PROFECCIONAL EDUCATION

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INTEGRATED APPROACH TO LANGUAGE TRAINING
OF AIR TRAFFIC CONTROLLERS

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Abstract. *The article deals with the issue of integrative approach to language training of air traffic controllers in air traffic control simulator. The integrative approach is viewed in terms of two elements of English communicative competency: oral speech skills (listening comprehension and speaking) and language of radiotelephony communication (radiotelephony phraseology and plain English in aviation context).*

Keywords: air traffic control; language training of air traffic controller; oral speech skills; radiotelephony phraseology; simulator English language for aviation.

1. Statement of Purpose

It is obvious that effectiveness and efficiency of the new language requirements implementation will be best provided through reform of the language training of air traffic controllers. The reform should tackle the routine language course which is traditionally based on disintegrated training of general English, phraseology knowledge and air traffic control rules and procedures, which must be operated through English.

Therefore the updated vision of the English language training for air traffic controllers could be based on consideration of both a process (How to teach?) and a result (What has to be learnt?).

There are several advantages for using an integrated approach to teaching/learning process. Not only are learners given the chance to interact in an authentic and meaningful way, but learners are also exposed to the richness and complexity of the language use on the working place [5, 6, 9].

However, with a segregated approach, it is difficult to use language, either phraseology or plain English, in a meaningful way which should provide safe navigation service. For example, when students are focused on only one skill at a time, such as grammar or pronunciation, it is not very meaningful or very likely that they will ever be focused on just grammar or pronunciation while they are communicating [6]. Therefore the integrated approach to teaching is obviously much more realistic for the purposes of authentic language learning of air traffic controllers.

This article will focus on some ideas how English language training of air traffic controllers could be improved.

2. Review of Research Results

Second language learning is defined by R. Lado as acquiring the ability to use its structures within a general vocabulary under essentially the condition of normal communication among native speakers at normal conversational speed.

More specifically, it means the acquisitions of the ability to use in speaking the units and the patterns of the content when listening to the second languages. It means the learning of expression, the content and the association of expression and system of the content in rapid use in the proper position within the target languages [2].

Teaching language is a comprehensive and complex process so in order to make this process effective and simple, skills integration is an advisable way of teaching language [1, 4, 6, 7].

It is a well-known fact that four language skills are rarely used alone in everyday life. Integrating language skills helps language learners to develop their ability in using two or more of the four skills within real context and also in their real life. All the language skills are vital in teaching and learning processes and combination of the language skills has positive effects on student success [6].

Our study of curricula showed that the language training is still split into radiotelephony phraseology course and plain English course each of which is followed by own examination procedure and

assessment. Thus the skills to use phraseology and plain English in aviation context are taught separately.

The radiotelephony phraseology course may take long time to teach grammar rules and phraseology knowledge. The language training is conducted separately from the practical course in a air traffic control simulator. The tasks designed for the simulator use radiotelephony phraseology supported by parallel translation into Russian.

It should also be noted that the training course on standard radiotelephony phraseology is learnt in an educational establishment as part of academic subject and heavily based on English-Russian and Russian-English equivalents of phraseology clusters.

Regarding preparedness of the teaching staff, in other classrooms the course can be taught by English teachers which have not been specifically exposed to air traffic control procedures. In other classrooms the course is taught by air traffic controller instructors which have not been especially trained in language teaching methodology.

In both cases it may lead to discrete teaching and therefore discrete learning of language and air traffic control rules. It further requires a big work on development of blended skills of providing air traffic control via use of standard radiotelephony phraseology.

Normally it takes place during training on an air traffic control simulator where one of the students has to play a role of pseudo pilot while another student learns how to apply rules to air traffic control procedures. It should be noted that the student-pseudo pilot is never especially taught how to operate an aircraft — he/she simply follows the scenario of the training task.

Our analysis of the simulator tasks revealed that the plain English in aviation context has not been included in the training course on the simulator. The training of nonstandard situations is based on radiotelephony phraseology which is prescribed for such cases. It is obvious, therefore, that plain English is not integrated into the radiotelephony simulation procedures and blended skills are not developed. The blended skills are skills of providing safe air traffic control procedure within radiotelephony communication conducted in English standard phraseology and, if required for safety, plain language.

The language of radiotelephony exchanges is considered to be standard phraseology which is precise number of words and clusters outlined in documents. The plain English in aviation context is still unclear part of "earth-to-air" communication language. At the same time according to ICAO, plain English plays an important role in radiotelephony communication due to its ability to compensate lack of language means needed in some cases particularly in non standard or emergency situations [3].

It is important to understand that plain English is used in radiotelephony not instead of phraseology but *in edition* to it when other language is needed for effective radiotelephony communication. It explains the language to become one of contributive factors in flight safety [3].

Therefore it becomes obvious that training future air traffic controllers on simulator should provide developing blended professionals skills of air traffic control via English language (both phraseology and plain language).

Regarding teaching/learning methodology used in the English phraseology classes for air traffic controllers it should be noted that it is mainly based on grammar translation method which may not suit communicative context of the phraseology use.

The fact argues for the need to teach integrated language combining standard phraseology and plain English in the classes with an air traffic controller simulator to make language training closer to real world working environment.

3. Purpose of the work

Reviewing the relevant literature in the field, this study aims to suggest an approach to teach language by integrating language skills cooperatively [8]

In natural language learning, skills integration is inevitable and in the language classroom skills need to be practiced in integration.

It is well known that in the actual language use, one skill is rarely used in isolation. Numerous communicative situations in real life involve integrating two or more skills. Two or more language skills are generally integrated in everyday language use [8].

It is known that the English language is used by air traffic controllers through oral speech involving two major skills — speaking and listening comprehension.

Language skills in the classroom should also be integrated in language teaching process as it

is in real life. In order to provide more purposeful and meaningful learning environment, teachers of Aviation English should integrate the language skills while teaching and practicing the language.

It is known that the English language used by air traffic controllers on the work place comprises the following elements:

a — two major skills of oral speech — speaking and listening comprehension;

b — two language areas — radiotelephony phraseology and plain English in aviation context.

It should be taken into account that the real work place of an air traffic controller is based on use of special equipment to provide safe navigation services according to strict rules and procedures, and the English language proficiency requires to be at least at upper intermediate level.

Therefore the English language use should be viewed as a complex phenomenon and taught as a corresponded branch of English for specific (i.e., air traffic control) purposes.

The English language used by air traffic controllers has a twofold nature based on standard radiotelephony phraseology including approximately 400 lexis and plain English in aviation context, the corpus of which is still not available.

Our recent study of 34 sets of authentic radiotelephony exchanges showed that the use of radiotelephony phraseology makes about 81% of the radiotelephony language discourse and 19% of the discourse belong to plain English language [9]. See details in the Table below.

Lexis samples from analyzed authentic radiotelephony exchanges

Parameters	Lexical items total	Plain English	Radio telephony phraseology
Value	22378	4304	18074
Percentage, %	100	19,2	80,8

Due to lack of language corpus of plain English in aviation context, it might be assumed that plain English needed for safe navigation services will be requested in accordance with communicative needs and through communication strategies applied by both interactants.

It should be stressed that plain English may be requested in situations when radiotelephony phraseology is not sufficient to maintain effective "earth-to-air" radiotelephony interaction [3].

To reach communicative intentions in these situations the communication strategies should be viewed as the verbal first aid devices which may be used to deal with problems or break-downs in communication. These devices enable interactants to stay active partners in communication even when things do not go well.

To my opinion, among the strategies available for air traffic controllers language training there could be the ones described by N. Schmitt as follows [7]:

a) Achievement or compensatory strategies:

Circumlocution — describing or exemplifying the target word you cannot remember (part of paraphrasing);

Approximation — using an alternative term which expresses the meaning of the word you cannot remember as closely as possible (part of paraphrasing);

Use of all-purpose words — extending a general, 'empty' lexical item to contexts where specific words are lacking (part of paraphrasing).

b) Stalling or time-gaining strategies:

Use of fillers and other hesitation devices;

Repetition — repeating a word or a string of words immediately after they were said.

c) Interactional strategies:

Appeal for help — turning to the conversation partner for help either directly or indirectly;

Asking for repetition — requesting repetition when not hearing or understanding something properly;

Asking for clarification — requesting confirmation that one heard or understood something correctly;

Expressing non-understanding — expressing verbally that one did not understand something properly;

Interpretive summary — extended paraphrase of the interlocutor's message to check that the speaker has understood correctly.

The aforementioned strategies seem to be reflected to some extend in the descriptors of oral language proficiency of the ICAO rating scale [3].

It is obvious that teaching language for radiotelephony communication purposes will require practicing of the communication strategies in the classroom which is best to do on

the air traffic control simulator. In this particular way teaching blended professional skills can be feasible

Specificity of oral language communication on the work place of air traffic controllers is that it is provided in-voice-only format, which means that non-linguistic means like mime, gesture, facial expression, eye contact are not available.

Therefore in teaching and learning oral language the following listening and speaking use strategies can be useful [7].

Listening strategies aimed at integration plain English and phraseology use:

1) Strategies to increase exposure to the new language: listening to a talk show on the radio, watching a TV show, going to see a movie in the new language, or attending some out-o-class event conducted in the target language;

Strategies specific for air traffic controllers proposed by me: listening to ATC authentic exchanges on YouTube, watching video clips/movies/advertisements concerning air traffic control or other aviation specific activities.

2) Strategies to become more familiar with the sounds in the new language: looking for associations between the sound of a word or phrase in the new language and the sound of a familiar word, imitating the way native speakers talk;

Strategies specific for air traffic controllers proposed by me: imitating the way native speakers interact in radiotelephony exchanges.

3) Strategies for better understanding the language in conversation: before listening to the language decide to pay special attention to specific language aspects, for example, the way the speaker pronounces certain sounds.

4) When listening in the language: listen for word or sentence stress to see what natives emphasize when they speak, practice 'skim listening' by paying attention to some parts and ignoring others.

5) If some or most of what someone says in the language is not understood: make educated guesses and inferences about the topic based on what has already been said, look to the speaker's gestures and general body language as a clue to meaning.

Speaking strategy use:

— In order to practice for speaking:

Practicing new grammatical structures in different situations to check out one's confidence level with the structures

Asking oneself how a native speaker might say something and then attempting to practice saying it that way.

— In order to engage in conversations:

Initiating conversations in the new language as often as possible

Asking questions as a way to be sure to be involved in the conversation.

— When not able to think of a word or expression:

Looking for a different way to express the idea; for example, using a synonym or describing the idea or object being talked about.

Using words from one's native language, perhaps adding vowels or consonants so that they seem like words in the target language.

It should be noted that strategies specific for air traffic controllers are different from those of pilots. The radiotelephony exchanges between flight crews and air traffic controllers are based on technical rules provided through clear and comprehensible language communication between the interactants. A pilot and an air traffic controller may realize different or similar communicative functions [1, 6].

Traditionally the language training is based on segregated approach which means focusing on one separate skill. The examples are training standard phraseology separately from training plain English in aviation context, or training air traffic rules and procedures using only phraseology translated into Russian.

The examinations are also split into radiotelephony phraseology exam and plain English test each of which is followed by own assessment and scoring scheme.

The radiotelephony phraseology course is often based on a long term course based on teaching grammar rules and radiotelephony phraseology often separately from the practice in using of air traffic control procedures.

Usually the course is learnt in an educational establishment as part of academic subject and heavily based on English-Russian and Russian-English translation clusters.

Still in many classrooms oral language skills are not a special teaching focus and are not developed in integrative manner for the purposes of air traffic control procedures. Therefore this teaching approach can't provide the professional training of future air traffic controllers at the level required by regulatory documents.

To improve the training course communication strategies and skill strategies mentioned above the aviation English language should be learned through practice of real world oral communication situations in a simulated professional environment.

Two languages — phraseology and plain English in aviation context — should be taught in integrative manner to develop blended language skills for radiotelephony communication. It can be done through training tasks designed for an air traffic control simulator with allotment of the language as 1 plain English lexical item for each set of 4 phraseology lexis regarding the percentage of these language areas in radiotelephony exchange.

Air traffic control rules and procedures could be learned and practiced in integrative manner alongside with language and communication strategies.

The radiotelephony exchanges between flight crews and air traffic controllers are based on technical rules provided through clear and comprehensible language communication between the interactants. A pilot and an air traffic controller may realize different or similar communicative functions [5]. Therefore teaching plain English in aviation context should be focused on the language used for communicative intentions which may occur between interactants in radiotelephony communication.

To provide developing blended radiotelephony skills the teaching should run in integrative manner by combining technical and language knowledge within a training course.

It could be organized through special stages of teaching during simulator training course for future air traffic controllers aimed at teaching air traffic control rules and procedures in nonstandard and emergency situations. The stages are: Exposure, Study and Activation [7].

At the Exposure stage students are exposed to new input which consists of portions of air traffic control knowledge (e.g., emergency descend), phraseology to be used in the case and plain English switching expected. Exposure is best to conduct through authentic radiotelephony context. At the Study stage the input exposed is studied and trained

through variety of activities. At the Activation stage the students activate the skills through productive activities which require applying technical knowledge and language skills to solve real life air traffic control tasks simulated with the help of a simulator.

4. Conclusions

Understanding phenomena of teaching and learning as a necessary means to develop language skills leads to clear argument that knowledge of standard phraseology and its further use in air traffic control simulator training tasks is not enough to provide safe air navigation service. It should be done simultaneously. In other words, developing language skills should be integrated into the air traffic control training course conducted through an air traffic control simulator.

Under such conditions future air traffic controllers will learn how to act professionally in cases of nonstandard or emergency situations where good technical and phraseology knowledge should be added by ability to switch to plain English language if required for safe air navigation service.

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Висвітлено проблему інтегративного підходу до мовної підготовки авіадиспетчерів у процесі навчання на авіадиспетчерському тренажері. Інтегративний підхід розглянуто в термінах двох складових іншомовної комунікативної компетентності: вміння усного мовлення (аудіювання та говоріння) та англійської мови радіозв'язку «земля-повітря» (фразеологія радіообміну та звичайна англійська в авіаційному контексті).
Ключові слова: авіадиспетчерський стимулятор; англійська мова для авіації; мовна підготовка авіадиспетчерів; усно-мовленнєві вміння; фразеологія радіотелефонії.

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Освещена проблема интегративного подхода к языковой подготовке авиадиспетчеров в процессе обучения на авиадиспетчерском тренажере. Интегративный подход рассмотрен в терминах двух компонентов иноязычной коммуникативной компетентности: умения устной речи (аудирование и говорение) и язык ведения радиосвязи «земля-воздух» (фразеология радиообмена и простой английский в авиационном контексте).
Ключевые слова: авиадиспетчерский симулятор; английский язык для авиации; устно-речевые умения; фразеология радиотелефонии; языковая подготовка авиадиспетчеров.

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