EMBRY-RIDDLE
Aeronautical University™
SCHOLARLY COMMONS

Apr 25th, 1:45 PM - 2:00 PM

Are the LPRs focusing on real life communication issues?

Malila Carvalho de Almeida Prado
University of Sao Paulo, Brazil, malila.prado@gmail.com

Patricia Tosqui-Lucks
Airspace Control Institute, Brazil, patricialucks@gmail.com

Follow this and additional works at: https://commons.erau.edu/icaea-workshop

Are the LPRs focusing on real life issues? Some insights from communication analysis through corpus linguistics

Malila Carvalho de Almeida Prado (University of Sao Paulo, Brazil)

Patricia Tosqui-Lucks (Airspace Control Institute, Brazil)

Abstract

This article aims to present the discussions of both preparation and delivery processes of a workshop targeted at aviation English professionals. Pursuing a corpus-based pragmatic investigation of the language used in real radio communications by pilots and air traffic controllers when dealing with abnormal situations, it was proposed that participants discussed issues about the importance of the interlocutors' roles in the language production, the recognition of linguistic features related to fluency and interaction, and the revision of the concepts of native x non-native speakers regarding language proficiency. To such an end, five transcripts evolving from native and non-native interactions to non-native speakers' communication, all succeeding in getting the message across, were debated through specific questions which conducted the discussions. These questions addressed topics related to the use of modalizers (or hedges), plain English, shared knowledge and peer proficiency. The workshop concluded with a demonstration of examples taken from the study corpus and contrasted with communicative functions listed in the ICAO DOC 9835.

Keywords: corpus pragmatics; radiotelephony communication analysis; communicative functions; fluency; interactions.

Introduction

Pilots and Air Traffic Control Officers (ATCOs) are required by ICAO to be licensed in order to operate internationally. Such a license is granted by state aviation agencies, which are responsible for the application of aviation English tests and classification of their professionals according to a rating scale established by ICAO. This scale presents six linguistic categories that must be assessed: pronunciation; structure; vocabulary; fluency; comprehension and interactions.

The test taker must be evaluated independently in each of these categories, ranking from 1 (lowest) to 6 (highest). Proficiency level 4 (operational) is the minimum required for working with international traffic.

The language of air traffic control is distinct from other English for Specific Purposes contexts. It has a restricted set of functions and a prescribed phraseology with reduced syntax and vocabulary for routine actions but, at the same time, involves "extensive shared information concerning the aircraft in the area, the parameters of the airport or airspace, and the expected actions at particular points in the flight" (Moder & Halleck, 2009, p. 25). Since the primary concern of ICAO is aviation safety, it is of utmost importance that training and testing professionals from ICAO member states make sure that the courses and tests they use to implement the policy accurately assess the performance of pilots and air traffic controllers in critical workplace circumstances.

Despite the high-stakes of communication for aviation safety, there is still little research that systematically examines the use of language in this workplace communication. Yet, meetings and workshops have been proposed in different places around the globe to discuss topics related to aviation English training and testing, with a view to improving this specific niche.

The present paper is related to a workshop conducted by the authors during the annual meeting of the International Civil Aviation Association (ICAEA), entitled "*The ICAO LPRs - 10 years on: progress or pain?*", in the session "*Have air-ground communications improved?*". As one might notice, the theme of the event and the session is somewhat uncomfortable, for it questions the area of Aviation English and the advances in LPRs (Language Proficiency Requirements[1]). Aligned with this view, the workshop aimed to provoke reflection upon questions such as: Is communication more effective nowadays?; Have the LPRs increased native speakers' awareness of the needs of non-native English pilots & ATCOs?; Is phraseology being overshadowed by plain English?; and How effective is communication among personnel with varying proficiency levels?

---

[1] A description of best practices both in training and testing of aviation English, suggested in ICAO Annex 1 of the Chicago Convention, and detailed in the Manual of Implementation of Language Proficiency DOC 9835

To shed new light onto these questions and raise awareness on how to analyze fluency and interaction in a radiotelephony corpus - and eventually relate the findings to the Proficiency Scale provided by the International Civil Aviation Organization (ICAO) -, the workshop presented five authentic samples of air-ground communications, in which there were non-routine or emergency situations that had to be communicated on radiotelephony, in an "unexpected turn of events" (one of the descriptors that define proficiency in interactions, according to the ICAO's rating scale). To support the analysis, some resources from Corpus Linguistics were provided. The workshop proponents presented data from an aviation English corpus they have compiled, in order to bring some insights about elements collected from an automated analysis of a large amount of language.

This paper is an extension of the workshop, which had a more practical nature. The first section of this paper presents the theoretical basis for the selection of the communications debated in the workshop, supported by Corpus Linguistics and Pragmatics. The second section describes the procedures for dealing with the transcripts, with guided questions to be answered in groups. Next, the results of the group discussion are provided and related Corpus Linguistics, followed by the conclusions. An appendix is presented after the references, with the handout delivered at the workshop.

1. **Air-ground communication analysis through corpus linguistics**

When analyzing the language used in workplace environments, there needs to be an investigation with a "focus on interaction in the work setting to determine what kind of exchanges typically occur, […] what the purpose of the interaction is and what communicative functions and linguistic forms are used" (Moder & Halleck, 2012, p. 137). It is therefore worthwhile to examine language in these surroundings, considering aspects which belong to the real use of a professional community.

Through Corpus Linguistics (CL), it is possible to describe language use (or specific language uses) by analyzing banks of texts that can be more or less extensive, provided they are representative of the language which the research targets. There are certain general criteria to compile a corpus to such an end. In the case of spoken corpora, for example, texts should be

produced in real life scenarios, as it is one of the premises of CL to investigate language *in* use, and they must be transcribed as faithfully as possible, so researchers might discover aspects they would not have seen with the naked eye.

Meaning, to CL, lies on the word and its surroundings (Sinclair, 1991), that is, on strings that are cognitively stored and retrieved in production (Schmitt & Carter, 2000), which is then shared by a community, conventionalizing it by means of repetitive usage (Adolphs, 2008). It is also one of the main concerns of research on fluency, particularly in studies involving language acquisition or cognitive linguistics (Wray, 1998; Wray & Perkins, 2000; Wood, 2006; Götz, 2013). Therefore, investigations of strings – or chunks – are primacy in this linguistic theory.

On the other hand, pragmatics aims to study "language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their language has on other participants in the act of communication*"* (Crystal, 1997, p. 240). It goes beyond semantics, and it refers to what meaning represents, or still, "[it] is concerned with any features which are non-semantic and related to context" (Adolphs, 2008, p. 24). As such, studies in this area align with social phenomena in language such as face work (Goffman, 1974), politeness (Brown & Levinson, 1987), speech acts (Searle, 1969; Searle, 1975), among others.

Research on large corpora has brought about some issues that Pragmatics has been dealing with for decades, indirectness being one of those. It has been constantly highlighted by investigations in spoken corpora that politeness – particularly through hedges – is extremely frequent, and the reasons for this can be explained by research in pragmatics, especially in speech act theories. This study, like others, aims at a combination of the two linguistic theories, namely Corpus Pragmatics (Aijmer & Rühlemann, 2015).

The link between CL and Pragmatics is represented by two axes: a vertical axis would refer to an allusion to wordlists and concordance lines which are common triggers in CL investigations; a horizontal axis, on the other hand, implies the search for phenomena of language in use which is employed in pragmatics (Aijmer & Rühlemann, 2015). Although one can approach a corpus from previously defined hypotheses, through a method called corpus-based analysis, it is a usual practice to "trust the text" (Sinclair, 2004), that is, to use software that allows statistical processing of frequencies and, afterwards, to analyze manually what the

computer has highlighted; in other words, a corpus-driven research (Tognini-Bonelli, 2001). The latter is the methodology adopted in this study. The manual investigation is conducted by means of pragmatics theory, which brings to light possible reasons for some language uses.

With this aim, a corpus of currently 100 audio files has been compiled and transcribed so this particular language use could be investigated by means of computational tools available in CL studies. The requirements to select the audios for the corpus are: (i) they have to be exchanges between pilots and ATCOs; (ii) they have to be related to a problem-solving situation, that is, communications in abnormal situations, following the scope proposed by ICAO on plain English being the language used when phraseology does not suffice; (iii) they should be occurrences after 2008, year of the implementation of the LPRs; and (iv) each transcribed event should start at the moment the problem is first mentioned and end when the situation is sorted out or when the exchanges no longer have the participation of the professionals mentioned before (PRADO, 2015).

For ease of access to authentic pilot-controller communications that would meet these four requirements, most occurrences of this corpus took place in the USA, as it is the country which hosts the biggest number of flights in the world; consequently, they offer a large number of North American ATCOs recording samples. More recently, in an attempt to find out if there would be similar results within an international community of English speakers from other regions in the world, the corpus was enhanced with around thirty more texts produced by international traffic (non-North American flights or different air spaces) (PRADO, 2017).

In order to extract the chunks produced in the study corpus, a list of two-, three- and four-word clusters was automatically generated so as to analyze statistically what the recurrent strings were in this specific language. Contrasting the three lists, it could be noticed that the strings were similar, as they were pieces of the same chunks, and the final option was to use the three-word list for the present study as it highlighted the highest number of complete strings with an identifiable meaning or function, as can be seen is Table 1:

N	Word	Freq.	N	Word	Freq.	N	Word	Freq.
1	**WE RE GONNA**	106	13	AND UH WE	33	25	**YOU WANT TO**	27
2	HOLD SHORT OF	71	14	**DO YOU WANT**	33	26	TO THE RAMP	26
3	ON THE RUNWAY	56	15	I M SORRY	33	27	DON T KNOW	25
4	I DON T	47	16	SOULS ON BOARD	33	28	OKAY WE RE	24
5	**D LIKE TO**	42	17	AT THIS TIME	32	29	WE VE GOT	24
6	LET ME KNOW	41	18	**AND WE LL**	31	30	**BE ABLE TO**	23
7	UH WE RE	40	19	TO THE GATE	31	31	DECLARING AN EMERGENCY	23
8	**WE D LIKE**	39	20	**DO YOU NEED**	29	32	THAT S FINE	23
9	DO YOU HAVE	38	21	**IF YOU CAN**	29	33	HOLD YOUR POSITION	22
10	**I M GONNA**	35	22	**WE NEED TO**	29	34	**IF YOU NEED**	22
11	THANK YOU VERY	35	23	**YOU RE GONNA**	29	35	LET YOU KNOW	22
12	**YOU NEED TO**	35	24	OKAY THANK YOU	28	36	**UH WE LL**	22

Table 1: the 36 most recurrent three-word chunks in the study corpus.

This list was the basis of the workshop presentation, as chunks are also an investigative item of productive fluency (Wood, 2006; Götz, 2013); furthermore, the ones highlighted are of particular interest to interaction, as they seem to soften the language – a feature of politeness – and as such, take the interlocutor into account.

1.1 The principles behind the workshop

The workshop started with the presentation of data from the aviation English corpus mentioned previously, more specifically with the list of the most frequent three-word chunks (Table 1), so as to bring some insights about elements extracted from an automatic analysis of real language. By showing the list with the most recurrent phrases, it was possible to draw attention to the fact that, although certain scripted language from the Aeronautical Phraseology is indeed used, there seems to be a need for more – possibly where plain English comes into the picture.

An analysis of this table shows the frequent use of softened language, in expressions such as *if you can*; *if you need*; *'d like to*, *able to do*, and *do you want*. The use of the abbreviated expression *gonna* is very frequent too, which reveals the immediate character of the decisions that are made in real time, both from the speaker *I'm gonna*, *we're gonna* and towards the interlocutor *you're gonna*. It is possible to observe, however, that there is also some room for conversational routines, which can be verified in expressions like *thank you*, *thank you very*

much, *okay*, *that's fine* and the use of honorifics, such as *sir* and *ma´am*. In documents describing Aeronautical Phraseology, nevertheless, any language that demonstrates ambiguity or lack of precision, such as politeness terms, should not be used. In addition, studies on courtesy (Brown & Levinson, 1987) attest to the social permission of abdicating such items when urgent situations are in progress (which is the precise scope of this research). Contrary to these concepts, the words *sir* and *thank* figure among the most frequent words in the study corpus, showing that in real events there is a need for face work (Goffman, 1974); in other words, pilots and ATCOs find it important to cooperate with one another politely. The extract in Figure 1 illustrates the politeness items in bold:

C: Seagull 8078 heavy / **thank you** for the information / contact Approach now on 125.7 / **have a great day** //

257/ **bye** //

Figure 1: extract taken from the study corpus.

Note, in Table 2, the use of *sir* in concordance lines, signaling its use in situations when there is need for negotiation, checking, thanking, or even reassuring:

N	Concordance
1	// Sorry / say that again / sir // We're smelling smoke wit
2	try and go straight ahead / sir // Affirmative // Alright /
3	we're gonna land // alright sir / one eight zero // mayday
4	start setting this up // and sir / just for planning purpose
5	sh just continue on approach sir // Thank you // no delay on
6	/ you are clear all around / sir // Okay / okie dokie / than
7	u have a gate assignment? // Sir / we're going to gate twent
8	uate // transmitted on ATC / sir / fire service is on the wa
9	thirty-one souls on board // Sir / I'm gonna need fuel on bo
10	sed? // The runway is closed sir // November two three three
11	Departure / radar contact / sir / understand you have an is
12	ve been deployed // copied / sir // Seagull four seven nin
13	t correct? // That's correct sir / we need uh a medical in t
14	six / declaring emergency // Sir / he's declaring an emergen
15	// That´s absolutely fine / sir / no problem // advise me i
16	ad // How´s everything going sir? // Everything going is mor
17	M eighty forty-three heavy / sir you´re you´re joining the w
18	eight / Thanks for your help sir // Twenty-eight eight / goo
19	Arrival / I check the mayday sir / descend and maintain thre
20	s anything you need from me sir / just uh just advise // No

Table 2: Concordance lines with the word *sir*.

It should be pointed out that the corpus is representative of abnormal situations, and Aeronautical Phraseology – or its use – is not the focus of the present study. Therefore, in Table 2, any concordance line that contained scripted language was removed, thus showing uses that would reveal the language employed when Phraseology does not suffice (ICAO, 2010). To verify this, it is important to examine the surroundings of the word (*sir*, in this case) and, if necessary, the whole context where it is used, towards an understanding of the utterances, the responses, or the actions it triggered. As can be seen in Table 2, *sir* can be used with a reassuring function (lines 3, 12, 13, 15 and 19), as a turn-opener (4, 7, 9, 11, 14, 17), as a checking device (1, 16), or even as an emphasis to the already polite discourse (6, 18, 20). This analysis led to the observation of certain aspects which are commonly present in ordinary conversations, such as pronouns, deixis of place and time (*here, now*), and politeness terms that, despite ambiguous, are manifested in the exchanges between pilots and ATCOs when dealing with non-routine situations. Garcia (2016), using Conversation Analysis (CA), reached similar conclusions in her study of the communication of the accident that took place in New York and ended with a ditching on the Hudson River.

Such findings can lead the way to a better understanding of what plain English means in aeronautical communications. It has been argued that there needs to be a more precise definition of English in the aviation domain (Moder & Halleck, 2009; Lopez et al, 2013). Although plain English should preserve the characteristics of Phraseology - which are objectiveness, precision and concision (ICAO, 2010), it seems to convey a more "spontaneous, creative and non-coded use of a given natural language" (Lopez et al, 2013). Still, in search of a narrower definition, it is pivotal to investigate how this language in materialized, or produced.

2. Workshop procedures

The audience comprised participants with varying backgrounds: experienced pilots and air traffic controllers; aviation English trainers and course coordinators; materials and course designers; exam raters and test developers; civil aviation authorities, etc. They were invited to work together in the analysis of 5 transcripts of communication samples extracted from the abovementioned corpus. The participants were split into groups of 4-5, with different backgrounds, and asked to analyze the linguistic strategies used by pilots and controllers in their

effort to communicate effectively during non-routine or emergency situations. To guide the analysis, participants were encouraged to answer the following questions:

a. Was the use of modalizers important in this communication? Why (not)?

b. Is plain English being used when there is Phraseology available? In what moments?

c. Was there any linguistic complication or negotiation?

d. Can you recognize differences in proficiency levels?

e. Can you identify assumptions of shared knowledge?

In order to prevent any identification and avoid any influence of nationality or accent in the judgment, the call signs and ATC facilities were replaced by fictional bird names (seagull, lark, dove, etc.). To represent the features of spoken language, the following symbols were used in the scripts:

/	for short prosodic breaks;
//	for longer prosodic breaks;
…	for removed parts;
<>	for tagged information;
uh	for hesitations.

Figure 2: symbols used for non-verbal transcriptions.

There was a time limit of 10 minutes for the discussion of each transcript. The workshop presenters monitored the groups to guide the discussion, clearing up any questions and controlling time and pace.

Afterwards, the groups had to share their answers with the audience. Following the discussion of each transcript, the audio of the real communication was played, so that the audience could be exposed to the actual professionals involved in those situations, along with the identification of airlines, stations and presumed nationalities. Then, they had to deliberate if they would change any of their answers and ideas after listening to the audios.

3. Discussion

In this section, the results of the group discussion are commented on, according to each of the five questions. All transcripts can be found in Appendix A, and will be referred to as transcripts or communication in the next sections.

3.1 About the use of modalizers

The use of modalizers (or hedges) is highly present in the exchanges selected for this workshop as they all refer to communications relating to technical problems, that is, situations for which there is no scripted language (Aeronautical Phraseology). Modalizer is a term used here to simplify the discussion of any identifiable item of hedges, or language softeners. It could either refer to modal verbs or whole expressions such as *it seems that*, or *it looks like*, for instance. In the first communication, for example, the ATCO states that the aircraft's "nose gear appears to be in the wrong position"; something similar happens in the second communication, when the ATCO announces "it appears that there is fuel coming from your left wing". By softening such information, the ATCO may demonstrate an inconclusive idea, as he/she is not the one responsible for that assessment. In the third communication, the use of certain expressions, such as *I can offer you*, *if you'd like*, *whatever you want*, *would you like*, attests to the variety of exponents that can be used when offering something, a function for which there is no scripted language. In the fourth communication, the use of *would like* represents both a request and an offer. Modalizers have shown to be frequent in chunks, which help develop fluency strategies and identify the need for face work, demonstrating the importance of the interlocutor in the exchanges.

3.2 About the use of Phraseology x plain English

Most part of the scripted language has been removed, as the interest of the authors is to work with the plain English used in radio communications. But there are utterances in the exchanges which are too wordy (for example, in communication 2, "the last departure / actually the uh aircraft that's sitting at the approach end of runway 22 right just reported a large amount of fuel that appears to be coming from your left wing", an utterance such as "traffic reported a

fuel leak from left wing" would be enough, and closer to what is expected in the Aeronautical Phraseology). However, the interest here lies in the need for a non-coded language not as a replacement, but as a gap-filler. Such is the case of the modalizers mentioned in the previous section, and in expressions which explain or check certain actions, as can be noted below:

(1) I just need to verify, / are you declaring an emergency?

(2) We have a nose wheel steering problem / it´s stuck

(3) understand you're gonna stay on the runway / is that correct? / you need a tow

(4) it appears your nose gear is sideways / do you still want to land?

(5) you mean uh uh fuel leak from left wing?

(6) understand you're minimum fuel

(7) we are set up for City / we'll go to City

In the examples, it can be observed that these situations could not be prescribed by Phraseology as they all refer to abnormal situations. Consequently, the language used does not replace phraseology, but fulfills the task of getting the message across.

3.3 About linguistic complication and negotiation

In the first communication, the exchange seen in Figure 3 is an example of a linguistic complication, in which the word *maintain* seems to be erroneously used:

P: Seagull 8078 heavy / just confirming / we maintain the runway uh after the uh landing//

C: Seagull 8078 heavy / understand you're gonna stay on the runway / is that correct? / you need a tow //

Figure 3: extract of text taken from the study corpus.

The pilot appears to be unaware that the meaning of such a word refers to movement, and not to the fact that the aircraft would stop on the runway. Also, in transcript 2 (Appendix A), the pilot clears up his understanding of the lengthy information provided by the ATCO with the

question "you mean uh uh fuel leak from left wing?".

3.4 About the differences in proficiency levels

The idea of this question was to raise awareness of the need to stop putting all the onus over the shoulders of non-native speakers. Many people still have a misconception that native speakers are the owners of the language and therefore it is the non-native speaker's job to improve and adapt in cases of miscommunication (see Widdowson, 1994). In the transcripts presented on the workshop, non-native speakers of the language succeed in communicating the problem, showing that the focus should be on the professional community, not on the native x non-native domain. In a previous study, it was observed that the accent interferes with the perception of the interlocutor (Götz, 2013); even though the speaker had a good flow and no hesitation whatsoever, because of his / her accented pronunciation, he / she was considered non-fluent. To avoid this perception, the written transcripts were presented first, as the judgement would probably change when listeners were exposed to the oral communications. Such conception was confirmed, as most participants claimed that their impressions changed after they heard the actual events. Also, a lot of other aspects were involved beyond the accent – prosody, for example, seemed to have played a major role in their understanding.

3.5 About the assumptions of shared knowledge

Scientific research has shown that hesitation is not necessarily related to the lack of proficiency, but mainly to the lack of knowledge of the topic (Guillot, 1999; McCarthy, 2005; McCarthy, 2010). Although working in the same environment, ATCOs and pilots have different tasks, and not always do they seem to understand each other. In the first transcription, there is an example of such a problem: the ATCO informs the problem, which is not understood by the pilot, who has a different view from his/her indications in the cockpit. The implicit message in the question "you still wish to land", emphasized by *still*, was not interpreted by the pilot, who only understood his/her problem after the third time it was reported. The lack of assertiveness from the ATCO may have led to the confusion. Yet, due to his insistence, his communication was effective.

In the second communication, it is possible to notice that the information issued by the ATCO surprised the pilot, as he seemed to be unaware of his problem (a fuel leak). This impression was reinforced by his wish to continue moving the airplane towards the ramp. After being told by the ATCO to hold, the pilot finally managed to understand the event.

The third transcript was an example of misconceptions. The pilots and ATCO did not seem to agree on the use of the word 'mayday'. In Phraseology, 'mayday' is used when pilots need immediate attention, and 'mayday fuel' is a request to land as soon as possible. Even though the pilot declared an emergency, he intended to land at a specific airport overflying two closer fields. This disagreement led the ATCO to offer three different possibilities, which may have overloaded the pilot with a verbose communication at a critical moment in the cockpit.

4. Connections between the transcripts and the corpora

After the four communications were discussed, a 5th transcript was presented, this time with a new variable: when the audio was played, the audience realized that pilot and controller were non-native English speakers, both with the same nationality, but, even during the most stressful moments, they chose to speak English instead of switching to their shared native language. There was a discussion about the proficiency of these professionals, who could manage the communication and use linguistic strategies efficiently in a clear and concise way. The aim was to raise awareness to the issue of native and non-native speakers and to what should be considered good examples of fluency and interaction on the radiotelephony.

Following this last task proposed to the audience, there was exposure to CL elements once again. Due to time constraints, this part was not addressed in the workshop; however, it is presented here as an extension of the discussion, so as to relate it to the potentiality of the studies in corpora. The three-word clusters were organized in some graphs (Figure 4) by grouping them into some communicative functions, as suggested by Mell (2004), along with their frequency in the study corpus. These can be used as exponents of such functions, taken from real-life communications and, therefore, filling a gap between pedagogical material and the reality.

Figure 4: chunks grouped according to communicative functions (Mell, 2004).

Professionals of aviation English are familiar with these functions, as they are presented in DOC 9835 itself, in Appendix B. This collection is also generated from a corpus-driven study (Mell, 1992), but it can be misunderstood if not considered in the realm of radiotelephony communications. Still, the list offered here is not exhaustive, and the topic should be further analyzed.

Final remarks

This article aimed at presenting the discussions of both preparation and presentation processes of a workshop targeted at aviation English professionals. It was based on a corpus pragmatics investigation of the language used in real radio communications by pilots and air traffic controllers when dealing with abnormal situations. More frequently trained and assessed, pronunciation, structure and vocabulary are usually mainstream areas in language studies. To promote a wider view of linguistic matters, the focus of this workshop was on two other specific language areas determined in the LPRs – fluency and interaction.

The main aspects observed were related to the extensive use of modalizers, that is, hedges or language softeners, as they are investigable items in the aforementioned areas. Another important topic discussed with the participants were the examples of plain English overshadowing Phraseology even when it would have been possible to refer to a more scripted language. It reinforced the idea that apparently there is a need for a non-coded language that functions not as a replacement, but as a gap-filler in moments of non-routine or emergency situations. The other aspects hovered around strategies for negotiation during events that portrayed linguistic complication and false assumptions of peer proficiency. Results seem to confirm that hesitations are related mainly to lack of knowledge of the topic or lack of assertiveness, rather than lack of language proficiency. Finally, a question about peer proficiency enabled a more neutral analysis of fluency and interaction, since the samples were not identified by the nationalities. The aim was to raise awareness to the fact that the focus of the LPR should be on communication efficiency in an international professional community, not on the native x non-native domain.

Questions related to training and testing came up and were discussed, considering the main objective of the workshop was to raise considerations on how the LPRs could address fluency and interaction items. The idea of bringing real life communications to the table was to reflect upon them, pondering the two-sided conversations which are held by professionals on the job, and attempting to approach reality and the language trained and tested, as opposed to a perspective which focuses on a more individual performance.

References

Adolphs, S. (2008). *Corpus and context: investigating pragmatic functions in spoken discourse.* Amsterdam: John Benjamins.

Aijmer, K., & Rühlemann, C. (2015). *Corpus Pragmatics: a handbook.* Cambridge: Cambridge University Press.

Brown, P., & Levinson, S. (1987). *Politeness: some universals in language use.* Cambridge: Cambridge University Press.

Crystal, D. (1997). *A dictionary of linguistics and phonetics.* Cambridge: Blackwell.

Garcia, A. (2016). Air traffic communications in routine and emergency contexts: A case study of Flight 1549 'miracle on the Hudson'. *Journal of Pragmatics, 106*, 57-71. Retrieved February 3, 2017, from http://www.sciencedirect.com/science/article/pii/S0378216616305689

Goffman, E. (1974). *Frame Analysis.* New York: Harper & Row.

Götz, S. (2013). *Fluency in Native and Nonnative English Speech.* Amsterdam: John Benjamins.

Guillot, M.-N. (1999). *Fluency and its teaching.* Clevedon: Multilingual matters.

International Civil Aviation Organization (ICAO). (2010). *Manual of implementation of the language proficiency requirements (DOC9835-AN/453)* (2nd ed.). Montreal: International Civil Aviation Organization.

Lopez, S., Condamines, A., Josselin-Leray, A., O'Donoghue, M., & Salmon, R. (2013). Linguistic Analysis of English Phraseology and Plain Language in Air-Ground Communication. *Journal of Air Transport Studies, 4*(1), 44-60.

McCarthy, M. (2005). Fluency and confluence: what fluent speakers do. *The Language Teacher, 29*, 26-28.

McCarthy, M. (2010). Spoken fluency revisited. *English Profile Journal, 1*(1), 1-15.

Mell, J. (1992). Study of verbal communication between pilot and air traffic controller in standard and non-standard situations. (Doctoral Dissertation). Paris: École Nationale de l'Aviation Civile.

Mell, J. (2004). Specific purpose language teaching and aviation language competencies. *Proceedings from ICAO Aviation Language Symposium.* Montreal.

Moder, C., & Halleck, G. (2009). Planes, politics and oral proficiency: testing international Air Traffic Controllers. *Australian Review of Applied Linguistics, 32*(3), 25.1-25.16.

Moder, C., & Halleck, G. (2012). Designing language tests for specific social uses. In G. Fulcher, & F. Davidson, *The Routledge Handbook of Language Testing* (pp. 137-149). Oxford: Routledge.

Prado, M. (2015). Levantamento dos padrões léxico-gramaticais do inglês para aviação: um estudo vetorado pela Linguística de Corpus. (Master thesis). Universidade de São Paulo.

Prado, M. (2017). Ofertas e solicitações no inglês aeronáutico: um estudo pelo viés da Linguística de Corpus. Paper presented at the *III Jornada de Estudos Pragmáticos da USP*. Universidade de Sao Paulo, 31 May - 2 June, 2017.

Schmitt, N., & Carter, R. (2000). Lexical Phrases in Language Learning. *The Language Teacher, 24*, pp. 1-7.

Searle, J. (1969). *Speech Acts.* Cambridge: Cambridge University Press.

Searle, J. (1975). Indirect Speech Acts. *Syntax and Semantics, 3: Speech Acts*, 59-82.

Sinclair, J. (1991). *Corpus, concordance, collocation: describing English language.* Oxford: Oxford University Press.

Sinclair, J. (2004). *Trust the text: language, corpus and discourse.* London and New York: Routledge.

Tognini-Bonelli, E. (2001). *Corpus Linguistics at Work.* Amsterdam: John Benjamins.

Widdowson, H. (1994). The ownership of English. *TESOL Quarterly*, *28*(2): 377-389.

Wood, D. (2006). Uses and functions of formulaic sequences in second language speech: An exploration of the foundations of fluency. *Canadian Modern Language Review, 63*(1), 13-33.

Wray, A. (1998). Protolanguage as a holistic system for social interaction. *Language and Communication, 18*, 47-67.

Wray, A., & Perkins, M. (2000). The functions of formulaic language. *Language and Communication, 20*, 1-28.

Appendix A: Transcripts

Transcript 1
P: Seagull 8078 heavy um / I just need to verify / are you declaring an emergency? //
C: We have a nose wheel steering problem / it´s stuck / we need to maintain the runway / after landing / and request uh some towing // <unreadable> negative emergency / just uh have to maintain the uh runway after landing position on the runway and request a towing truck to leave the runway //
P: Seagull 8078 heavy / thank you for the information / contact Approach now on 125.7 / have a great day //
257/ bye //   ...
P: Seagull 8078heavy / just confirming / we maintain the runway uh after the uh landing //
C: Seagull 8078heavy / understand you're gonna stay on the runway / is that correct? / you need a tow //
P: Affirmative / we need a tow /   ...
C: Seagull 8078heavy / Town Tower // I'm being told that your nose gear appears to be in the wrong position //
P: No / negative / the nose gear uh the landing is down and locked / but uh we don't have uh the nosewheel steering so we need to maintain the uh runway after the landing //
C: Seagull 8078heavy / roger / you still wish to land //
P: Affirmative / we will land //
C: Seagull 8078heavy / roger / 22 right / cleared to land //
P: 22 right / cleared to land / and we will maintain the runway //
C: Seagull 8078heavy / it appears your nose gear is sideways / do you still want to land? //
P: Affirma <interruption> sorry / say again? //
C: It appears that your nose gear is sideways / not fully down //
P: Okay / uh we are initiating a go around / performing a go around / Seagull 8078heavy //

Transcript 2
C: Lark 7 heavy / Happy Tower //
P: Lark 7/ go ahead //
C: Lark 7 heavy / the last departure / actually the uh aircraft that's sitting at the approach end of runway 22 right just reported a large amount of fuel that appears to be coming from your left wing // Lark 7/ we're going to send an <interruption> a fire engine truck out to your aircraft / to make sure everything is okay / but it appears that there is fuel coming from your left wing
P: Lark 7/ you mean uh uh fuel leak from left wing? //
C: Yes / Lark 7 heavy / affirmative // there appears to be a fuel leak from your left wing //
P: Happy Tower / Lark 7/ request uh back to ramp uh due to uh fuel leak //
C: Lark 7heavy / hold your position / we have fire trucks coming to you //
P: Roger / Lark 7 heavy / hold the position //
C: Lark 7 heavy / there is a large / a large amount of fuel spilling from uh the back of your aircraft / and we do have the fire trucks coming to you //
P: Happy Tower / Lark 7 heavy / request to engine shut down in this position //

Transcript 3
C: 08 left / ATIS F and understand you're minimum fuel //

P: uh confirm it's the runway 08 left for us / Sparrow 229? //
C: that is correct / runway 08 left / I can offer you the right side if you'd like / whatever you want //
P: Mayday Mayday Mayday / Sparrow 229 heavy / we have a mayday fuel and we require runway 08 right //
C: Okay / I check the mayday Sparrow / just plan runway 08 right and I'll have the vectors for you very shortly here //
P: Sparrow 229 / thank you //
C: And Sparrow 229 / are you in need of immediate landing? //
P: Affirmative / Sparrow 229 heavy //
C: Okay / would you like to land at Nest airport? / it's about ten fifteen miles closer //
P: Uh negative / we are set up for City / we'll go to City //
C: Okay thanks / Sparrow 229 / I just wanna uh be clear here / I can offer you either Birdseed Airport or Nest Airport / they are both a little closer and they both have east west runways / and uh either that or you can continue to City //
P: It is going to be City for us for Sparrow 229 / thanks for the offer //
C: Okay / City it is // 08 right at City / is that correct? / the right side? //
P: That is correct / Sparrow 229 //
C: Okay / runway 08 right / just advise if you need any other assistance //
P: Uh WILCO / Sparrow 229 / thank you

Transcript 4
P: Hawk 9GN / mayday mayday / we've broken the landing gear //
C: Roger / copied // copied your mayday // Dove 54W / go around runway 22 //
P: Go around runway 22 / Dove 54W //
P: N304 / the Falcon is on runway //
C: Yeah / I'm aware of it / thank you // Dove 40B / make a go around for runway 22 / 22 is no longer available //
C: Go around / Dove uh 20 <unreadable> 40B // ...
P: Hawk 9GN / mayday mayday mayday / evacuating on the runway / smoke in the cabin //
C: The the fire brigade is on its way / all the operators are informed and are on their way to uh runway 22 //
...
C: All stations on this / hold position / do not call me / emergency in progress / I will call you back / hold position //
P: Uh Dove 73E//
C: Go ahead //
P: Uh we have some uh unruly passengers on board so we would like to return to the gate //
C: Okay / Dove 73E / umm what would like <interruption> would you like to return to the gate? / that's fine / taxi down the runway and escape via S4 //
P: Vacate via S4 / Dove 73E / thanks // and Tower / Dove 73E/ uh we would like to request uh the police at the gate //
C: Dove 73E/ that's copied / we're working on that //
P: Thank you //
C: Dove73E / we've called the police for you / contact Ground on 121705 //
P: 121705/ thank you / Dove 73E //

Transcript 5

P: City Control / Robin 1010 / report //

C: Go ahead //

P: Robin 1010 / we have an indication of engine fire / procedures have been applied / we have no further uh confirming indications of engine fire we are now recovering as a precautionary measure / I'll keep you posted // and uh souls on board uh 79 passengers plus 4 crew / correction plus 5 crew //

C: 79 passengers plus 5 crew / roger / thank you // Robin 1010 / at this moment your position is uh 8 miles on the right downwind // you are the number 1 for the approach now expect vectors for the ILS //

P: We'll keep this heading for a while / and uh we will can perform a normal circuit for runway 03 / Robin 1010 //

C: Robin 1010 // roger / can you confirm the engine with the problem? //

P: It´s engine number 2 number 2 //

C: Number 2 / roger //