions in the interview, 'o' marks that the topic spontaneously emerged, empty cells indicate that the topic did not come up in the interview.

The continuous refinement of the interview guide was carried out using an audit trail by the researcher, which included reflections on conducting the interviews and on the data gained from the interviewees shortly after conducting the interviews and after the interview was listened to for the first time in order to limit negative effects of certain questioning techniques and enhance those techniques that elicited relevant data in former interviews.

4.2.2.2 Open-ended survey with Hungarian HCPs. The survey for Hungarian HCPs was developed only after two rounds of interviews when the central concepts and effective ways of raising questions emerged. The survey was validated with the help of two healthcare providers–a former paramedic student who was working as a paramedic nurse during her university studies and at the time of filling in the survey was already a graduated paramedic officer; and a university teacher with a PhD degree who had work experience both as a nurse and as a midwife. They were sent a link to the survey and were asked to add comments in all capitals next to their answers or in an e-mail after filling in the survey. Following the comments they made while and after filling in the survey, some questions were added, which are marked in bold in Table 7 below.

The language of the survey was Hungarian, the texts translated to English for the purpose of this dissertation are my own translations. (For the Hungarian version see Appendix A.) In the introductory part of the survey, the following instruction was included: “Please, fill in this survey in case you have experience talking to foreign patients (who are not native Hungarians) - in English - either in Hungary or abroad.” with the statement that “Your answers are recorded anonymously. The results will be used to improve the English communication classes of Hungarian health science students.” The name and affiliation of the researcher (me) were also added when saying thank you for participation. The questions–in a translated form–are listed in

the same order as they occurred in the survey, with the answer type provided in the second column (Table 7). It was required to answer almost all questions, with the exception of those marked with [OPT] in Table 7.

Table 7
The survey for HCPs

SURVEY QUESTIONS	ANSWER TYPE
What is your profession?	selection from a list
How would you evaluate your knowledge of English?	selection from a list*
How would you evaluate your knowledge of MEDICAL English? 1=very limited, 10=I can express anything	scale of 1 to 10
Please, describe your knowledge of medical English in a few words. (How can you use it in communication with foreign patients?)	long answer text
In what situation(s) have you met foreign patients in your work? e.g., in emergency care, in hospital, you examined them, gave them advice etc.	long answer text
In what context(s) have you met foreign patients? In Hungary–public/private sector; abroad (English-speaking country)–public/private sector; abroad (not English-speaking country)–public/private sector; other	selection from a list
How successful did you feel when communicating with foreign patients? If you can, please, give reasons.	long answer text
What was the nationality of the patients you talked to? Please, list them.	long answer text
What challenges did you face when talking to these patients? If you can, please, describe for each patient. E.g., "with the middle-aged Polish man…"	long answer text
What do you think caused these challenges?	long answer text
What did you pay attention to when you were trying to express yourself? e.g., how were you choosing the words, what helped you in deciding what the patient understands etc.	long answer text
Please, give a few examples of what kind of medical words you used with each patient. In case you find the use of medical words different with each patient, please, give a few examples to each patient. E.g., the middle-aged Polish man: heart, inflammation, pericardium…	long answer text
In what ways did you try to cope with the communicative problems in this/these situation(s)?	long answer text
In what ways was the communication with foreign patients different from when talking with Hungarian patients? (apart from talking in English)	long answer text
Please, describe the behaviour of the foreign patient(s) in these situations. You can describe each patient separately.	long answer text
If there is something you recalled while answering the questions of this survey but I didn't ask about, please, write it here. Similarly, if you have a memorable story with a foreign patient, thank you, if you share it with me. OPT	long answer text
Thank you for your answers! I have a few more personal questions at the end.	
What languages do you speak apart from Hungarian and English? OPT	long answer text
What age group do you belong to?	selection from a list
Your gender?	selection from F/M

*As described in Table 4.

Data from filled-out forms were extracted separately for each respondent to a MS Word file and each participant was given a code as included in Table 6, so that the survey answers could be handled along with the interview transcriptions. If a respondent filled out the form incompletely, the data of that respondent were excluded from the study.

4.2.2.3 Open-ended survey with foreign patients. Building the survey to be shared with foreign patients followed a similar pattern as the development of the survey for Hungarian healthcare providers. The survey for patients was created after the first round of interviews and was validated with the help of two foreigners who live in Hungary and had training in research methodology. They either added comments in the long answers or they wrote an email including reflections on the questions. Based on their suggestions, two questions were added, marked in bold in Table 8.

The language of the survey was English and the instruction in the introductory part indicated who should fill in the form and for what purposes the data will be used: "Fill in the form, please, if you have experience in - talking in English with a Hungarian doctor or any other healthcare provider (e.g., nurse, paramedic, physiotherapist, pharmacist etc.) - as a patient (or when your child was a patient). Your answers are recorded anonymously. The results are used to improve the English communication classes of Hungarian health science students." The name and affiliation of the researcher (me) were also added when saying thank you for participation. The questions are listed below in the same order as they occurred in the survey, with the answer type provided in the second column (Table 8). It was required to answer almost all questions, with the exception of those marked with ^{OPT} in Table 8.

Table 8
Survey for foreign patients in Hungary

SURVEY QUESTIONS	ANSWER TYPE
What is your nationality?	short answer text
What is your mother tongue?	short answer text
What foreign languages do you speak?	short answer text
What's your gender?	selection from F/M
How old are you?	short answer text
How much time have you spent/did you spend in Hungary? (if more occasions, indicate) OPT	long answer text
In what situations did you meet a Hungarian healthcare provider as a patient? (for example you had a flu, an accident, you went to the doctor, you were transported by paramedics etc.)	long answer text
What Hungarian healthcare providers did you talk to in English?	selection from a list
In which context(s) did you meet healthcare providers? *public system/ private system / other*	selection from a list
If you had multiple occasions, feel free to talk about each at the following questions.	
How successful was your communication with the Hungarian healthcare provider(s)? (why?)	long answer text
How did you feel in the situation as a patient?	long answer text
Could you give an example of successful communication you have had with your health care provider? (why did you find it successful?)	long answer text
Could you give an example of unsuccessful communication you have had with your health care provider? (why did you find it unsuccessful?)	long answer text
What did the healthcare provider(s) do to make sure you understand each other?	long answer text
What did you do to make sure you understand each other?	long answer text
How would you describe your healthcare provider's language use?	long answer text
How would you describe your healthcare provider's use of medical words? (if you can, please, give examples - e.g., "he used words like inflammation/sore throat/tonsillitis...")	long answer text
What did you like about your Hungarian healthcare provider(s)? OPT	long answer text
What did you dislike about your Hungarian healthcare provider(s)? OPT	long answer text

As in the case of the survey for HCPs, data from filled-out forms were extracted separately for each respondent Data from filled-out forms were extracted separately for each respondent to a MS Word file and each participant was given a code in a similar manner as HCPs (e.g., patient4/ESP25+F–indicating the fourth patient filling in the survey, a Spanish woman in the age group 25-29) so that the survey answers could be handled along with the interview transcriptions and HCP survey answers. If a respondent filled out the form incompletely, the data of that respondent were excluded from the study.

4.2.3 Study 1–Data analysis

After the voice recordings were transcribed and survey data were extracted for each respondent, an anonymised file was created for each participant with all the data gained from them. Descriptive characteristics formed the basis for differentiating the participants, as displayed in Table 9. HCPs were described with their profession, age, gender, and level of English proficiency, with numbers added to their profession in case more participants were included with the same background. Patients were also numbered and in their case nationality, gender, and age were indicated. The files were uploaded as resource documents in the MAXQDA Analytics Pro software 2019. The anonymity of the written data helped the researcher minimise the effects that her relationship with the participants may have had on the interpretations, while participants' descriptive characteristics in their codes could serve as context to their accounts of MELF encounters.

Table 9

List of all participants in the study with their descriptive characteristics in their codes and grouped according to research instrument

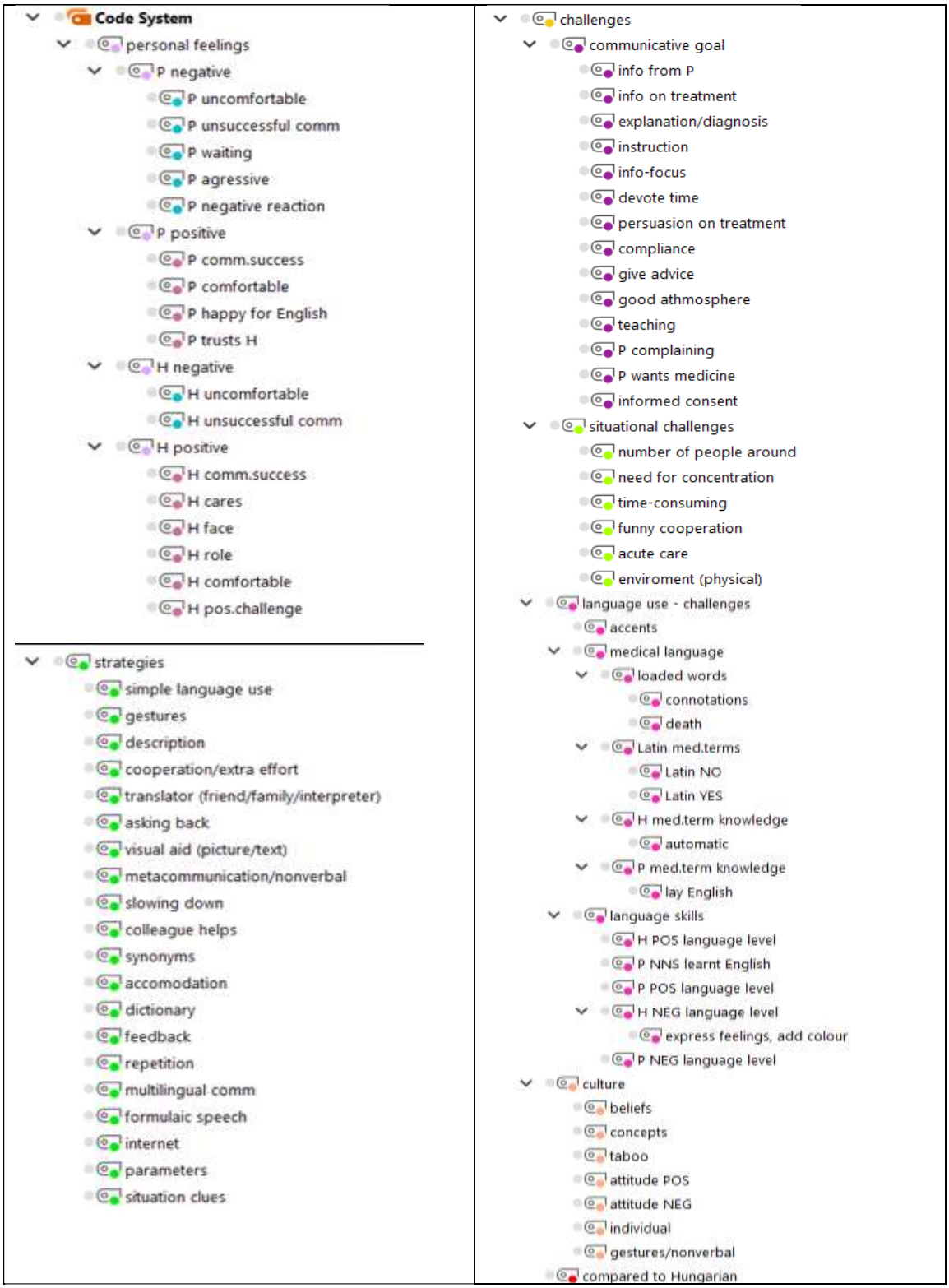
INTERVIEWS	SURVEY WITH HCPs	SURVEY WITH PATIENTS
doc2ortho/25+F_C1	dietetitan5/50+F_B1+	patient1/CANHUN40+F
doc3GP/25+M_C1	dietitan6/30+F_B2	patient2/ESP25+F
doc4ortho/30+F_C1	dietitian1/40+F_B2	patient3/FRA25+M
pharm2/25+M_C1	dietitian10/25+F_B2+	patient4/ESP25+F
med.hotline/40+F_B2+	dietitian11/25+F_B1+	patient5/TUR25+M
doc5ER/30+M_B2+	dietitian12/25+F_C1	patient6/IRN25+M
doc6ER/30+M_B2+	dietitian2/25+F_A2	patient7/RUS18+F
doc7intern/30+F_B1+	dietitian3/40+F_B1+	patient8/IRL25+F
doc8intern/30+M_B2+	dietitian4/25+F_A1	patient9/POL25+F
doc9intern/30+F_B2	dietitian7/25+F_B2+	patient10/USA60+F
doc10ortho/30+F_B2	dietitian8/18+F_B2	patient11/CHN18+F
doc11intern/30+M_B2+	dietitian9/25+F_B2+	patient12/GRC18+M
paramedic5/30+M_B1	doc1paed/50+M_B1+	patient13/POL18+M
midwife7/25+F_B2+	midwife1/40+F_B2	patient14/NLD18+M
nurse8/30+M_C1	midwife2/25+F_B2	patient15/DEU18+M
physio8/25+F_C1	midwife3/25+F_B2	patient16/ESP18+M
nurse9/25+F_B2	midwife4/18+F_B1+	patient17/USA18+F
physio9/40+F_B2+	midwife5/25+F_C1	patient18/USAHUN18+F
	midwife6/25+F_B1	patient19/CHN30+F
	nurse1/25+F_B2+	patient20/ESP18+M
	nurse2/40+F_B2+	patient21/USA18+F
	nurse3/30+F_B1	patient22/GBR30+F
	nurse4/30+M_B2	patient23/MLT18+F
	nurse5/30+F_C1	patient24/IND30+M
	nurse6/25+F_B2	patient25/GBR50+M
	nurse7/25+F_B1+	patient26/BRA25+F
	paramedic1/25+F_B2+	patient27/PAK25+M
	paramedic2/18+M_B2	patient28/KAZ18+F
	paramedic3/25+F_B2+	patient29/NLD25+M
	paramedic4/18+F_B1+	patient30/ESP18+M
	pharm1/50+F_B2+	patient31/FRA18+F
	physio1/25+F_B1+	patient32/MEX18+F
	physio2/40+M_C1	patient33/KEN18+M
	physio3/40+M_B2	patient34/EST18+F
	physio4/20+M_C1	patient35/MEX25+M
	physio5/30+F_C1	patient36/CAN25+M
	physio6/18+F_C1	patient37/AZE18+M
	physio7/30+F_B1+	patient38/IRQ25+M
		patient39/LAO25+F
		patient40/JPN18+F

Analysis of the written data was carried out in 2019 July using the constant comparative method (Coffey & Atkinson 1996; Maykut and Morehouse 1994; Strauss & Corbin 1998). Codes were placed on the texts, with overlaps allowed, and with open and axial coding a taxonomy of the emerging categories was constructed. Codes and the coded segments were continuously revisited and if necessary, codes were either divided into further codes or sub-codes or were merged with existing codes. Memos including definitions and/or key concepts differentiating a code from another one were added to the codes created to ensure that the codes were consistently used. Altogether 6858 codes were placed in the dataset. The structure of the taxonomy was also constantly refined. The final taxonomy can be seen in Figure 11, which was centred around three main topics in line with the three sub-questions of RQ1: the personal feelings of HCPs and patients related to the MELF encounter (such as feeling successful or comfortable in MELF communication); the challenges they faced during MELF interaction; and strategies they used to meet these challenges.

After the taxonomy was created, all coded segments were re-iterated one more time in order to make sure that the codes were consistently used. The coded segments for each code were looked at in the case of all codes and if any inconsistency was found among the coded segments, further refinements were made. Similarly, if at the final re-iteration, any former coding decision was found unclear, the source text of the segment was re-iterated, and the ambiguous coding was corrected.

Figure 11

Taxonomy of the codes



The coded segments were extracted according to codes with metadata on the exact source of the segment. The source data included the document title, which was the participant's identifier, and the paragraph number, which was automatically assigned by MAXQDA. The segments were further grouped in order to build a line of thought for presenting the findings. Moreover, segments in Hungarian were translated by the researcher (me). In case of patients' answers, clear typos were corrected, but no other modification was made, ungrammatical sentences were left in their original form.

In the Results and discussion section below the segments are included within inverted commas, followed by the participant's identifier and the paragraph number after colons–e.g., nurse6/25+F_B2:5. If HCPs' segments are included, it is not indicated whether the data came from an interview or the survey, but Table 9 above serves as a reference in this matter. In case more paragraphs are included from a participant within one quotation, paragraph numbers are listed with a comma between them. If certain parts of the segment (e.g., the interviewer's questions) are not displayed, the sign '(…)' is added. Simple three dots '…' indicate the interviewee paused for some seconds. Single inverted commas are used when the interviewee used a quotation. When words are added for clarification, based on the context of the interview, the added text is placed between the signs < >.

4.2.4 Results and discussion of Study 1

The structure of this section follows the three sub-sections of RQ1 and the main branches of the taxonomy of the codes (as presented in Figure 11), with sample segments from both providers' and patients' accounts. Interpretations of the empirical results from Study 1 are

collated with concepts and findings in the theoretical background (Chapter 3). The answers to RQ1 are summarised in the next section (Section 4.2.5 Conclusions–answering RQ1).

4.2.4.1 What MELF communication is considered successful by providers and patients?

4.2.4.2 ***Overall aim.*** First and foremost, healthcare communication is centred around providing quality medical care to patients (WHO, 2020). Looking at patients' answers in terms of how successful they found their interactions with Hungarian healthcare providers, we can see that it is evident that the goal of these communicative situations was to receive the care they need. For example, patients formulated their aims as "I found it successful because he was able to completely understand my issue and provide the correct treatment" (patient17/USA18+F:10); "I got the required medication that made me feel better" (patient1/CANHUN40+F:7). How this is realised in MELF encounters in Hungary, based on the findings of the research, is detailed in the followings.

4.2.4.2.1 Exchanging information. It has been argued that the main aim of any healthcare communication–including MELF communication (Tweedie & Johnson, 2022)–is to exchange information in order to ensure safe and quality patient care (Hull, 2022; WHO, 2020). Hungarian providers' and their foreign patients' accounts also support this statement as they defined successful communication from the aspect of information exchange: a Hungarian paramedic summarised it as "I could get and give the necessary information" (paramedic1/25+F_B2+:3) and a Chinese female patient noted that "I made myself understood and I understood what the doctor told me" (patient19/CHN30+F:10). The goal-orientedness of MELF encounters that Bagheri et al. (2015) draw attention to was also described by the providers, e.g., "the patient is focusing on the complaints and on solving the whole situation

language-wise: get the information across from me to them and from them to me" (doc5ER/30+M_B2+:61). This latter example emphasised the highlighted role of language in medical communication (Ferguson, 2013; van Servellen, 2009; Tweedie & Johnson, 2022), which could also be witnessed in patients' accounts. For instance, an Iranian patient wrote: "it was fine, they understood everything I said and could express what they mean in a way that I understood what they mean and what they say. I didn't face any big problem in communications" (patient6/IRN25+M:14).

The main topics of information exchange were concerned with collecting information about the anamnesis (patient history) and symptoms and giving information, explanations, and instructions to the patient. A nurse nicely summarised the importance of gaining information from patients: "for us the most important is to get information in any way about why they are here, how we can help them, so what type of problem they have" (nurse8/30+M_C1:32). Such focused need on identifying the medical problem and providing the patient with their diagnosis was expressed by patients as well, e.g.,

> When I went to the doctor to seek treatment about my UTI, the doctor was able to explain me what was happening to me, describe the treatment. Regarding my shoulder, the doctor was also able to explain me what was happening with my shoulder and how I should treat it. (patient26/BRA25+F:10)

These instances support the claims that effective communication is largely reliant on the provider and patient's shared understanding of the healthcare situation (Ha & Longnecker, 2010; Johnson et al., 2022; Van de Poel et al., 2013; Wright et al., 2013) and that key information to be exchanged requires the use of medical terminology (e.g., names of diseases, symptoms, medical conditions) by both the provider and the patient.

Apart from diagnosing the patient, explanations of examinations and diagnostic procedures were mentioned on several occasions, along with providing information on the treatment necessary and giving instructions during examinations (e.g., sticking out the tongue, sitting down, lifting their arm) and treatment (e.g., carrying out exercises), which all include the use of a large number of TUs. Another common form of instructing the patient was giving orders as to what behaviour is best to recover from their condition–e.g., a nurse said about a post-operative patient that "we've managed to tell him that he can get up only to go to the toilet and not to leave the ward, and he complied" (nurse9/25+F_B2:131). It can be seen that instructions can have longer effects and broader goals than the mere execution of certain tasks, as they are vital in terms of healthcare outcomes, the importance of which has been reported by several studies (e.g., Benner et al., 2008; Lee et al., 2013; Meterko et al., 2010; Mustafa et al., 2013; Shoenthaler et al., 2009). In addition, due to patients' unfamiliarity with the Hungarian healthcare system, MELF encounters recalled by the participants usually included instructions on how the healthcare system of the country works.

4.2.4.2.2 More than information: trust, safety, compliance. Although information exchange is crucial in medical encounters, the need for emotional support for the patients to feel safe and secure is equally important (van Servellen, 2009). This need for something more than just focused information exchange and actual care provision was also often formulated in participants' accounts. Having a good atmosphere and mutual friendliness was as commonly mentioned as exchanging information. For instance, a nurse mentioned that "if the patient can communicate well, we can have very nice chats, and we say a lot to the patient, everything that happens. But we also talk about why they are in Hungary, or things like this, and this is always really good" (nurse8/30+M_C1:58). A patient emphasised the importance of a positive atmosphere as: "they are very approachable, more like neighbours with whom you feel at ease

to talk with. This is very important for foreigners who tend to feel at edge being sick in a foreign country" (patient19/CHN30+F:16).

This last account draws attention to the increased vulnerability of patients in MELF encounters, which is not only because of the anxiety due to their complaints but also due to the foreignness of the healthcare situation and the need for communicating in English, which is used as a foreign language most of the time by both the provider and the patient. As a dietitian wrote, "due to the language difficulties I'm less relaxed, just like the patients" (dietitian2/25+F_A2:11). An orthopaedic doctor also expressed their empathy towards these patients, as

> I often imagine how horrible it can be that you go for a holiday, you plan to have a good time, and then you are transported to a very poor hospital, where nobody talks your native language, you don't know what on earth is going on and why you are in terrible pain, and you worry what will happen and how you get home and what will happen to the holiday–so there are plenty of questions, which are much simpler in the case of a Hungarian patient. (doc10ortho/30+F_B2:91).

Accordingly, ensuring that the patient feels safe is also a critical issue in terms of successful communication.

Patient's perception of safety can also be influenced by the extent they feel trust toward their healthcare provider. Many providers expressed that they believe trust enhances the efficiency of communication. A midwife agreed that if she could create a good atmosphere with a patient, "the patient felt safe and thus got more relaxed" (midwife7/25+F_B2+:64). In addition, a nurse warned that if the patient is left in a vulnerable situation where they could not communicate with the provider due to a language barrier, they would not feel safe, which

statement was supported by a patient who shared that “I felt very vulnerable since my choices of healthcare providers were pretty limited at that time due to the language barrier” (patient19/CHN30+F:9). These accounts highlight the vital role of language in medical encounters, as without proper verbal communication the safety of care cannot be realised.

Establishing trust in the provider-patient relationship does not only have the aim of creating a relaxed environment where patients feel safe, but of ensuring that patients follow the providers’ advice and instructions in order to reach better outcomes; that is, patient compliance is supported (This also results in increased levels of patients’ trust, which is crucial in accepting medical care (Pilling, 2001; Silverman, Kurtz, & Draper, 2013; Sehouli, 2020; Wong & Wong, 2022). The following aspects of compliance were mentioned by providers, “returning patients” (doc1paed/50+M_B1+:5), “the patient taking our work together seriously” (physio2/40+M_C1:5), “they [patients] wanted to change” (dietitian10/25+F_B2+:5), and a paramedic expressed his frustration and concerns regarding how foreign patients tended to be less willing to be taken to a hospital. Therefore, the success of MELF communication is also dependent on how trust can be realised and how patients can be convinced or motivated to be compliant with care, treatment, or advice proposed by the provider. At the same time, for patients to be compliant, they need to understand their medical condition and why the provider is asking them to follow certain medical advice (Johnson et al., 2022; Van de Poel et al., 2013), which also requires the extensive use of medical terminology.

Among the participants’ accounts, we can find answers where it is articulated that patients need to be heard and listened to. Providers expressed how they try to devote some time to let their patients talk and provide psychological support for them, although a few patients reported their dissatisfaction with Hungarian providers who did not empathise with them or tried to finish

the healthcare appointment as soon as they could. Accordingly, healthcare communication can be regarded as successful only if providers make efforts to actively listen to their patients (Johnson et al., 2022; Van de Poel et al., 2013) so that patient-centred communication can be achieved (Binnie & Titchen, 1999; Pilling, 2011; Shaller, 2007; Van de Poel et al., 2013; Van Servellen, 2009; Wright et al., 2013).

On the other hand, providers' needs were also formulated in the accounts, mainly focusing on their wish to appear professional in the MELF encounter, consisting of trustworthiness, precision, efficiency with time, and confidence not diminished by their limitations in English. Some providers, especially those who had some work experience in a foreign country reported that foreign patients may be used to a different image of doctors, as they had to wear "shirt and tie every day (…) so the whole appearance <was different>" (doc3GP/25+M_C1:11) and that this more formal appearance affected patients' behaviour as well, since "they view the doctor as a pro, as an expert–the same way as I would handle a lawyer (…) and when this expert tells something, I can see that this is a professional" (doc3GP/25+M_C1:20). The importance of the providers' face value can be observed in how patients found it crucial that their provider was an "open minded, good specialist" (patient7/RUS18+F:18), or as a Spanish woman wrote about Hungarian specialists: "They are famous for being quite good, which is reassuring." (patient2/ESP25+F:14). Furthermore, as some studies support (Hull, 2022), providers' fear of appearing unprofessional due to their language difficulties may even cause them to decrease the time they spend with patients or even avoid these encounters. Therefore, the provider feeling and being competent in MEFL communication largely influence the quality of care provided to patients.

In conclusion, the data suggest that MELF communication can be successful if it results in the proper provision of care as expected by the patient and as proposed by the provider, for which precise exchange of information is inevitable. In order to reach this aim, great emphasis must be placed on language use, especially the use of medical terms, as the largest part of the information elicited from and shared with patients is centred around medical issues, such as diseases, symptoms, procedures, and the healthcare system of the country in which the care is provided. The provider's ability to effectively communicate with foreign patients in English contributes not only to a shared understanding of the patient's medical situation, but also to increased trust, safety, and compliance. These aspects of MELF communication not only require the appropriate use of medical terminology but also the creation of a friendly, supportive atmosphere, where the factors making patients feel vulnerable in a foreign country's healthcare system are diminished. Accordingly, patients must be heard and providers must feel confident in their professional role regardless of the challenges MELF language use may pose.

4.2.4.3 What challenges do providers and patients encounter when exchanging information in MELF communication?. As has been found, information exchange is the central aim of healthcare communication (Tweedie & Johnson, 2022), not only in terms of the provider and the patient directly understanding each other but also with regard to ensuring good healthcare outcomes via building trust, decreasing the patient's vulnerability, and achieving patient compliance. In all these areas, language and especially medical terminology play an important role. However, the greatest challenge of MELF encounters is the increased need for negotiation of meaning, mainly due to different levels of language proficiency and cultural differences (Canagarajah, 2007; Pölzl & Seidlhofer, 2006).

4.2.4.3.1 Language proficiency issues. The differences in language proficiency between the provider and the patient were usually mentioned in the data as a root of challenges in communication. An orthopaedic doctor said that "the most difficult is with patients who speak much worse English because communication comes to a halt very early on. And with those who speak English very well, the problem is that <I have to say> 'slower, please'" (doc10ortho/30+F_B2:27). Furthermore, lexical limitations of NNSs of English were mentioned, as "the problem is that for a non-native speaker of English, it is more difficult to explain what I want. So no matter if I express myself precisely, they do not necessarily know the words I use" (doc4ortho/30+F_C1:24). As information exchange is mainly ensured by the use of medical terms, it can be assumed that the words that patients were unfamiliar with were specialised vocabulary.

In line with the above, the importance of using medical terminology and related challenges can be observed when participants reporting successful communication mention that it was due to "the knowledge of medical language" (midwife5/25+F_C1:5) and as a paramedic put it, "apart from knowing general conversational English, healthcare vocabulary helped in taking the anamnesis and interviewing the patient" (paramedic3/25+F_B2+:5). Accordingly, many providers admitted that using the appropriate medical vocabulary was often challenging because they could not remember a word. In other cases, they knew one word, but they were looking for a synonym that could be used with the patient, as an orthopaedic doctor explained: "when I'm explaining at the operation, what is broken, I often say the Latin word femur as I struggle recalling the word thigh" (doc10ortho/30+F_B2:21). Another challenge providers face is finding the most appropriate word in medical English, by which the patient means the same as the provider, for example,

<when I want to ask> if they are taking any medications, I always say drugs, and then there is a misunderstanding that 'no-no, I'm not taking drugs' and then I say I didn't mean it that way and then it's difficult to describe it, like pills, tablets (doc10ortho/30+F_B2:9).

In addition, several providers shared their struggle to understand various accents, both English NS and NNS pronunciations. Furthermore, many providers also admitted that their not-so-good pronunciation can also cause problems in communication. A physiotherapist added that "it was usually my lack of routine and my pronunciation that caused most of the problems" (physio3/40+M_B2:8). Interestingly, a dietitian concluded that even though her English grammar was not perfect, "the correct pronunciation makes it very successful" (dietitian12/25+F_C1:5). Therefore, healthcare providers must be prepared for not only differences in English proficiency levels in MELF communication but also for the challenges accents pose (Hull, 2022).

The increased goal-orientedness and less small talk characteristic of MELF encounters (Bagheri et al., 2015) was also reported to be a challenge by Hungarian healthcare providers, expressing their concern that due to the language barrier their communication with foreigners was less colourful than with Hungarian patients–e.g., "I can't say it as nice as to a Hungarian patient." (nurse9/25+F_B2:71). It can be observed that what they lack is language that helps supporting the patient (van Servellen, 2009): "It is more difficult … those nuances… to comfort someone in English, well, it's not easy." (doc8intern/30+M_B2+:15); "It is more schematic, simpler, less sophisticated, and thus less nice, polite, or friendly, it's just clumsier" (physio1/25+F_B1+:8). An ER doctor also added that foreign patients who are non-native speakers of English also have trouble expressing emotions:

A Hungarian patient can approach the doctor in several ways. They can express their impatience, their pain, worries, even their rage, or… and what I'm saying is that a patient with learnt English, they try to tell me things in a very reserved way what their complaint is and when they try to explain it to me… well.. there is not much emotion in it… you know… this extra content of the conversation is not there… (doc5ER/30+M_B2+:15).

Furthermore, as an internist admitted, "it is difficult to make them confide in you… it's much easier to make a Hungarian patient trust you" (doc8intern/30+M_B2+:146).

The accounts of both providers and patients show that they must step out of their comfort zones when they engage in MEFL communication. Providers cannot take it for granted that they understand their foreign patients and that their foreign patients understand them, they need to face constant ambiguity in the interaction, and they cannot easily soothe the tension of the medical encounter with small talk, as increased efforts must be made to fight language barriers and negotiate key medical information.

4.2.4.3.2 Need for increased adaptation. Due to the language barrier described above, as Roberts et al. (2005) also found, many providers found it challenging to arrive at a common ground in the communication with foreign patients, especially if the patient speaks in English at a very rudimentary level: "I just can't talk with them. (…) It is difficult to create a common language, a communication channel." (nurse9/25+F_B2:203,207). This account displays the need for adaptation and many providers report that this adaptation is a challenge–e.g., an ER doctor claimed that

I think I can express myself in English in one way only. I try to look for the words and I try to accommodate to the situation, but you just can't express as many things with a learnt language as with Hungarian (doc5ER/30+M_B2+:17).

Similarly, many providers agree that it is crucial to adapt the medical terminology in a way that the patient understands it: “this is a problem how we can ask when they last had a bowel movement, so this is very difficult how to say it, how to translate it in a way that they understand it” (nurse8/30+M_C1:70). Furthermore, a number of providers expressed their frustrations concerning how foreign patients tend to talk about their complaints differently due to limitations in proficiency–such as saying hand instead of thumb or simply saying they feel unwell and do not specify their symptoms.

On the other hand, the phenomenon that patients find it hard to talk about their complaints or symptoms sincerely may be due to the sensitivity of the topic. Several providers shared that they often find themselves in situations where patients cannot talk about certain topics easily, especially if body fluids or secretions are involved. As a medical hotline operator summarised, “it is difficult because we don’t know what counts as intimate in a certain country, what is less intimate, what question they will be able to or will be willing to answer” (med.hotline/40+F_B2+:31). These instances point to the challenges culture-related communication problems cause (e.g., Schouten & Meeuwesen, 2006). Apart from differences in language use, the knowledge shared by the provider and the patient may be limited in MELF situations in contrast to interaction in their own mother tongue. As a nurse put it “I had to think differently” (nurse6/25+F_B2:11) while talking to a foreign patient. Dietitians shared their concerns regarding “cultural differences in the kitchen” (dietitian11/25+F_B1+:8), such as different raw materials and dishes, which require both providers and patients to learn about the other culture’s typical foods so that a healthy diet could be realised. Doctors and pharmacists alike mentioned the problem of having different brand names for medications in different countries.

The data from providers' and patients' reports support the claims about the need for stepping out of pattern-driven communication and adaptation of perspectives, language, and medical terminology in MELF encounters (Section 2.5) and the need for conscious efforts to reach mutual understanding (Goleman, 2013; Kahneman, 2011; Tőrey, 2014).

4.2.4.3.3 Need for extra effort and time. Many providers indicated in their survey answers that MELF communication is much slower and less smooth, mainly due to the increased need for negotiation of meaning–e.g., "sometimes it becomes complicated, with explaining certain things" (doc1paed/50+M_B1+:2). Furthermore, it was also commonly reported that those providers who speak English needed to communicate instead of other colleagues as well, who did not have a sufficient level of the language - e.g., "If the nurses don't speak English, then I have to tell them everything, (…) like 'please, stay calm, we are taking blood, we examine your blood, this is a blood test…" (doc6ER/30+M_B2+:59).

Extra workload on providers and extra time devoted to foreign patients breaches the principle of providing care in a timely manner (WHO, 2020) and thus reduces the effectiveness of care. As a dietitian put it: "it takes longer and it is less thorough" (dietitan6/30+F_B2:11). Some doctors also admitted they did not have enough time to write patients' medical records in English as well, which may also reduce the quality and safety of the care: "Unfortunately, I don't have time to write the discharge papers in English too." (doc9intern/30+F_B2:45);

> They get a Hungarian medical report. If they want, they can have it translated. Maybe sometimes at the clinic we put three sentences to the end in English so that if they take this record somewhere, it could be seen what happened, but we don't write down the whole thing in English. (…) This would be double work for us… (…) and I don't have that much time. (doc6ER/30+M_B2+:49,51).

– The decreased extent of thoroughness and shorter medical papers can result in reduced safety as well, further diminishing quality patient care (WHO, 2020).

This lack of time is a great issue for providers and further worsens the quality of care, as an internist explained: “I’m less efficient because I have to think about the words. (…) And since I have to talk to them longer, simply because the communication is slower, it takes time from other patients” doc11intern/30+M_B2+:154,156. These are further threats to providing efficient and equitable care (WHO, 2020) and may lead to providers’ reduced willingness to engage in conscious adaptation or negotiation in MELF encounters: as an orthopaedic doctor admitted, “we just don’t have the time to start playing activity” (doc10ortho/30+F_B2:102). Moreover, the need for extra concentration was reported by more providers to ensure mutual understanding, and they also complained of increased anxiety in MELF situations.

All these challenges threaten almost all aspects of quality patient care (WHO, 2020), the effectiveness, safety, people-centredness, timeliness, equitability, integration in the health system (i.e., coordinated and with access to all services available), and efficiency in terms of utilizing resources. Therefore, it is of utmost importance that healthcare providers are prepared to cope with the challenges of MELF communication with ease so that these encounters can be less effortful and time-consuming. They need to be prepared for various levels of English proficiency, accents, more variable ways of using medical terminology and building patients’ trust by creating a supportive environment not necessarily with verbal communication. Accordingly, an increased need for adaptation must be anticipated in language use, in the use of medical terminology, in the communication of culture-specific concepts, and in addressing sensitive and taboo topics.

4.2.4.4 What strategies do providers and patients use in order to ensure the proper exchange of information in MELF communication?

4.2.4.4.1 Accommodation. Accommodation is a crucial element of ELF communication as Jenkins (2007) argues and has been reported about MELF contexts as well (Ritala, 2022). Due to the differences in English proficiency levels, providers shared that they tended to accommodate their language use to the patient's, especially if the patient had a lower level of English, which they reported to take place either naturally, in an automatic way, or deliberately. An ER doctor noted that "my English knowledge gets better if I try to speak at her <the patient's> level and with her pronunciation–interestingly it goes much smoother" (doc5ER/30+M_B2+:96). Such accommodation can affect pronunciation as well: "Usually, if someone is from Eastern-Europe, they would understand Hunglish better. So if I start stressing the words, in a way they are written down, they understand me easier." (pharm2/25+M_C1:25). Another pharmacist even underlined that "you must really feel at what level the other's language proficiency is and what healthcare concepts they are familiar with" (pharm1/50+F_B2+:8). Estimating the patient's level is realised by listening to them carefully, as an internist explained,

> Well, I start with an open question. Based on how the patient answers, you kind of know how well they know English, based on how they talk–logically, in simple sentences, and while looking for words or in a cohesive way, almost fluently–and then you know how you can say these things. So, I just go like 'what was your symptoms, what was your complaints' and then they tell me. So practically they start the conversation, and they determine the difficulty of the communication (doc8intern/30+M_B2+:45).

In terms of patients' knowledge of the language, it can be seen that providers faced challenges when patients had a limited knowledge of English medical vocabulary and they aimed to accommodate their use of medical terms:

> I find it problematic how to say words like being dizzy or fainting, or things like these, because the thing is that those who speak <in English> with their friends every day, don't really use these words (…) For example, we say… urination, defecation as bowel… or urination, but they don't really understand them and then I try to explain… and go lower… so that they may understand them (nurse8/30+M_C1:34,36).

Several providers claimed that when they were talking with foreign patients, they tried to use simpler language–e.g., "I tried using simple sentences that cannot be misunderstood." (dietitian2/25+F_A2:9), which was reinforced by some patients' accounts as well. Nevertheless, it can be observed that both providers and patients can mean different things by simple language. Some refer to simpler sentence structures, some, in line with Ritala (2022), Van de Poel et al. (2013), and Wicklund and Ramos (2009), to everyday words or the avoidance of Latin medical terms. Using simple vocabulary and grammar was also reported to lead to more to-the-point communication, which was also formulated as a goal by providers: "I try to express myself as simple as possible, in short sentences, with to-the-point, simple questions, and that's it." (doc6ER/30+M_B2+:13); "With people who don't really speak in English, like people from the Far East, the final communication is very objective and to the point, like 'no problem, calm down, not this, not that, diet, blablabla'" (doc5ER/30+M_B2+:112).

In cases of a misunderstanding, some providers mentioned they "tried saying the same thing with different words" (nurse4/30+M_B2:10); "simplified the sentences to words and if they

didn't understand it, I looked for a synonym or I used a description of the word" (paramedic1/25+F_B2+:7). Providers also said they tried saying words in more possible ways and hoped the patient would understand one of them. As an orthopaedic doctor explained,

> When patients couldn't express themselves, (…) I started listing the phrases I knew, so that maybe they'll recall the word. And when they said it in Spanish or Italian, thanks to the Latin word roots I could figure out the English words, so it's less hard then. (doc2ortho/25+F_C1:33,35).

The effectiveness of this strategy is supported by the lack of term-coupling in Romance languages (Ruiz Rosendo, 2008). A midwife also stated that "using Latin, international words helps a lot" (midwife5/25+F_C1:9). Furthermore, using two words for the same medical concept was often reported: "I very often used the words in two forms (…) like 'blepharitis or stye' (…) and thus hope they would understand one of them." (pharm2/25+M_C1:31). Patients also used this technique, as the medical hotline operator shared: "When I asked back, they tried another synonym." (med.hotline/40+F_B2+:29). Similarly, a physiotherapist found that "the patient said a word, and sometimes repeated the same thing with another word, and then I understood what they wanted" (physio8/25+F_C1:101).

A common strategy, though considered highly time-consuming, is giving descriptions or explanations of phrases unknown to the patient. For example, a physiotherapist said that "I tried making myself understood and if I couldn't, I tried it differently, by explaining the activity with different words." (physio1/25+F_B1+:9) and patients also recalled the use of this strategy: "if you don't understand they will explain for you" (patient11/CHN18+F:14); "Sometimes he gave some examples when I didn't understand professional words." (patient28/KAZ18+F:12).

Moreover, an ER doctor underlined that when sensitive topics are involved, “the best way to be discrete is using more descriptive medical language” (doc5ER/30+M_B2+:136).

Accommodation can occur not only in language use but also in the speed of the talk. Several providers reported they slow down to increase understanding, and the medical hotline operator also highlighted that fast speech can be due to the emotional state of the patients: “They were very nervous, for example, because their wife was sick and the husbands were anxious, and they presented the problem with great temperament and then I had to ask them to talk a bit slower and to go point by point.” (med.hotline/40+F_B2+:21). In case the providers saw that the patients could not follow or understand them, they tended to accommodate, too: “When I saw that they don’t understand what I say and they can’t follow but take up only every second word of mine, obviously, I start to go slower.” (doc5ER/30+M_B2+:96). Patients also claimed that they tried speaking slower with their providers so that they understood them. Although this strategy has not been highlighted in MELF communication strategies research, probably since it is not specific to MELF encounters, its role in accommodation can be considered vital, as the challenges raised by limited English proficiency and accents can be compensated with slower tempo and thus information exchange can be ensured.

Coping with the challenges of MELF communication by adjusting language levels, pronunciation, vocabulary, and pace of talk, providers engage in the exploitation and adaptation of their schemata (see Section 2.7.1) and strategies of using simple language, synonyms and plurilingual resources for medical terms, and descriptions (paraphrasing, reformulation) are proof of providers’ engagement in conscious selection of TUs, thus exhibiting TA and TC.

4.2.4.4.2 Back-channelling. Since getting information from the patient is crucial, providers reported the use of a common ELF strategy (Caprario, 2023), asking for clarification in cases they were unsure what the patient was saying either because of differing proficiency levels or because of accents that the providers struggled to understand. It can also be observed that asking for clarification was a strategy applied by both providers and patients. Two US patients wrote "we asked frequently, do you understand?" (patient10/USA60+F:13) and "he would double check with me to make sure he was understanding everything properly. I would check to make sure I was understanding him properly by asking questions" (patient17/USA18+F:12-13).–In healthcare communication providers use clarification to direct the interaction and make sure they understand the patient's complaints, even in those contexts where the provider and the patient share their mother tongue (Van de Poel et al., 2013), but based on Hungarian providers' and their foreign patients' accounts, the widespread and more bidirectional use (i.e., initiated by both the provider and the patient) can be observed in MELF encounters.

Providers' double-checking on patients' understanding was reported to be realised in many ways. It was used as a simple check: "Sometimes I ask if they understand it." (doc9intern/30+F_B2:45); an offer for patients to ask questions: "Usually I ask them if they have any questions." (doc10ortho/30+F_B2:81); a request to the patient to summarise the information: "We asked them to repeat what they had to do and it seemed they understood." (doc11intern/30+M_B2+:95); a simple clarification: "I have to always ask back and clear it out." (nurse8/30+M_C1:80); and feedback questions: "I asked for feedback on what I've said, using questions." (midwife3/25+F_B2:9). Patients also use this strategy when making sure they understand each other with the provider. An Irish woman reported that "I ask questions until I'm sure that we're both talking about the same thing" (patient8/IRL25+F:17).

Being one of the key strategies in MEFL encounters (Ritala, 2022; Ting & Cogo, 2022; Tweedie & Johson, 2022), various forms of repetition were reported by both patients and providers with the aim of raising the explicitness of the encounter. A GP explained that "after the patient tells me what their problem is, I kind of repeat or summarise it as 'So if I understand you well, you have fever…' and if they have further complaints, they add them." (doc3GP/25+M_C1:76). Similarly, a physiotherapist said that she always asked patients to repeat the exercised she gave them–"<I say> please, repeat, and then we rather repeat it more times" (physio9/40+F_B2+:167). Several patients also reported that they decided to repeat everything they understood to make sure that they understood the same thing that the provider wanted to say–e.g., "I repeated his directions" (patient1/CANHUN40+F:11), and some of them recalled repeating key information with different wordings or with equivalent words in another language such as Hungarian, similarly to the phenomenon of using English and Japanese in MELF encounters in Japan (Mori & Shima, 2014).

Furthermore, providers asked for repetition in situations when they did not understand their patients. This could happen due to differences in their language proficiency: "It was a patient speaking <English> better than me, and then I said sorry and asked them to repeat it." (med.hotline/40+F_B2+:29) or due to the patient's tempo: "the patient was saying it very fast and <I asked them> to repeat it one more time" (physio8/25+F_C1:101).

These back-channelling strategies described in the accounts exhibit attempts at finding common ground in the MELF encounter with two underlying goals: (1) as a compensatory strategy ensuring that no vital information is lost in the interaction due to the language barrier; (2) as awareness of the possibility that patients may interpret or understand something differently.

4.2.4.4.3 Relying on more factors. When providers could not get proper information with the help of asking for slower speech, clarification, or repetition, they tended to turn to objective parameters they could observe or measure on the patient. This strategy was reported to be used not only in cases where they faced the language barrier but, in any situation, where the patients could not communicate. As they explained: “You can escape from any communicative problem with other, diagnostic measures. So, in these cases, you don’t care if they can’t tell you their problem, like with an old patient with dementia or with a … disoriented patient.” (doc7intern/30+F_B1+:99); “<at the ER> you just put them in the X-ray or the ultrasound.” (doc7intern/30+F_B1+:105). An ER nurse further justified this strategy: “In fact, those things that I can measure, and a few other things help me make conclusions to inform me in which direction I should move forward” (nurse8/30+M_C1:42). At the same time, this strategy can be judged negligent by the patients, as a Canadian woman wrote: “There was no indication that he was interested in any information other than what he could observe. My input was not 'significant'” (patient1/CANHUN40+F:13).

Similar to objective data gained from the patient, situational clues can help providers find the right direction of care. As a midwife explained: “Usually I kind of feel from the situation what can be the issue and then somehow I manage.” (midwife7/25+F_B2+:90). However, as the ER nurse added, “In fact, you know it all along what you are facing because of the whole situation. But for us what is more challenging is not getting to know certain important things that would make our job easier.” (nurse8/30+M_C1:40). A strategy the medical hotline operator used in such cases was that “when the patient was complaining, they already said something, so I had an idea what their problem can be, and <since I know> what symptoms it goes with I knew its terminology and asked them if they experienced this or that” (med.hotline/40+F_B2+:29).

Apart from objective or situational clues, how patients respond or ask back can carry valuable information for the provider. As an orthopaedic doctor recalled:

> Usually, when they don't understand something, it becomes clear. They go like: what is this on my leg or why do we do it this way? So I get these questions <about what I've explained earlier>. (…) I thought the patient understood and then the next day when the family came, they raised the same questions (…), which made me realise that the communication was not so successful. (doc10ortho/30+F_B2:81)

Physiotherapists may get feedback easier, as one of them explained, "obviously you see on the patient whether they are doing the exercise well or not" (physio8/25+F_C1:14). Similarly, a Polish woman who was transported to a hospital by paramedics at the beginning of her pregnancy with some issue reported that "I just said that I understand and I was doing exactly what they want me to do. That was the prove of my understanding" (patient9/POL25+F:16). Furthermore, a Greek patient underlined that "I saw their reaction and answers to my questions" (patient12/GRC18+M:13), indicating that patients also rely on the feedback providers give them.

The feedback given to the provider or the patient can often be realised in the form of non-verbal communication, by the provider observing the patient's non-verbal communication. As a nurse put it: "I was paying attention to the patient's reactions" (nurse1/25+F_B2+:9). A paramedic also claimed that "all this nonverbal communication is involved in this whole story, which together maybe a key to our success" (paramedic5/30+M_B1:31). Several other providers indicated that nonverbal clues or as some of them wrote, metacommunication, play a vital role in MELF communication. In the same vein, patients also reported that they monitored their providers' nonverbal communication to checked if they understood them: "I repeated his

directions or followed his directions and he nodded" (patient1/CANHUN40+F:11). Similarly, an American woman wrote that "gestures and facial expressions were helpful" (patient21/USA18+F:13).–As an orthopaedic doctor concluded, "it is interesting that if you are really looking at the patient's face and they are looking at yours, too, it is very <informative>" (doc10ortho/30+F_B2:9). This doctor, among other providers, also added the use of nodding in these encounters as a key source of information on understanding: "they understand the word painkiller, they are nodding <when I use the word>" (doc10ortho/30+F_B2:94). In line with this, an orthopaedic doctor shared that when her patient could not communicate in English, she could rely on several nonverbal signs: "you kind of understood from the facial expressions and as he was pointing at himself, and then you palpated through his body and watched carefully <the reactions> and then you knew in which direction to go to" (doc10ortho/30+F_B2:98).

A common form of nonverbal communication complementing verbal interaction is the use of gestures to reinforce the information or message to be conveyed, as Ting and Cogo (2022) also found. A paediatrician shared that he uses more gestures in communication with foreign patients, and several other providers had the same experience, for example, "I'm trying to show the things… I really try everything to explain it. (…) The gestures get really more emphasis." (midwife7/25+F_B2+:7). These gestures were reported to express mainly the location of the pain or various symptoms, as an ER doctor explained: "well, I try to show or use gestures to get to know where the pain was and if it was cramping or pressing, it was a cramp or more like a stabbing" (doc6ER/30+M_B2+:37). Patients also reported that providers were "using hands to point at things and explain" (patient2/ESP25+F:11) and made sure the patient understands them "with some body language" (patient11/CHN18+F:11). Similarly, patients recalled using body language as well, e.g., "I tried to use my hands to explain, I was in pain both times" (patient32/MEX18+F:13).

Although Ting and Cogo (2022) found that mainly symptoms and conditions are reinforced with nonverbal repetitions, as Hungarian providers explained, supporting the efficiency of giving instructions can well be realised with the help of body language. Showing patients to lie down or sit up was mentioned more times: “Sometimes they understand that they should lie down or sit up, sometimes they don’t. But it’s not a problem. They sit and lie down because they understand these with the help of gestures.” (doc6ER/30+M_B2+:53); “when I’m asking them to stick out their tongue, many of them don’t understand me, and then I have to stick out my tongue” (doc5ER/30+M_B2+:41). Nevertheless, some more complex issues, especially in internal medicine, are hard to explain with body language, as an internist argued: “so he understood these standard words like fever or pain, and I could explain these by using gestures, but when it was a more complicated medical case, he couldn’t understand it” (doc9intern/30+F_B2:25).

Furthermore, some providers expressed that this kind of nonverbal communication is great in relieving stress in the situation–helping to ease the frustration due to the challenges of MELF communication and also helping the patient feel more relaxed. As the orthopaedic doctor put it: “I usually use all the tools of Activity, so it is great… it even relieves my own stress and helps the communication” (doc10ortho/30+F_B2:61). Moreover, a midwife’s account also connected the use of body language with a more relaxed atmosphere: “We usually make up for unknown words with humour and gestures” (midwife3/25+F_B2:5). It is interesting, though, that some providers think about the use of body language differently. A physiotherapist considered it primitive “sometimes I go very primitive, I communicate with hands and feet. (…) I show the exercise on myself” (physio1/25+F_B1+:5,10). Alternatively, it can also be observed that when patients do not mime the movement properly, providers may choose to go

to the patient and correct their movements or position instead of telling them how to do it themselves:

> I can just go there and correct the patient's position. (…) I was there and I moved the pelvis. (…) I couldn't tell her to push down the waist and pull up her legs until 90 degrees, so I just touch her and show it on her. (…) I showed with my hands what to do (physio8/25+F_C1:9,55, 103, 153).

Based on the empirical data it is evident that there is an increased reliance on non-verbal and objective, measurable or observable information in MELF encounters. To some extent, it can be explained by the common use of nonverbal information (e.g., expressions of the patient's pain, anxiety, fear) in healthcare communication (Wright et al., 2013), but in MELF a more extensive use was reported, and the information gained this way was more emphasised because of the uncertainty of the verbal information and the increased need for exchanging medical information any way possible. Fundamentally, it is the lack of knowledge of medical terms (e.g., symptoms, body parts) that is compensated with the use of non-verbal communication, thus, exploitation and adaptation of non-verbal communication devices as a means of exchanging medical information can be considered a form of TA and TC.

4.2.4.4.4 Reaching out for external aids. Helping communication with written and visual aids was also reported to be a commonly used strategy, especially in cases where the use of English was limited, as both providers and patients admitted it–e.g., "I draw or write, it happens often that I write in front of the patient how much of this medicine to take and how many times" (doc2ortho/25+F_C1:31). As for providing the patient with written medical records, it could be observed that institutions rarely had English forms or leaflets for foreign patients. A nurse wished that

it would be great to have some information leaflets in English (…) and then if we have a patient, I could just give these to them. For example, I give it to them the night before the surgery (…) so that they know what they have to do, that they shouldn't eat or drink or that they can eat or until at a point… and that they have to have a shower, etc. (nurse9/25+F_B2:39).

On the other hand, in some cases, writing did not help much when patients did not have much knowledge of English, as an internist doctor said: "I didn't try writing, because I knew he didn't understand the words" (doc9intern/30+F_B2:29). In these situations, drawing and the use of visuals helped the communication. Two dietitians reported the following: "It made the communication successful that I complemented the counselling with creative drawing. (…) I used graphics, pointed on quantities with success." (dietitian11/25+F_B1+:5,10); "I used photos" (dietitian8/18+F_B2:10). Physiotherapists shared that they already had some photos and drawings they used for demonstration, which proved to be highly helpful when they communicated with foreign patients.

In some cases, providers asked patients to communicate with drawings. An orthopaedic doctor wanted to know the mechanism of injury of a French patient who had very limited English and asked the patient to draw while explaining how the accident happened: "Based on the drawings I had an idea of what happened to him." (doc10ortho/30+F_B2:11). Similarly, a nurse had a strategy of asking patients to keep a diary of their fluid intake as "we took a sheet of paper and they had to draw a strike for each cup so that I can later check it <and compare it with their urine output>" (nurse9/25+F_B2:167). Similarly, when providers had problems understanding patients' accents, they tended to ask them to write down or type in their phone what they said to avoid misunderstandings.

It can also be observed when no English could be used in the communication, providers asked a family member with whom they could communicate in English to write down certain yes/no questions or instructions to the patient in the patient's native language. As a midwife explained: "<the relative> wrote down things that are important to ask and we had to know in her mother tongue and we pointed at them (…), for example, the question "Could you pass urine?" (midwife7/25+F_B2+:104). A nurse gave account of a similar case, where the interpreter created cards for the patient with some things they had to communicate:

> the interpreter couldn't be there 24/7 so she wrote on <one side of> the cards with the patient's native language and on the other side in Hungarian for us. And the patient showed the right card every time. (…) For example, when having a headache, the patient showed the card 'headache and asking for a painkiller' (nurse9/25+F_B2:5,7).

It was also commonly reported that photos and various medical resources were searched for on the internet. Medical resources were mainly consulted in cases where providers wanted to check the availability of certain medications in the patient's home country. Nevertheless, as several accounts recalled, a great deal of internet use was associated with looking up unknown phrases and online dictionaries were widely used tools in MELF communication. Both patients and providers shared that they used mainly Google Translator to make sure that they understood each other.

When the provider and the patient could rely on not only their shared knowledge of English but also their other common languages, they tended to use all their language resources to enhance communication. For instance, a doctor recalled that they used a mix of English and German:

I have limited knowledge of German but I often understand it, and with a German patient, who had a limited knowledge of English, it happened that we agreed that they will talk to me in German and I try to understand it, but I'll answer in English and then they'll understand my English… and this works really well (doc5ER/30+M_B2+:61).

It was also often reported, especially by patients, that since they had some knowledge of Hungarian–having lived in Hungary for some time, they or their providers tried to use some Hungarian words along with English. Moreover, mixing languages and using code-switching was recalled by more providers. An orthopaedic doctor with some knowledge of Italian also admitted that

> I speak this everyday English, but I add these more Latinish words… and it's interesting that I even mix in some Italian, because there are a lot of similar words which I remember in Italian and then I realise they are similar in English and I say those in English, too (doc10ortho/30+F_B2:47).

As could have already been observed, many times providers needed the help of their colleagues when they had to communicate with a foreign patient, for example, when doctors had to take over communicative tasks from nurses if they didn't speak English. This strategy may have even included colleagues over the phone if no other solution was feasible. However, as has been argued above, this method reduces the overall efficiency of a healthcare facility (WHO, 2020). The solution to this issue can be the involvement of professional translators, which was reported by both providers and patients on several occasions. More commonly, though, patients tended to bring someone who could translate for them but who was not necessarily a trained interpreter, as a nurse explained: "usually someone from their family can

speak <with us> or they have an interpreter" (nurse9/25+F_B2:5). Based on the accounts, foreign patients mostly took a Hungarian person they knew to help them in communicating with Hungarian healthcare providers, which was considered great help, as a midwife put it: "If we are lucky, there is some relative who can communicate, either in Hungarian because they have been living here, or in English." (midwife7/25+F_B2+:3). Nevertheless, the risk of miscommunication may increase when untrained interpreters are used (Elderkin-Thompson, Silver, & Waitzkin, 2001; White et al., 2018).

Apart from bringing someone for translation, patients and providers sometimes needed to get help over the phone. An internist recalled that his patient "had an Arabic pharmacist friend, who the patient called, handed me the phone to talk to him, and we kept giving the phone to each other, as the man over the phone was translating for us" (doc9intern/30+F_B2:29). However, a nurse called this strategy "crazy, totally illegal, when calling the wife because we can't get one word from the patient–we call her and then the poor woman is translating for us over the phone so that we have some information" (nurse8/30+M_C1:14). Furthermore, an orthopaedic doctor explained that even if patients get somebody to translate for them, "we have to begin things until the translation help arrives" (doc10ortho/30+F_B2:75). Therefore, providers' ability to communicate effectively is vital even in cases where translators are involved.

In sum, strategies that support mutual understanding by reaching out for external aids, such as using writings, drawings, and online resources were reported in large numbers by providers and patients alike, which is a new finding in MELF strategies research and expresses the increased need for making sure that medical information is transmitted. Further findings, the use of plurilingual resources (e.g., code-switching) and mediators (interpreters, family members

or friends translating) are common in intercultural healthcare communication (Caprario, 2023; Elderkin-Thompson, Silver, & Waitzkin, 2001; Mori & Shima, 2014; White et al., 2018).

4.2.4.4.5 Co-operation. All the strategies described so far (i.e., accommodation, back-channelling, reliance on various factors, and using external sources) were used in a cooperative manner in order to reach mutual understanding. In addition, providers emphasised that in MELF encounters patients appeared more cooperative than Hungarian patients in similar situations. Providers described their foreign patients' attitudes and behaviour in the following way, they were "initiating, communicative, focused on problem solving" (paramedic4/18+F_B1+:12); "kind, active, helpful, trying to find a solution" (physio1/25+F_B1+:12); "eager to get information and patient" (dietitian2/25+F_A2:12); "helpful" (dietitian4/25+F_A1:12); "friendly, co-operative" (nurse4/30+M_B2:12). As a nurse explained, "they are usually smiling, which is less true for Hungarian patients. They work more to exchange information and they are more informed about their condition" (nurse1/25+F_B2+:12), which was reinforced by a physiotherapist as "foreigners were easier to involve in therapeutic procedures and were more co-operative, despite the language difficulties" (physio3/40+M_B2:11). Another physiotherapist also added that he would describe these interactions as "polite, partnership-like relationships, where there is no hierarchy" (physio4/20+M_C1:12).

Several providers explained that "It is much easier with those who are also non-native speakers of English, as they don't speak that well either and can assume how much the other knows <the language>. So they can empathise with my unfortunate situation in the middle of the ER" (doc10ortho/30+F_B2:27); "They are not finding the words either, so we can help each other" (doc7intern/30+F_B1+:11). But NSs of English were also found to show increased

accommodation since they "tried to use phrases which they thought I would understand" (physio3/40+M_B2:12). An ER doctor nicely concluded that

> The best thing in these interactions is that we put our language difficulties aside and the absolute common goal is to solve some problem together. It's like playing a board game or solving some puzzle, where we only have the rules of that game and no other rules matter. (doc5ER/30+M_B2+:61)

These instances from providers' reports highlight the increased need for cooperative problem solving in MELF encounters and that mutual support leads to more successful provider-patient communication by establishing trust and an environment where patients feel secure.

4.2.5 Conclusions–answering RQ1

4.2.5.1 RQ1–What characterises the use of medical terminology in MELF provider-patient communication?. The data from interviews and surveys involving Hungarian healthcare providers and foreign patients in Hungary point to the crucial role of medical terminology in MELF provider-patient communication as precise information exchange can only be realised by communicating medical information, the main device of which is medical terminology. It can be seen that lack of shared medical terminology (i.e., understood by both the provider and the patient and meaning the same concept for both of them) is compensated at all costs by using other sources of information carrying medical knowledge, for instance, observable and measurable clues. In case there is a chance to negotiate medical information, various forms of accommodations are applied so that the provider and the patient can achieve a shared understanding of the medical encounter. Accordingly, various processes of TA and TC can be observed in providers' and patients' accounts as they work toward

realising successful MELF communication by exploiting and adapting their schemata in order to cope with the challenges the differences in their knowledge of medical terminology pose.

4.2.5.2 RQ1a–What MELF communication is considered successful by providers and patients?.

The overall aim of MELF communication aligns with the aim of healthcare communication, which is to provide quality medical care to patients (WHO, 2020). As has been found, providing care is strongly based on the exchange of medical information, for which the use of medical terminology is crucial, especially in the topics of patient medical history and symptoms, as well as when giving information, explanations, and instructions to the patient about examinations, treatment, and the healthcare system. Furthermore, the emotional aspects of medical encounters are also important in order to reduce the increased anxiety and vulnerability of patients that can be observed in MELF encounters and to create trust and safety and thus achieve compliance with treatment and medical advice. Nevertheless, it could be seen in the accounts of Hungarian providers and their foreign patients that due to the language barrier, emotional support for the patient is mainly realised by creating a friendly atmosphere building on the willingness of the interlocutors to solve the challenges of MELF communication cooperatively and by the providers appearing professional, a pillar of which is being able to communicate the key medical information to their patients in an understandable way.

4.2.5.3 RQ1b–What challenges do providers and patients encounter when exchanging information in MELF communication?.

The fundamental challenge in MELF encounters is the differences in providers' and patients' English language proficiency, involving deficiencies in the knowledge of medical terminology, using and thus having problems understanding accents, and not being able to describe medical concepts in detail. These difficulties lead to the need for increased adaptation, especially the adjustment of language and medical terminology to the patients' proficiency level and finding ways to talk

about concepts that can be more culture-specific, such as addressing sensitive topics and naming foods or medications. All these adjustments require extra effort and time from the provider, as the increased need for negotiation increases the time of the encounter and the anxiety of the provider due to the risk of misunderstanding. Furthermore, the involvement of trained or untrained interpreters and taking on extra workload by talking instead of colleagues who do not have good enough language skills to interact with foreign patients and translating certain parts of medical reports into English further increase the time spent with foreign patients, which results in unequal distribution of valuable healthcare resources.

4.2.5.4 RQ1c–What strategies do providers and patients use in order to ensure the proper exchange of information in MELF communication?.

The heightened focus on information exchange in MELF encounters leads to extensive use of communication strategies, which not only focus on accommodation and clarification of verbal communication but aim to gain information in any way possible in order to obtain and provide vital medical information. Reaching the overall aim of exchanging information to provide medical care is realised with extensive co-operation through shared problem solving and mutual support, which helps create trust and security. Providers go to lengths to accommodate their language use, pronunciation, and medical terminology to their patients' proficiency levels and try multiple ways of expressing medical information with the help of synonyms, paraphrasing, reformulation, and plurilingual forms while trying to find a pace of talk that is understandable to their patients. These accommodation strategies are manifestations of TA and TC, as the use of these strategies is proof of the exploitation and adaptation of TUs to patients' needs. In line with this, back-channelling strategies are also used to explore patients' patterns of thinking by asking for clarification and double-checking understanding, and the use of repetitions involves various forms of TA and TC since variable reformulations of medical concepts via repetitions are

utilised in MELF encounters. Non-verbal and observable or measurable information also tend to carry large amounts of medical information mainly with the aim of compensating for the language barrier, which is commonly the limited shared knowledge of medical terms. Similarly, drawings, writings, and other external sources of information are widely used with the same aim. Furthermore, involvement of interpreters in the interactions is another strategy typical in MELF situations, where external help is called for so that the loss of medical information can be prevented or reduced. Table 10 displays an extended version of Table 3, complementing the strategies column with those found in the interview and survey data of the present study (marked with bold).

Table 10
Detectable processes of TA by reflection and communication strategies–extended version

	reflection	strategies
exploitation of schemata	• attempts at generating alternative TUs	• decomposition of longer instructions to smaller chunks • using plurilingual resources • **written and visual aids** • **reliance on observable, measurable parameters, and situational clues**
adaptation of schemata	• awareness of patients' perspectives • awareness of own perspectives • attempts at finding a common ground	• reaffirmation of medical terms • verbal and nonverbal repetition for reassuring understanding • asking for clarification • **accommodation to patient's proficiency level** • **accommodation to patient's accent/pronunciation** • **slowing down**
selection of appropriate TUs	• conscious adaptation of TUs to patients' perspectives • reflection on perceived effectiveness and appropriateness of TU use	• accommodation by simple language use • lexical simplification • **synonyms** • reformulation • paraphrasing

4.3 Study 2–development and assessment of TA and TC in MELF-oriented EMP/EHP classroom practice

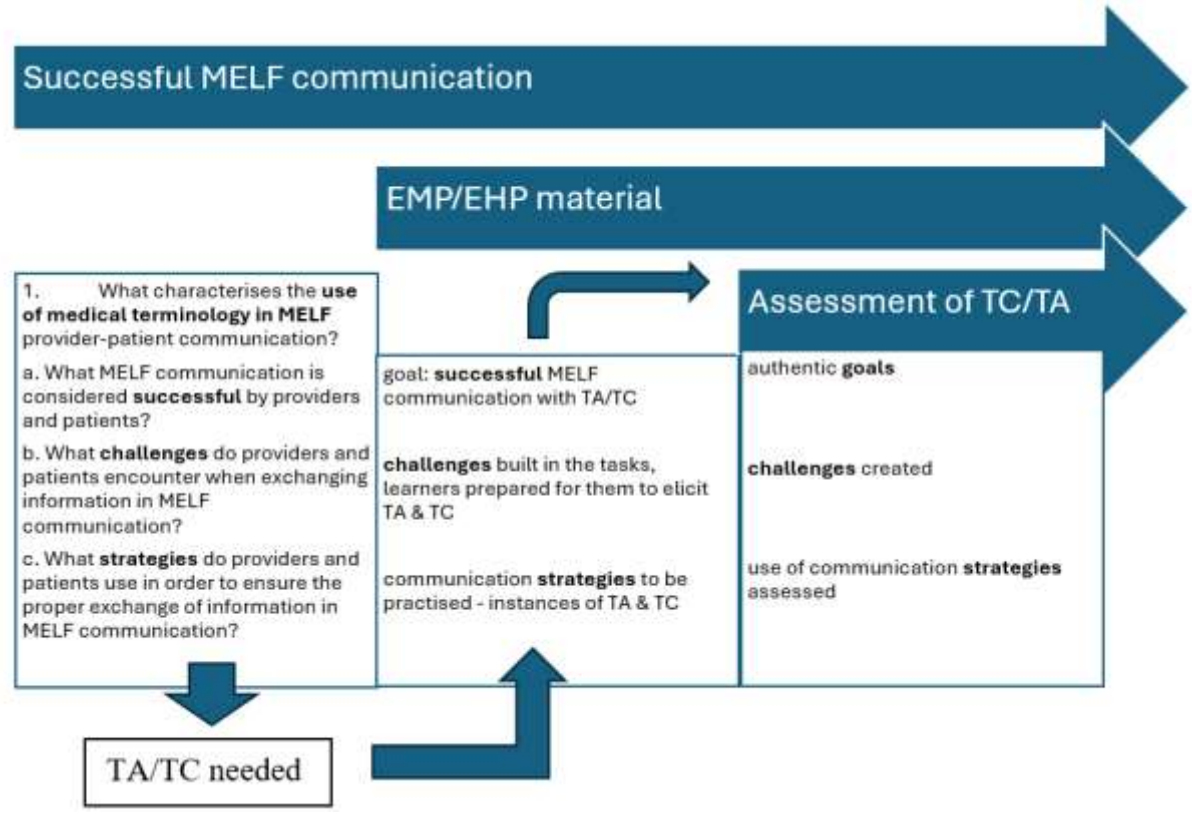
The second part of the empirical investigation of this PhD research (Study 2) aims to present a MELF-oriented EMP/EHP classroom material that helps students develop their TA and TC necessary for effective communication in MELF contexts. Furthermore, the effectiveness of TA/TC development using the presented material is assessed, with the help of an assessment tool created based on both the theoretical and empirical findings of the dissertation. With the

help of the results obtained in Study 2, RQ2 is to be answered: How does TA/TC improvement affect TA/TC in MELF communication?

Study 2 is largely building on the findings of the first empirical part (Study 1) since both the MELF-oriented EMP/EHP material and the TA/TC assessment tool focus on the processes governing MELF provider-patient encounters. As Figure 12 summarises, successful MELF communication can be achieved with the help of TA and TC, as was described in Study 1, therefore, the goals, challenges, and strategies of MELF communication should be built into the tasks of EMP/EHP materials, and the assessment of TA and TC should also include conditions mimicking MELF provider-patient encounters so that processes of TA and TC could be elicited.

Figure 12

The implementation of the findings of Study 1 in Study 2



In order to investigate the effects of the MELF-oriented EMP/EHP material created based on the theoretical findings and the results of Study 1, a quasi-experimental design of TA/TC assessment was applied to the investigations of Study 2 so that EMP/EHP learners' TA/TC development could be tested with the help of pre- and post-treatment assessments with the help of comparing experimental and control groups. The experimental groups received treatment in the form of the MELF-oreinted EMP/EHP material focusing on TA/TC development, while the control group used a material that followed the same structure in terms of medical content (i.e. practising provider-patient communication in various physiotherapy-related topics) but without focus on MELF or TA/TC. Nevertheless, it must be noted that due to the qualitative nature of the data collected, the investigation here follows a qualitative experimental design, which

makes it possible to explore the phenomenon with the individual variations included and in a controlled and systematic manner that allows for studying patterns and analysing similarities and differences (Steils, 2021).

4.3.1 Study 2 - Research participants

While in Study 1 purposive sampling was used to achieve maximal variation among the participants (see Section 4.2.1), Study 2 aimed at working with a homogenous sample in terms of their healthcare background and English language proficiency level for better comparability and for the effect of the EMP/EHP material developed to be investigated. Altogether four groups of third-year Hungarian physiotherapy students (N=46) were involved in this study, all of them studying provider-patient communication in English within the framework of their compulsory education for one semester, ten 90-minute-long lessons, with the minimum initial requirement of a B2 level English exam–this requirement meant that they obtained a state-accredited complex (both written and oral) exam of English at least at B2 level before starting the course and the students' individual level was not recorded. Two groups (in the years 2016 (n=14) and 2017 (n=10)) studied from an EMP/EHP material not designed to improve TA and TC, while the groups in 2018 (n=12) and 2019 (n=10) studied from a material that followed the same structure and content with an extra upgrade on all tasks, tailored to improve TA and TC (with exploitation, adaptation, and reflection elicited in the tasks) for MELF provider-patient interactions. The role of the teacher and researcher was kept consistent for better comparability of the groups and minimising the teacher's effect on students' development; the teacher was the same as the researcher in all four groups.

Students' consent to participate in the research was obtained at the beginning of the first lesson, which they could withdraw at any point during the semester and even after completion

of the course. Although in their written in-class reflections they put their names on the paper, they were asked to include their first names or nicknames only so that their data could be recorded in a way that their development could be followed, but all data were anonymised in an MS Excel file: students were assigned a number and during analysis, their data were handled completely anonymously.

4.3.2 Study 2–Research instruments and data collection

In this part of the empirical study (Study 2), three main instruments were used: the course material and two instruments forming the ground for the TA/TC assessment tool: students' reflections on simulated provider-patient MELF interactions in class and the final oral test. As demonstrated above, two different course materials were used in the groups, one focusing on the improvement of TC, the other without this special focus (see Appendix B for a sample page from both materials), in order to see if the MELF-oriented material designed to develop TA has any beneficial effects on students' strategic language use and negotiation of meaning. The reflections in class gave insight into what strategies students can verbalise, i.e., can consciously apply, after engaging in simulated MELF interactions. On the final oral tests, the teacher-researcher took the patient's role to create as consistent challenge for all simulated MELF interactions as possible and students were asked to reflect on their strategic language use in speaking.

4.3.2.1 Course material. The course material was designed to prepare physiotherapist students for communication with patients in English on various topics, which included taking medical history, explaining a diagnosis (e.g., tennis elbow), taking vital signs, giving advice on exercise and posture, carrying out physical assessment of joints and muscles, communicating when sports injuries happen, doing rehabilitation, instructing tests (e.g., balance, scoliosis),

engaging with patients in cardiac, respiratory, and neurological physiotherapy. The focal points of the material were improving students' professional vocabulary and gaining practice in communicating with patients in English. (See Appendix B.)

Each of the nine lessons contained at least two simulated physiotherapist-patient interactions, always preceded by preparatory tasks, which made sure that students have the background knowledge and language use necessary to be able to engage in the conversation as a physiotherapist–and thus be able to focus more on language use and making meaning in the simulations. Furthermore, the students playing the patient's role were given instructions (not shared with students playing the physiotherapists) to make the simulation as similar to real-life situations as possible. These instructions asked students to exhibit certain emotions or behaviours, use a lower level of English, adopt accents or deliberately mispronounce certain words, and use a limited vocabulary (sometimes certain words were listed as unknown for the patient). Of course, when students took on the patient's role, they did not engage in the communication on their own terms, but they could be sensitised to certain challenges MELF conversations may pose. Furthermore, always two simulated interactions were acted out by the students in each topic so that they could take on the physiotherapist's role in each lesson. The patient's role was different in the two situations so that new challenges could be met at each turn.

The groups of the years 2018 and 2019 followed an upgraded version of the same material that was used in the years 2016 and 2017. In the upgraded material, apart from the vocabulary-building exercises and the simulated MELF conversations, the preparatory tasks focused specifically on improving TC and thus developing TA. The vocabulary-building exercises provided more opportunities to find and activate more synonyms for terms and multiple

explanations of terms or concepts were practised in order to encourage the exploitation of language resources and lay the ground for more flexible and creative language use. Students were asked to formulate the same information to various imaginary patients based on photos and/or some data about them in order to consciously accommodate their language use. Furthermore, in certain cases, they were asked to reflect on their assumptions and expectations towards the imaginary patients and they were asked to discuss the effectiveness of their simulated MELF conversations. Figure 13 displays the frequency of such tasks in both materials (original and upgraded). As can be seen, certain elements naturally occurred in the original material as well, but to a much smaller extent.

Figure 13

The frequency of tasks focusing on TA/TC development in the original and the upgraded materials per study weeks (W1, W2…).

original material (2016-2017)	W1	W2	W3	W4	W5	W6	W7	W8	W9
exploitation of language resources	x	x	x		x		x		
accommodation of language use	x	x					x		
reflection on language use and communication		x							

upgraded material (2018-2019)	W1	W2	W3	W4	W5	W6	W7	W8	W9
exploitation of language resources	x	x	x	x	x	x	x		x
accommodation of language use	x	x		x	x	x	x	x	x
reflection on language use and communication		x	x		x	x	x	x	x

Including further groups who also follow the original material but act out provider-patient simulated interactions without a MELF element, i.e., without purposefully created challenges, might have provided a more profound basis for evaluating the effects of the TA/TC-focused upgraded material, but it must be taken into consideration that it cannot be assumed that certain challenges are not formed naturally, as the students interacting are inherently MELF users– being NNSs of English. Furthermore, the interactions and the simulated provider-patient

conversations of students could not be closely monitored and followed in class, unless each pair of students were given an audio-recording device, which was not feasible at the time. Obtaining an audio recording of the whole class was impossible, as most of the classroom time was dominated by students' engagement with each other in pairs or smaller groups simultaneously.

4.3.2.2 Reflections in class. Post-simulation reflections were also used as assessment tools in order to elicit information on students' TC. Groups of the years 2016 (original material) and 2018 (upgraded material) were asked to provide reflections weekly right after the two simulated interactions. During this longitudinal study, three different instruments were used after the simulated provider-patient communications, all of them in writing, with 5 minutes provided for answering: (1) open-ended questions about the challenges and language use; (2) listing five phrases (TUs) used in the simulation and reflection on their perceived understanding and possible alternative solutions; (3) listing phrases (TUs) the "patient" understood/didn't understand/may have understood if altered a bit, and reflecting on what would have made the communication more effective.

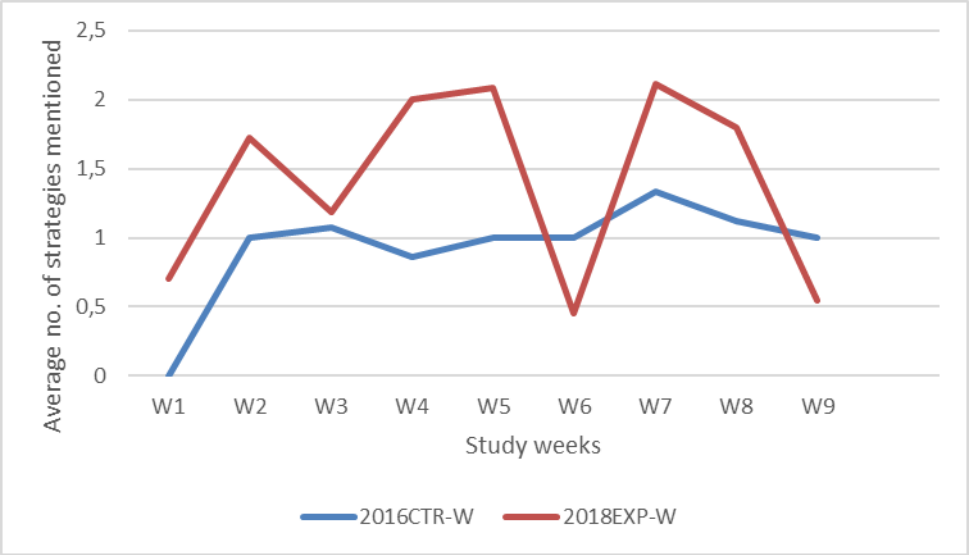
Groups of 2016 and 2018 got these three instruments weekly in three cycles ((1)-(2)-(3), (1)-(2)-(3), (1)-(2)-(3)) and then in their final oral test (Week 10) the teacher (same as the researcher) played the role of the patient in the simulated medical encounter, creating various challenges, and asked the students to reflect on the effectiveness of the communication using the same questions as in the open-ended questions instrument (1). Groups of 2017 and 2019 were tested only in Week 1, after their first simulated interaction, and in Week 10, on their final oral test in order to rule out the effect of the weekly measurements with reflection.

The use of three different instruments was designed to validate an instrument that can reliably assess TC. Fundamentally, traces of consciousness in strategic language use and

negotiation were looked for in students' reflections based on the strategies listed in Study 1 (see Section 4.2.5.4) and it was found that type (1) open-ended questions and type (2) reflection on the perceived understanding of certain selected phrases elicited more verbalisation of strategic language use. If we examine the average number of strategies mentioned by students in their reflections, a drastic drop can be observed on weeks in the group where TC improvement was part of the material when type (3) reflections were used in Weeks 3, 6, and 9 (Figure 14).

Figure 14

The average number of strategies mentioned in students' weekly reflections.



4.3.2.3 Final oral test. In Week 10, students had their final oral test where the teacher-researcher (me) took the role of the patient to ensure that students were presented challenges consistently. Each student was given a MELF situation randomly from a pile of cards and could read the context of the situation in Hungarian. For example, on the card it was written that "you meet a 65-year-old patient for the first time in post-operative cardiac rehabilitation–tell him about post-op precautions and instruct him to carry out some exercises". All the situations required professional knowledge that the students were familiar with, and the situations touched

upon topics covered in the course material. The simulated interactions were 5 minutes long on average.

The challenges that students had to face were the same in nature as those they met in in-class simulations, that is, the "patient" not understanding certain words the students used (e.g., the patient asking back a word like 'thigh' with a repetition) or misunderstanding something (e.g., understanding Thai instead of thigh), expressing certain emotions (e.g., a professional sportsperson getting frustrated about not being able to participate in important matches), saying words with accents or not standard pronunciation. The strategies used by students to meet these challenges can be just partly described, as some strategies are evident–e.g., asking back or providing a longer description of a medical term, while some strategies–e.g., the deliberate use of lay or simple language–are harder to estimate. Therefore, the main source of data was the post-simulation reflections. These reflections not only pointed out what strategies students apply consciously, they were better comparable with the reflections given in class in writing, as both data collection methods elicited students' verbal accounts of the strategies they used.

After the simulated provider-patient interaction was over, the teacher-researcher raised the open-ended questions in the manner of type (1) weekly measurements and asked about certain terms used in the interaction either why the student decided on using that specific term or asked if the student thought the "patient" understood a certain term. Although the final oral tests were carried out within the frames of an exam and thus students' stress level must have increased to some extent, it is believed that real-life MELF situations where medical decisions must be made on patient care can trigger similar levels of stress. Nevertheless, in order to avoid further increasing students' stress levels, no second rater was included in the final oral tests, although

it may have increased the quality of the measurements. Therefore, only an audio recorder was used to collect data on the finals.

4.3.3 Study 2–Data analysis

All written and spoken data from post-simulation reflections and final oral tests were anonymised and digitalised in an MS Excel file for further analysis. Traces of TC were identified in the database by coding them according to communicative strategies mentioned by the students in their reflections. Altogether 11 groups of strategies could be identified: using lay language, simple language, description, synonyms, accommodation to patient's accent or language use, asking for clarification, relying on feedback, gestures/metacommunication, slowing down, providing support, and cooperating–for sample data, see Table 11.

Table 11

Samples from the audio recordings for each group of strategies used

	simulation	reflection*
using lay language	-	"I tried not to use technical terms" (ph19PP _04)
using simple language	"your bones are OK, but your joint is not" (ph19PP_05)	"I tried saying basic things" (ph19PP _05), "I tried to use everyday words" (ph19PP _10)
using description	"you know what this cuff is? … I'll put it on your arm … for taking your blood pressure" (ph19PP _09)	"I explained what the word scoliosis means" (ph19PP _03)
using synonyms	"I can see you have pulmonary disease… asthma" (ph19PP _01); "because of your sedentary lifestyle … because of your sitting lifestyle" (ph19PP _03)	"if the words I used weren't clear, I tried them differently" (ph19PP _02)
accommodation to patient's accent or language use	the student took over Italian words used by the 'patient', e.g., infiammazione, and used a more articulated pronunciation (ph19PP _11)	"I'll palpate your knee… *palpare*" (ph19PP _11)
relying on feedback	"you feel dizzy?" (ph19PP _08) after the 'patient' stood up and leaned on the table for support	"he could follow my instructions" (ph19PP _01); "I was trying to look at her reactions" (ph19PP _02)
asking for clarification	"Patient: It's burning. Physio: It's a burning pain? P: It's warm. Ph: It's warm." (ph19PP _02)	-
using gestures, metacommunication	"do this!" (ph19PP _05), "let me show you how to do it" (ph19PP _09)	"if I show it to her, it's the most straightforward because then she can see it, too" (ph19PP _06)
slowing down	slow pace was detected if student's interaction with the simulated patient felt slower than the student's Hungarian talk during the reflection	"I talked slow to her… I mean not too slow, but not too fast… in Hungarian I talk much faster." (ph19PP _06)
providing support	-	"I wanted to support her and be cooperative" (ph18W_06)

Note. The reflections are translated from Hungarian.

It has been found that those instruments elicit verbalisation of TC more where open-ended questions on challenges and effective communication are raised. The data on strategies were quantified by calculating the number of strategies verbalised by the learner on each measurement as this can show how diverse and flexible their conscious engagement in the communication is. Furthermore, the answers to the type (1) open-ended questions were examined in terms of the topics mentioned, which were the following: terminological consciousness, language skills, and communicative goal in order to explore to what extent these areas were found relevant among learners.

4.3.4 Results and discussion of Study 2

In the material targeted at improving students' TC, tasks were designed to improve the mental processes of exploitation and adaptation of schemata as well as reflection on the appropriateness of language use and communication (see Section 2.6). With regards to the assessment of TA, strategic language use was explored, namely, the number and diversity of the strategies used by EMP/EHP learners, in line with the proposition of Taguchi and Ishihara (2018) that for reaching mutual understanding, a great number and variety of communication strategies are necessary in ELF interactions. Looking at their reflections after engaging in simulated MELF provider-patient interactions, the flexibility of students' schemata could be observed, based on the premise that the more in number and more diverse strategies they use, the more flexible their schemata are.

4.3.4.1 Number of strategies used by students. When comparing the average number of strategies used by the group, a slightly more prominent improvement can be observed in the average use of strategies in both groups with the upgraded material when comparing first and

last measurements of all groups (Figure 15). The average difference between Week 1 and Week 10 measurements of the experimental groups is around 3 (3.33 in the group of 2018 and 3.1 in the group of 2019), while it is only 2 and 2.2 in the groups of 2016 and 2017, respectively.

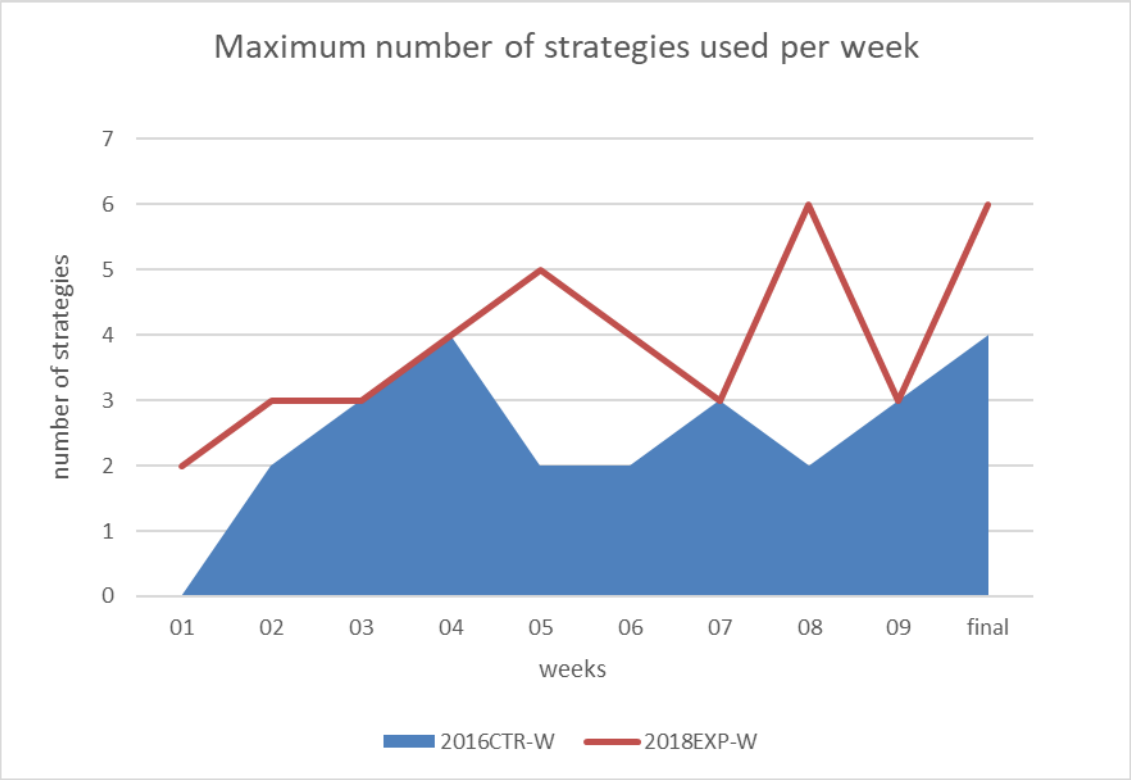
Figure 15

The average number of strategies used on the first and final measurements. Groups of 2018 and 2019 followed the material tailored to improve TC.

As the study findings show, simply providing EMP/EHP learners with challenges in simulated provider-patient interactions (as in the control groups) does not improve their TC much. If we compare the groups measured weekly, it can be seen that in the group where the tasks were tailored to improve TC (group 2018EXP-W), learners could verbalise the use of more strategies (Figure 16) from the first lesson on.

Figure 16

The maximum number of strategies used in groups measured weekly.



As for individual differences, if we look at the number of strategies used by each student (see Figure 17), we can observe that the treated/experimental group reported higher numbers of strategies used. Furthermore, on their final oral exam, in the treated group every learner used at least two strategies, but 83% of them (n=10) used more than two strategies. In comparison, in the control group, only one student used four strategies on the final test, and only 29% of the students (n=4) used more than two. Nevertheless, it must be noted that students' week-by-week results are not comparable in this table, as the same reflection tasks were recycled only every third week, students were allowed to miss a few classes (which is marked with no number in the cells)–so the gradual development cannot be followed consistently for all the students, and although in the simulations students playing the patient's role were directly instructed on

creating specific challenges, it is a possibility that some students failed to create them all (e.g., those having problems imitating accents) or that some of them added extra challenges to the situation.

Figure 17

Individual differences in the number of strategies used weekly in the control (2016) and experimental (2018) groups.

2016	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10 final
ph16W_04		0	0	0	0		2		2	0
ph16W_01	0	2	0	0	1	2	0	1	1	1
ph16W_05	0	1	2	0			2		2	1
ph16W_07	0		1	1	1	0			1	1
ph16W_06	0	1	2	1	1	0	1	1	1	2
ph16W_08	0	1	3	1	2	0	1	1	0	2
ph16W_09	0	1	1	1	1	1	3	1	3	2
ph16W_10	0	1		0	1	1	1	1	0	2
ph16W_12	0	2	0	1			1	1	0	2
ph16W_13	0	1	1	1	1	1			1	2
ph16W_02	0	1	1	0	0	2	2	1	1	3
ph16W_11		1	0	4	2	1	1	2	0	3
ph16W_14	0	1	2	1	1	1	1		2	3
ph16W_03	0	0	1	1	1	2	1		0	4

2018	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10 final
ph18W_02	0	0		1	0	0	1	0	0	2
ph18W_05	2	2	2	2	2	1	3	2	0	2
ph18W_03	2	2	0	1	0		3		2	3
ph18W_08	1	0	1	1	2	0	2	0	0	3
ph18W_12	1	2	0	2	2	0	2	2	0	3
ph18W_01	0	2	1		2	0	2	0	0	4
ph18W_04	0	2	1	1	0	0	2	0	1	4
ph18W_10	1	3	3	3	3	0	2			4
ph18W_06		2	3	2	4	0		6	0	5
ph18W_11			0	3	3	0	2	1	0	5
ph18W_07	0	2	2	4	5	4		4	0	6
ph18W_09	0	2	0	2	2	0		3	3	6

The groups with the pre-post tests (group 2017 and group 2019) show similar results on their final tests as the weekly tested groups (see Figure 18). The whole treated group (100%, n=10) used more than two strategies on the final test, while only 30% (n=3) of the control group reported using more than two strategies. Figure 19 summarises these results for better visualisation of the comparison of control and experimental groups.

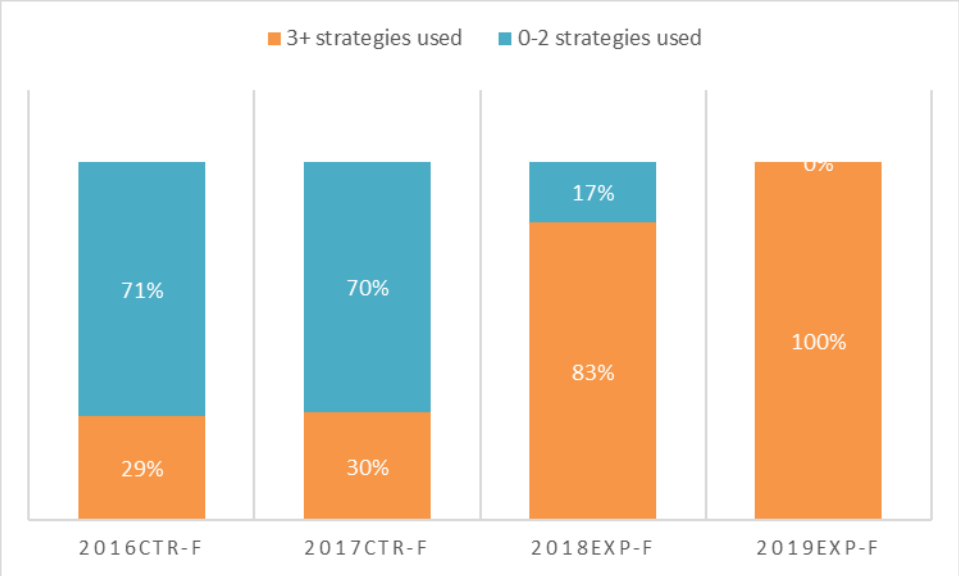
Figure 18

The number of strategies used on Week 1 and 10 in the control (2017) and experimental (2018) pre-post groups.

2017	W1	W10 final		2019	W1	W10 final
ph17PP_05	0	1		ph19PP_01		3
ph17PP_01	0	2		ph19PP_09	0	3
ph17PP_03	0	2		ph19PP_10	1	3
ph17PP_04	0	2		ph19PP_02	1	4
ph17PP_06	1	2		ph19PP_04	0	4
ph17PP_08	0	2		ph19PP_05	1	4
ph17PP_10	1	2		ph19PP_07	3	4
ph17PP_02	0	3		ph19PP_08	2	4
ph17PP_07	0	3		ph19PP_03	0	5
ph17PP_09	0	5		ph19PP_06	0	5

Figure 19

The percentage of students using maximum two or more than two strategies on the final oral test.



Therefore, it can be concluded that using EMP/EHP materials that focus on improving learners' TC has a beneficial effect on the use of a wider range of strategies when negotiating meaning in MELF interactions. As has been argued in Section 2.5.3, the more flexible EMP/EHP learners' schemata, the more ways of exploitation and adaptation they engage in with the help of strategies. Accordingly, having a greater arsenal of communicative strategies is an indicator of more flexible schemata, as a large number of elements in a system increases the system's complexity and dynamicity (Barabási, 2012; Larsen-Freeman, 2012). Furthermore, the increase in the number of strategies reported by students reveals the increase of their TC from another aspect, as verbalising strategies retrospectively is an indicator of conscious engagement (Schön, 1983, 1991).

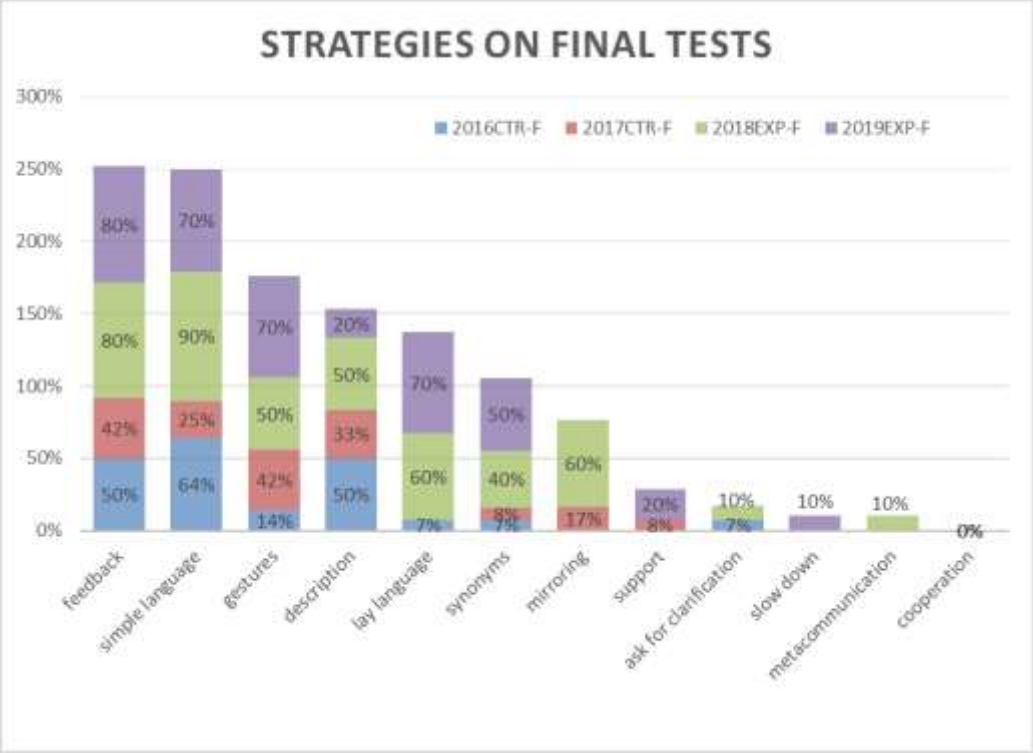
4.3.4.2 The diversity of the strategies used by students. In order to get a more detailed picture of the types of strategies used by EMP/EHP learners, we look at how many students (what percentage of the group) mention each strategy at least on one occasion. If we look at the figures summarising the strategies mentioned by students (Figures 20 and 21), we can see that some strategies healthcare providers usually apply in real-life healthcare settings (see Study 1), such as the use of written and visual aids, the use of the internet, multilingual communication, and asking help from a colleague or a translator do not appear in these simulated MELF interactions. Similarly, the strategy of relying on objective parameters or situation clues does not occur in simulations. Naturally, the focus is on strategic language use, such as the various forms of accommodation, i.e., using simple or lay language, synonyms, descriptions, and back-channelling with asking for clarification, as well as relying on feedback, non-verbal communication, and gestures.

Figure 20

The percentage of students using each strategy reported in all groups in both classroom and exam (final oral test) settings.

Figure 21

The percentage of students using each strategy reported in all groups in exam (final oral test) settings.



Simple language use and using descriptions are reported in high numbers by almost all groups. However, the use of descriptions is less commonly mentioned in the reflections of pre-post tested groups, so this may be an effect of the weekly measurements. If we look at this issue more closely, it can be seen that only 50% of the 2018EXP-W group uses description on the final test, while all of them (100%) mention this strategy at least once over the nine study weeks. Similarly, 50% of the 2016CTR-W group uses descriptions on the finals and only one of them does not mention it in the study period, so 93% (n=13) of students report it in lessons. The same cannot be concluded about simple language use, as in both weekly measured groups the number

of students using this strategy is high both on classes and the final test, 93% and 92% in class and 64% and 90% on test in 2016CTR-W and 2018EXP-W groups respectively. This shows that the experimental groups consistently use simple language as a strategy to negotiate meaning, which is probably a result of several tasks in the material focusing on variable ways of using TUs.

As for obtaining feedback, it can be clearly seen that experimental groups use it more often– with 80-83%, compared to the 50-57% of control groups. On the oral tests, similar results can be observed, although in the control groups the number of students applying this strategy slightly drops compared to classroom practice, namely to 42-50%.

With regards to gestures, the treated groups outnumber the control groups in both overall results (with 67 and 70% compared to 14 and 42%) and on the final tests (with 50 and 70% compared to 29 and 50%) as well. Around a 10-15% drop for the final tests is observable regarding this strategy, as in the case of relying on feedback, with the exception of the 2019EXP-PP group, where a solid 70% of using gestures can be seen.

The use of lay language or synonyms are strategies which may refer to the same notion, but since learners used both references in their accounts, these strategies are treated separately. Regarding these two strategies, similar patterns can be observed, as on the final tests almost exclusively the experimental groups report to use them. The reason why they appear in higher numbers in the weekly measured control groups may be linked to the measuring instruments eliciting data on specific terms used in the simulations.

Accommodation to the patient's accent or language use, that is, using mirroring as a strategy does not show patterns in this dataset. Although all groups report it to some extent, only the weekly measured experimental group (2018EXP-W) displays high levels (60-67%) in both

classroom and exam settings. This may be due to learners' personalities or their relationships with their peers, as in more supportive environments where students have closer relationships, they can engage in mirroring (especially accents) more bravely. Therefore, this is a strategy hard to measure reliably in such simulated environments.

Providing support to the patient is almost non-existent in exam settings and what is especially striking is that in group 2018EXP-W it is a quite commonly used strategy in classroom practice, yet no student from this group reported it on the final oral test. Such a drastic decrease cannot be observed in the two pre-post groups, as in group 2017CTR-PP the drop is from 10% to 8%, in group 2019EXP-PP from 30% to 20%.

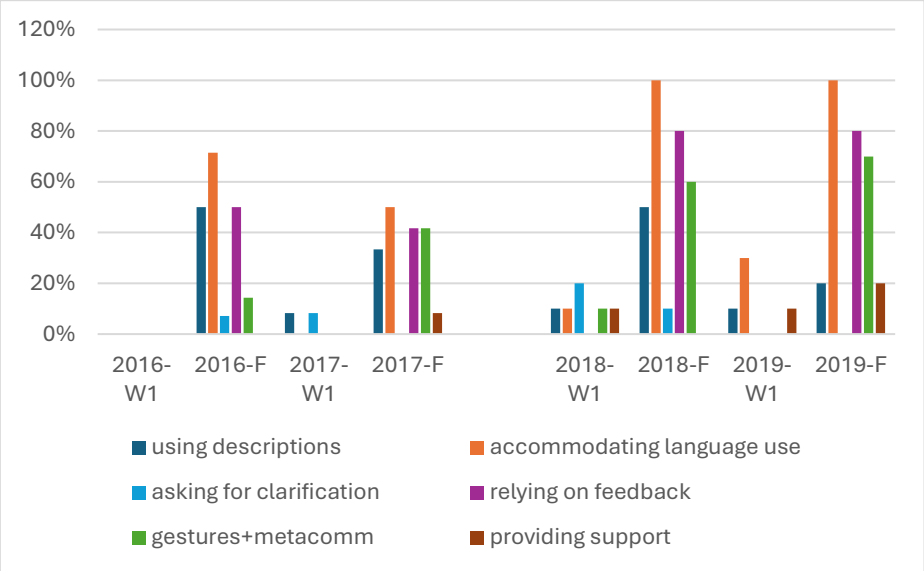
The rest of the strategies, i.e., asking for clarification, slowing down, relying on metacommunication, and cooperation, are scarcely reported by students, altogether by one or two students per group, and these numbers further decrease by the final test. This phenomenon may be due to the limitation that students could not look over the fact that the simulated patient is their peer or teacher. Most probably simulations with outsiders, actors, or non-healthcare people from various linguacultural backgrounds would elicit a higher number of these strategies.

In conclusion, experimental groups use more diverse strategies and with higher numbers. If we group the strategies mentioned by students, clear differences between Week 1 and Week 10 (final) results of experimental and control groups can be observed. (See Figure 22) By grouping all strategies that involve accommodation of language use, i.e., using synonyms, lay language, simple language, and mirroring, it can be revealed that 100% of the treated groups use some of these strategies, complemented by the strategies relying on and obtaining feedback (80%), as well as relying on gestures and metacommunication (60-70%). These strategies are

also used in the control groups, but with lower numbers: language accommodation in 50-70%, obtaining feedback in 40-50%, and gestures and metacommunication in 15-40%. Therefore, it can be claimed that within this dataset, those students that follow an EMP/EHP material with focus on TC improvement and TA development, use nearly twice as many and more diverse strategies in simulated MELF interactions than those students who have not received this special treatment.

Figure 22

Groups of strategies used by all groups on Week 1 and Week 10 (final exam).

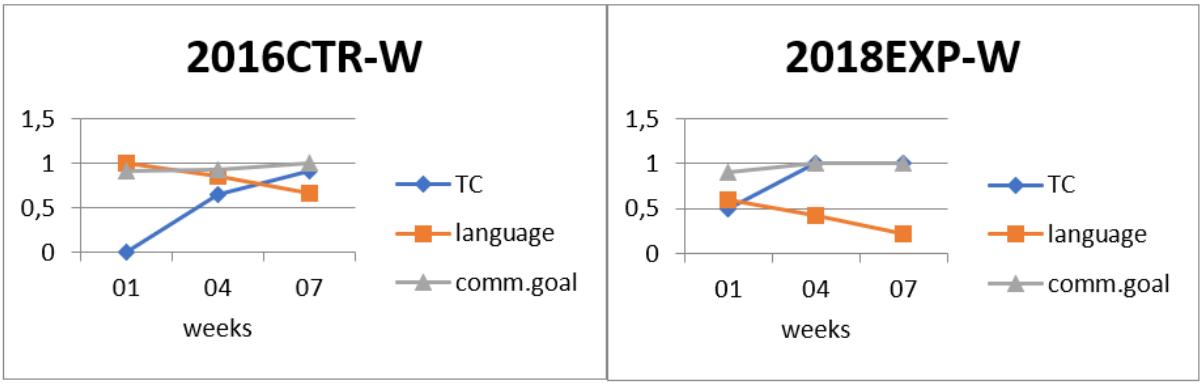


4.3.4.3 Shift in students' focus. Another interesting finding was that at the beginning of the course, the learners in both groups were more occupied with their language skills when answering open-ended questions on the effectiveness and challenges of communication, while by the end of the course, TC got more in the focus besides having a clear communicative goal all along (Figure 22). This phenomenon could be observed in both weekly measured groups, so it can be assumed that simply engaging in encounters where MELF challenges are met has some

positive effect on the improvement of TC, but with the help of a material specifically designed to improve TC, faster and more solid results can be achieved (see Figure 23).

Figure 23

Group average scores on TC / language skills / communicative goal, normalised for 0-1 in groups measured weekly.



4.3.5 Conclusions–answering RQ2

RQ2 How does TA/TC improvement affect TA/TC in MELF communication?

The EMP/EHP material designed to improve learners' TA and TC was found to increase the number of strategies used by the learners and, based on the data elicited in the study, the diversity of strategies pointing to the accommodation to patients' language use and conscious selection of TUs also increased. Although very limited data was found on other strategies, namely asking for clarification, slowing down, relying on metacommunication, and cooperation, and on strategies that would require real-life MELF interactions (e.g., reliance on measurable parameters), it is assumed that instances of TA and TC in EMP/EHP learners' communication prove that real-life settings would elicit the use of the latter strategies as well, since their awareness of patients' perspectives and of the need for increased accommodation could be elicited in simulated MELF interactions.

Overall, in experimental groups more prominent increase could be observed in almost all strategies. Compared to the control groups, they reported higher levels of simple language use, relying on and obtaining feedback, relying on gestures, using lay language and synonyms. Furthermore, they used a wider range of strategies, especially in exam settings. While control groups' strategies were limited to mainly obtaining feedback, using simple language and descriptions, and relying on gestures to some extent, experimental groups more consistently used seven strategies, which are obtaining feedback, using simple language, lay terms, synonyms, and descriptions, relying on gestures, and accommodation of language use. Furthermore, on their final oral tests all students (100%) in the treated groups used strategies that involved the exploitation and adaptation of language resources, while in control groups this number was only 50-70%. As for obtaining feedback, nearly twice as many students used this strategy in experimental groups than in the controls and relying on gestures or metacommunication showed similar results.

Furthermore, it could be observed in the weekly measured groups that over time they devoted less focus on grammatically precise language and more focus on strategic negotiation of meaning, especially the students in the experimental group. These allow us to conclude that designing EMP/EHP materials with the aim of developing TA, learners' consciousness of language use can be increased, their schemata can be made more flexible, and they can select from a wider range of strategies to solve discrepancies in MELF communication.

5 IMPLICATIONS FOR LANGUAGE PEDAGOGY

The fundamental aim of this PhD research was to fill a niche in EMP/EHP practice, namely the need for MELF-oriented materials, and provide theoretical and empirical fundaments for including a TA/TC-focus in EMP/EHP materials so that teachers of EMP/EHP could revisit their methodological approaches to preparing EMP/EHP learners for provider-patient interactions in English. Accordingly, I would like to devote a separate chapter to concluding the language pedagogical implications of my findings.

5.1 The MELF perspective in EMP/EHP materials

Due to the ever-growing extent of ELF communication (Graddol, 2006), EMP/EHP classes must prepare health science students for MELF communication (Tweedie & Johnson, 2022). This involves that the focus should be shifted from NS norms of language use to how NNSs of English engage in the negotiation of meaning (Canagarajah, 2007; Pölzl & Seidlhofer, 2006). Furthermore, it must be kept in mind that the main aim of MELF communication is the same as of healthcare communication; that is, the provision of quality patient care that is safe, timely, person-centred, and effective (WHO, 2020). For these aims, EMP/EHP learners must be prepared to transmit and exchange medical information precisely and within the shortest time possible. Therefore, using language that is understandable for patients is paramount and since medical information is coded in medical terminology, providers must be capable of using medical terminology in a way that it is adjusted to patients' medical knowledge and proficiency levels in English and that the negotiation does not take up unduly long time. It has been found that even trust and feeling of security, which are vital in achieving quality patient care, are based on the extent of information exchange in MELF communication. Accordingly, EMP/EHP

learners need to develop an automatically conscious use of medical terminology: terminological awareness.

Since MELF communication is highly dynamic and operates along temporary norms created in the process of interaction (Seidlhofer, 2011), the aim of EMP/EHP classes should not be to prepare learners for using English along NS norms but to be capable of exploiting and adjusting their medical terminology with an arsenal of communication strategies. Empirical investigations of this research and other studies on MELF communication (Mori & Shima, 2014; Ritala, 2022; Svennevig et al., 2019; Ting & Cogo, 2022; Tweedie & Johnson, 2022) found that the increased negotiation of meaning is realised with increased use of strategies. Therefore, EMP/EHP classes must provide learners with tasks that engage their strategic language use by coping with challenges similar to real-life MELF encounters. Moreover, EMP/EHP tasks must foster the development of the processes of TA, the exploitation of schemata and resources, the adaptation of these to patients' needs, and the selection of medical terminology appropriate to the MELF encounter.

5.2 Development and assessment of Terminological Awareness (TA)

For designing MELF-oriented tasks and assessments that focus on the development of TA, the framework of TA proposed in this dissertation is necessary. Accordingly, this section summarises the framework highlighting the aspects that can help EMP/EHP teachers implement it in their everyday teaching practice along with a summary of the pedagogical methodological recommendations listed in Section 2.6.

Terminological awareness (TA) is a mental state where the healthcare provider's schemata automatically (i.e., with cognitive ease) offer medical terminology that is appropriate in a particular communicative situation. Since this mental state is a function based on schemata,

experiences in specialised language use enhance it continuously. In order for language users to develop schemata that ease communication, they must possess an openness to alternative perspectives that allow for the modification of their schemata. Alternative perspectives require consciousness, as cognitive strain and voluntary attention are necessary to break free from the patterns that schemata offer. This conscious state in the process of selecting medical terms is terminological consciousness, where the mind works with a reflective mode in order to find alternative uses of medical terminology for establishing appropriateness in a particular communicative situation, as in MELF provider-patient encounters. TC is turned on when the mind finds a discrepancy between expectations and the actual effect of language use, for example, when the patient does not seem to understand the term used.

The functioning of TA is based on three mental processes: the exploitation and adaptation of schemata and the selection of appropriate medical terminology. Table 10 of Section 2.7.1 is presented one more time here, summarising the theoretical and empirical findings of the dissertation on the detectable processes of TA in the reflections and communication strategies of healthcare providers and EMP/EHP learners. These processes form the ground for designing EMP/EHP materials and forms of assessment of MELF provider-patient communication.

Table 12
Detectable processes of TA by reflection and communication strategies–extended version

	reflection	strategies
exploitation of schemata	• attempts at generating alternative TUs	• decomposition of longer instructions to smaller chunks • using plurilingual resources • written and visual aids • reliance on observable, measurable parameters, and situational clues
adaptation of schemata	• awareness of patients' perspectives • awareness of own perspectives • attempts at finding a common ground	• reaffirmation of medical terms • verbal and nonverbal repetition for reassuring understanding • asking for clarification • accommodation to patient's proficiency level • accommodation to patient's accent/pronunciation • slowing down
selection of appropriate TUs	• conscious adaptation of TUs to patients' perspectives • reflection on perceived effectiveness and appropriateness of TU use	• accommodation by simple language use • lexical simplification • synonyms • reformulation • paraphrasing

Regarding task design in EMP/EHP materials, the following processes have been found to effectively improve learners' TA. See Table 13.

Table 13
The processes to be involved in EMP/EHP tasks to improve TA

Process	Aim	Example
Reflection on perceived effectiveness	Detect discrepancies Broaden perspectives	Watching or simulating MELF interaction and identifying factors influencing effectiveness
Reflection on frames of reference	Explore preconceptions	Discussing first impressions on patients
Reflection on pretextual assumptions	Raise consciousness of the relativity of terminological variation	Reflecting on the use of terminology and its assumed effectiveness
Conscious activation of TUs	Broaden the range of possible uses of terminology to express medical information	Finding alternative ways of expressing the same medical information to diverse imaginary patients
Conscious activation of alternative perspectives	Adjusting medical terminology to achieve appropriateness and effectiveness in MELF encounters	Engaging in simulated MELF provider-patient interaction both as providers and as patients
Reflection on novel, modified TU use	Assess effectiveness	Reflecting on simulated MELF encounters and asking for reflection from the interlocutors

Assessment of EMP/EHP learners' TA must be realised by eliciting and evaluating the use of communication strategies and reflection on the three main processes of TA. The number and diversity of MELF communication strategies must be assessed in line with the three TA processes in both learners' engagement in simulated MELF encounters and their reflection on how they worked toward realising effective communication with their simulated patients.

6 CONCLUSION

The dissertation has argued that current ESP and thus EMP/EHP practices fail to include the ELF perspective when creating EMP/EHP materials, which would be paramount as most of the time healthcare providers who are NNSs of English engage in MELF language use when they provide care to foreign patients. In line with this, it was proposed that needs analysis in EMP/EHP should be targeted at determining how the provision of quality patient care can be maximised in the challenging context of MELF communication. Therefore, this dissertation set out to fulfil this aim, first by reviewing the literature regarding MELF communication, its characteristics, challenges, and the communication strategies used to negotiate the exchange of medical information. Additionally, after exploring how schemata govern the mental processes in MELF communication, it was proposed that terminological awareness (TA) is necessary for providers to effectively engage in MELF provider-patient communication.

Outlining the theoretical background, further research niches have been formulated, namely a more detailed exploration of MELF communication–due to the limited data on this matter in the literature, the creation of a MELF-oriented EMP/EHP classroom material with a focus on developing TA, and an assessment tool which can be used to evaluate the effectiveness of the material created and for assessing EMP/EHP learners' TA.

Accordingly, an empirical investigation was carried out with the help of two studies building on each other. The first study explored Hungarian healthcare providers' and their patients' experiences in MELF communication with the help of retrospective, qualitative interviews and open-ended, written surveys. Based on the findings of this investigation, the characteristics and challenges of MELF communication could be further detailed, which could serve as a ground for designing EMP/EHP tasks and simulations of MELF provider-patient

interactions in the MELF-oriented, TA-focused EMP/EHP material. Furthermore, a collection of MELF communication strategies could be drawn up, which turned out to be more exhaustive than what had been described in MELF literature. The second study tested the effectiveness of the EMP/EHP material created with the help of a qualitative quasi-experimental research design, comparing groups of Hungarian physiotherapy students who studied English provider-patient communication either with the help of the MELF-oriented, TA-focused material (experimental groups) or without it (control groups). The assessment tool designed is recommended to be applied in everyday EMP/EHP practice as well, as it can explore how effectively EMP/EHP learners realise MELF provider-patient communication and how developed their terminological awareness is.

Finally, in line with the overall aim of the dissertation, pedagogical methodological recommendations were formulated regarding how the MELF-aspect should be incorporated into everyday EMP/EHP practices, the design of tasks and assessments. Furthermore, the pedagogical framework for the development and assessment of TA based on the three processes underlying TA and the use of strategies in MELF provider-patient communication was summarised for application in EMP/EHP practice.

Data collection and analysis in both studies of the present PhD research followed a qualitative research design, therefore, the limitations inherent in qualitative studies affect the findings presented (Dörnyei, 2007). Nevertheless, there were other limitations of both studies outlined in this dissertation.

Regarding Study 1, the samples of Hungarian healthcare providers and foreign patients in Hungary were created with the help of opportunistic and snowball sampling, and although the end of data collection was determined based on saturation (i.e., no more new concepts were

emerging during data analysis), it cannot be stated with confidence that all environments of MELF communication in Hungary and all aspects of this communication were included in the dataset. Furthermore, no connection between the subsamples of providers and patients could be evaluated, as most participants were anonymous contributors and in their accounts, no reference to healthcare facilities or providers was recorded to maintain anonymity and because the processes of communication were the focus.

Another methodological limitation of Study 1 was the use of retrospective accounts, as participants' memories of these MELF encounters may have been distorted by their perceptions and due to the time between the encounters and the retrospection. Moreover, it must be noted that these accounts were self-reported and could not be triangulated with observation due to their distance in time. In a similar vein, only the perceived success and not the effectiveness of the communication could be explored using this method.

Regarding Study 2, it would have been beneficial to involve more learner participants in the study, especially from other fields of healthcare as well. Furthermore, it must be emphasised that students with a proficiency level of English below B2 were not included in this study; therefore, additional investigation would be necessary to explore how the process-oriented framework can be implemented in groups with lower levels of English proficiency.

In terms of both the implementation of the EMP/EHP material and the assessment of TA, a second teacher or observer would have increased the quality of the findings by reducing the researcher's effect on the interpretations and diminishing the potential of researcher bias.

Further research would be beneficial to increase the quality of the results in both studies of this PhD work by addressing the limitations outlined above. Involving more participants would

yield a broader understanding of the phenomenon of MELF provider-patient communication and its inclusion in EMP/EHP practice.

In line with Ting and Cogo (2022), MELF provider-patient encounters in Hungary should be videotaped and analysed in detail and both providers' and patients' accounts of the communication should be elicited after the encounters so that a clearer and deeper understanding of the processes could be achieved. In addition, the method of videotaping would lead to better observation of EMP/EHP simulations of MELF communication. However, such studies would require strict ethical considerations and standards.

In order to draw more solid conclusions about the development and assessment of TA, further research is planned to test and validate both the theory and the assessment of TA/TC in larger-scale studies, with more students involved from other fields of health care and with lower proficiency levels of English. Furthermore, the investigations should be extended over the borders of Hungary and both the material and the assessment tools created should be tested in other linguacultural environments.

Following the steps of Eklics et al. (2019), more controlled simulations of MELF provider-patient encounters increase the quality of both the development of EMP/EHP learners' TA and the research on TA assessment. In addition, a more controlled investigation with a CDST (Complex Dynamic System Theory) approach (De Bot, Lowie, & Verspoor, 2007; Larsen-Freeman, 1997; Verspoor & Lowie, 2022) on how learners can improve their TC may be beneficial, as it would give insight into the individual differences and provide more details on the effects of certain tasks. Since assessment in (M)ELF is less widely researched (Harding & McNamara, 2017), further investigations of the issues elaborated in this study are highly necessary.

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APPENDICES

Appendix A

HCP Hungarian survey

https://forms.gle/753nMoP6kQvaERGW7

Külföldi páciensek - angol nyelvű kommunikáció

Kérem, töltse ki a kérdőívet, amennyiben van tapasztalata:
- külföldi (tehát nem magyar anyanyelvű) páciensekkel folytatott
- angol nyelvű kommunikációban
- akár itthon, akár külföldön

A kérdőív teljesen anonim. A válaszokat egy olyan kutatásban használom fel, amely magyar egészségtudományi hallgatók angol kommunikációs képességeinek fejlesztéséhez járul hozzá.
Közreműködését ezúton is köszönöm,
Bakó Alexandra,
nyelvtanár, Semmelweis Egyetem

Milyen munkakörben dolgozik? *

- ápoló
- dietetikus
- fogorvos
- gyógyszerész
- gyógytornász
- mentőtiszt/mentőápoló
- orvos (az egyéb sorban adja meg a specializációt)
- szülésznő
- Egyéb:

Milyen szintűnek ítéli nyelvtudását? *

- csak alapvető szavak
- egyszerűbb mondatokkal tudok kommunikálni
- alapfok
- alapfok felett, de középfok alatt (pl. van középfokú nyelvvizsgám de keveset használom a nyelvet; vagy középfokra készülök, stb.)
- középfok
- középfok felett, sokat használom az angolt
- felsőfok, szinte mindent megértek, mindennapi kapcsolatban vagyok az angollal

- második anyanyelvem az angol

Milyennek ítéli angol SZAKNYELVI tudását? *

1= nagyon hiányos, 10=bármit ki tudok fejezni

1 2 3 4 5 6 7 8 9 10

Kérem, jellemezze néhány szóban angol szaknyelvi tudását. *

(Hogyan tudja hasznosítani a külföldi páciensekkel folytatott kommunikációban?)

Milyen helyzet(ek)ben találkozott külföldi páciensekkel munkája során? *

pl. sürgősségi ellátásban, vagy kórházban kezelte, megvizsgálta, tanácsot adott neki, stb.

Milyen környezetben találkozott külföldi páciensekkel? *

- Magyarországon - állami szektor
- Magyarországon - magánszektor
- külföldön (angol anyanyelvi környezetben) - állami szektor
- külföldön (angol anyanyelvi környezetben) - magánszektor
- külföldön (nem angol anyanyelvi környezetben) - állami szektor
- külföldön (nem angol anyanyelvi környezetben) - magánszektor
- Egyéb:

Mennyiben érezte sikeresnek a külföldi páciensekkel folytatott kommunikációt? *

Kérem, ha tudja, indokolja is: mi tette sikeressé a kommunikációt?

Milyen nemzetiségű páciensekkel beszélt angolul? *

Kérem, sorolja fel.

Milyen nehézségekbe ütközött ezekkel a páciensekkel folytatott kommunikáció során? *

Ha tudja, kérem, az egyes betegekkel kapcsolatban írja le röviden a nehézségeket. Pl. "a középkorú lengyel férfival..."

Ön szerint mi okozta/ mik okozták a nehézségeket? *

Mire figyelt, amikor próbálta kifejezni magát? *

pl. hogyan válogatta a szavakat, mi alapján döntötte el, mit ért meg a páciens stb.

Kérem, néhány példával mutassa be, hogy jellemzően milyen szakszavakat használt az egyes páciensekkel. *

Amennyiben másmilyennek ítéli az egyes páciensekkel a szakszavak használatát, kérem, adjon néhány példát 1-1 páciensehez. Pl. középkorú lengyel férfi: heart, inflammation, pericardium ...

Milyen módon próbálta leküzdeni a kommunikációs nehézségeket ezekben/ebben a szituáció(k)ban? - Mennyire voltak ezek a próbálkozások eredményesek? *

Miben volt más a külföldi pácienssel/ekkel folytatott kommunikáció, mint magyar páciensekkel? *

(azon felül, hogy magyar helyett angolul folyt a kommunikáció)

Kérem, pár szóval jellemezze a külföldi páciens(ek) viselkedését ezekben a szituációkban. *

Akár külön jellemezhet egy-egy pácienst is.

Ha van még esetleg valami, ami eszébe jutott a kérdőív kapcsán, de nem kérdeztem rá, kérem, írja le itt. Ugyanígy, ha van egy emlékezetes története külföldi pácienssel, köszönöm, ha megosztja velem.

Köszönöm a válaszait! Még néhány személyesebb jellegű kérdésem lenne a végén.

Milyen más nyelveken beszél még a magyaron és az angolon kívül?

Melyik korosztályhoz tartozik? *

- 18-25
- 25-30
- 30-40
- 40-50
- 50-60
- 60-70
- 70-80
- 80+

Neme? *

- nő
- férfi

Appendix B

Sample tasks from the course material of the control groups (not MELF-oriented or TA/TC-focused.

Unit 5
Physical assessment – evaluation of joints

Task 1
What do you tell the patient when you examine the affected joint?

Examination Keys To Evaluating Any Joint

• Area well exposed - no shirts, pants, etc. -> gowns

• Inspect joint(s) in question:
Signs of inflammation, injury (swelling, redness, warmth)?

-Deformity? Compare with opposite side.

• Observe normal activity – what can't they do? Specific limitations?

-Discrete event (e.g. trauma)? Mechanism of injury?

• Palpate joint -> warmth? Point tenderness? Over what structure(s)?

• Range of motion, active (patient moves it) and passive (you move it).

• Strength, neuro-vascular assessment.

• Specific provocative maneuvers

• If acute injury & pain -> difficult to assess as patient "protects" -> limiting movement, examination – examine unaffected side first (gain confidence, develop sense of their normal)

Task 2
Your patient's left shoulder hurts. Examine it, and while doing it, politely instruct him/her or explain what you are doing.

Sample tasks from the course material of the treatment groups (MELF-oriented and TA/TC-focused)

Unit 5
Physical assessment – evaluation of joints

Task 1
Look at these people. They all complain of shoulder pain. What could be their condition?

dislocation
separation of AC joint
fracture
shoulder joint tear
rotator cuff tear
frozen shoulder (adhesions)
impingement (bursitis)
osteoarthritis
rheumatoid arthritis
referred pain (from an organ)


Hanna, 8yo, Dutch


Liam, 23yo, French


Rosa, 64yo, Mexican


Thomas, 16yo, Swiss

Task 2 You are examining these people's shoulder.

How do you think they communicate in English?
What are their fears and expectations?
What is important for them?

Examination Keys To Evaluating Any Joint

- Area well exposed - no shirts, pants, etc. -> gowns
- Inspect joint(s) in question: Signs of inflammation, injury (swelling, redness, warmth)? -Deformity? Compare with opposite side.
- Observe normal activity – what can't they do? Specific limitations? -Discrete event (e.g. trauma)? Mechanism of injury?
- Palpate joint -> warmth? Point tenderness? Over what structure(s)?
- Range of motion, active (patient moves it) and passive (you move it).
- Strength, neuro-vascular assessment.
- Specific provocative manoeuvers
- If acute injury & pain -> difficult to assess as patient "protects" -> limiting movement, examination – examine unaffected side first (gain confidence, develop sense of <u>their</u> normal)

Task 3
As a patient: pick a character from Task 1, create his/her personality and language use.
As a physio: Examine the patient, and while doing it, politely instruct him/her or explain what you are doing following the points in Task 2.