

COMMUNICATIVE FUNCTIONS IN LANGUAGE FOR AVIATION RADIOTELEPHONY

The nature of language functions

The communicative function of an utterance corresponds to the speaker's intention in producing a given message. For example his/her intention may be to *request information*, to *thank*, to *deny approval* and so on.

The theoretical underpinning for describing language functions derives from the work of philosophers of language on concepts such as speech acts and illocutionary force, and linguists such as M.A.K. Halliday¹. More recently these theoretical categories have been of practical use in discourse analysis². and foreign language syllabus planning - most notably in the definition of the Council of Europe's Waystage and Threshold levels

Since intentions are inherently linked to the activities that are being undertaken by the speakers, it is evident that those tasks which are peculiar to the jobs of pilot and controller will give rise to a limited range of communicative functions occurring with a high degree of frequency.

Language functions and language forms

The correct interpretation by a listener of an utterance's function relies on cues provided by the grammatical structures (*verb tense, affirmative or negative form*, etc.) and prosodic forms used by the speaker associated with the immediate context of the utterance and the shared knowledge of the participants.

It is true to say that there is no one-to-one relationship between these structures or forms and the functions they express. On the one hand, a single function can be expressed by a several different grammatical forms, for example:

Close the window.

I want you to close the window.

Will you close the window?

On the other hand, the same grammatical form can be employed to express a variety of functions, for example:

Can you speak Japanese?

Can you lend me a couple of euros?

Can you believe that!

Nonetheless, in selecting and presenting grammatical structures by way of the communicative functions which dominate in a given human activity, it is possible to focus on the most pertinent structures for a given target use of language, thus saving the learners' time and enabling language trainers to suit their pedagogical activities to the real needs of the learners.

¹ See:

- How to do things with words, J.L. Austin, Oxford University Press, 1962.
- A classification of illocutionary acts, J. R. Searle, in *Language in Society*, 5, 1-23, 1976.
- Language structure and language function, M.A.K. Halliday in *New Horizons in Linguistics*, ed. J Lyons, Penguin, 1970.

² See:

- *Towards an Analysis of Discourse*, J Sinclair and M Coulthard, Oxford University Press, 1975
- *L'articulation du discours en français contemporain*, E Roulet et al., M. Peter Lang, 1985.

Grouping communicative functions of aviation radiotelephony into broad categories

The dominant functions in pilot-controller dialogue are presented in the following checklist. The functions have been grouped into four categories corresponding to their role in carrying out ATC and piloting tasks. These categories are:

1. Triggering actions
2. Sharing information
3. Managing the pilot-controller relationship
4. Managing the dialogue

The "triggering actions" category is the core function of pilot-controller communications. Supporting the core is the "sharing information" category in the sense that appropriate actions can only be triggered when the pilot and controller are in possession of sufficient shared information about the current situation. The two last categories play a subordinate mediating role with regard to the first two. An examination of the functions listed under these headings will give an idea

The individual functions in each broad category are labelled in the checklist without making reference to specific ATC/piloting topics such as *clearances to take off*, *flight plan changes* or *radar identification*. All of these functions and their associated language forms can be usefully learned and practised by referring to general topics in the context of everyday communication.

Specific features of communicative functions

Due to the different roles of the the pilot and controller within the overall context of their activity, some functions are typically uttered exclusively by the one or the other. These functions are marked (P) or (C) in the checklist below. Other functions - marked (P/C) - may be uttered by either speaker in the course of their exchanges. In the training context this distinction will determine whether given functions need to be learned for comprehension, for production or for both comprehension and production.

Contextual factors may result in certain functions being more or less "marked" for different attitudes such as *politeness*, *insistence* and so on. These markers, which may be lexical ("please") or grammatical ("Could you possibly give me...?"), need to be learned and practised as well as the language structures for the basic functions.

Many communicative functions are paired with one another. That is to say that a given function (eg. *request permission*) is commonly adjacent to another given function (eg. *give permission*) in the context of an exchange. These paired relationships are indicated in the checklist below by displaying related functions in two columns.

Pedagogical uses of the checklist of functions

The primary purpose of the checklist is to enable language course planners and teachers to formulate linguistically appropriate objectives for training and testing. While no claim is made for the checklist to be exhaustive, its coverage has been cross-checked against the published results of a number of linguistic or human factors studies of pilot-controller communications³.

Additionally, the ability for all language users to attribute functional labels to spoken messages is of more than academic importance. As part of a process of raising language awareness, the development of this skill is of particular importance in facilitating the processes of preventing and/or resolving misunderstandings and the reporting of previous communications. This ability can be developed by matching the functional labels of the checklist with actually occurring utterances in recordings or transcripts of radiotelephony communications.

³ The studies referred to are:

- Etude des communications Verbales entre Pilote et Contrôleurs en Situation Standard et Non-standard, J Mell, Editions ENAC, 1992
- Aviation Topics Speech Act Taxonomy (ATSAT) in Development of a Coding Form for Approach Control/Pilot Voice Communications (DOT/FAA/AM-95/15), O Prinzo & T Britton, Office of Aviation Medicine, 1995.
- Syllabus checklists in Recurrent English Language Training for Air Traffic Controllers, C Godmet & J Mell, Direction de la Navigation Aérienne, DNA8 (F), 1997.
- PELA: Specific Test Objectives in Proficiency Test in English Language for Air Traffic Controllers (HUM.ET1.ST05.3000-GUI-01), A Enright, Eurocontrol, 1999.
- Language tasks in Air Traffic Control English Language Project (ATCELP) 1: Identifying Basic English Language Proficiency for International Air Traffic Controllers (FR-EADD-99-62), R Ramos, R Chatham, G Henning, S Thomas & H Mogilka, HumRRO/FAA, 1999.

CHECKLIST OF DOMINANT COMMUNICATIVE FUNCTIONS IN RADIOTELEPHONY COMMUNICATIONS

1. TRIGGERING ACTIONS

1.1 Orders (± markers for **politeness, formality, assertiveness**)

- Give an order (C)
- Give an amended order (C)
- Give a negative order (C)
- Give alternative orders (C)
- Give a sequence of orders (C)
- Cancel an order (C)
- Announce compliance with an order (P)
- Announce non-compliance with an order (P)

1.2 Requests and offers to act (± markers for **politeness, insistence, directness**)

- Request action by other (C/P)
- Offer to act (C/P)
- Agree to act (C/P)
- State reluctance/unwillingness to act (C/P)
- Refuse to act (C/P)
- Accept an offer to act (C/P)
- Refuse an offer to act (C/P)

1.3 Advice (± markers for **politeness**)

- Give advice (C)
- Suggest a course of action (C/P)
- Suggest the solution of a problem (C/P)
- Suggest alternative courses of action (C/P)

1.4 Permission/approval (± markers for **politeness, directness**)

- Request permission/approval (P)
- Give permission/approval (C)
- Deny permission/approval (C)
- Forbid (C)

1.5 Undertakings

- Undertake to give a service (C/P)
- Undertake to assist (C/P)
- Undertake to contact/relay/report (C/P)
- Announce a spontaneous decision to act (C/P)
- Agree to undertaking/decision (C/P)

2. SHARING INFORMATION

2.1 Information concerning present facts (± markers for politeness, subjectivity, probability, certainty)

- Request information (C/P)
- Request a detailed description (C/P)
- Ask about needs/wishes (C/P)
- Ask about preferences (C)
- Ask about readiness/availability (C/P)
- Request reasons(C/P)
- Request instructions how to do (P)
- Give information (C/P)
- Describe a state (C/P)
- Describe a changed state (C/P)
- Describe an unchanged state (C/P)
- Describe an action in progress (C/P)
- Describe a process (C)
- Describe a procedure (C)
- Describe aims/precautions (C/P)
- Describe the source of a problem (C/P)
- Describe a visual impression (C/P)
- Quote rules (C)
- State needs/wishes (C/P)
- State preferences (P)
- Announce readiness/availability (C/P)
- Give reasons (C/P)
- Give instructions how to do (C)
- Identify (C/P)
- Announce a problem (C/P)

2.2 Information concerning the future (± markers for probability)

- Announce an expected action/event (C/P)
- Ask about the expected moment/duration of an event (C/P)
- Ask about possible consequences of an action/event (C/P)
- Ask about intentions (C/P)
- Request prediction (C/P)
- State the expected moment/duration of an action/event (C/P)
- State possible consequences of an action/event (C/P)
- State intentions (C/P)
- Predict a future action/event (C/P)
- Warn (C/P)

2.3 Information concerning immediate/recent past events (± markers for probability)

- Announce a completed action/event having an effect on the present (C/P)
- Announce a change (C/P)
- Announce a nearly completed action (C/P)

2.4 Information concerning the past (± markers for **probability**)

- Ask about past events
 - Announce a past action/event (C/P)
 - Announce an avoided problem/incident (P)
 - Give a report (C/P)
 - Describe previous communications (C/P)
 - Describe a sequence of past actions/events (C/P)
- Request an explanation of a past action (C/P)
 - Give an explanation of a past action/event (C/P)
 - Indicate deductive reasoning (C/P)

2.5 Necessity

- Ask about necessity
 - State necessity
 - Announce a compulsory action (C)
 - Announce an inevitable action/event (C/P)

2.6 Feasibility/capacity

- Ask about the feasibility/capacity (C/P)
 - Announce capacity/feasibility (C/P)
 - Announce incapacity/unfeasibility (C/P)

3. MANAGEMENT OF THE PILOT-CONTROLLER RELATION

- Greet/take leave
- Thank (C/P)
- Complain (P)
- Express dissatisfaction (C/P)
- Reprimand (C)
- Express satisfaction (C/P)
- Express concern/apprehension (P)
- Respond to greeting/leave-taking
- Respond to thanks
- Apologise (C/P)
- Reassure (C)
- Encourage (C)

4. MANAGEMENT OF THE DIALOGUE

- Name addressee(s)
- Self-correct (C/P)
- Paraphrase (C/P)
- Close an exchange
- Request response (C/P)
- Check understanding (C/P)
- Check certainty (C/P)
- Correct a misunderstanding (C/P)
- Request repetition (C/P)
- Request confirmation (C/P)
- Request clarification (C/P)
- Relay an order (C)
- Relay a request to act (P)
- Relay a request for permission (P)
- Read back (C/P)
- Acknowledge (C/P)
- Declare non-understanding (C/P)
- Give confirmation (C/P)
- Give disconfirmation (C/P)
- Give clarification (C/P)