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Gleaning Insights from the International Civil Aviation Organization (ICAO) to Shape the Guidelines on the VTS English Competency Test

1 SUMMARY

After the successful completion of IALA Guideline 1132, which focuses on VTS VHF Voice Communications and Phraseology, attention has shifted to its practical integration into VTS language training and the subsequent outcomes. This transition is driven by a growing demand for an English language test tailored specifically for VTS, in alignment with the revised guidelines. The purpose of this test is to serve as an integral component within entry, training, and validation, both at the national and international levels, ensuring the consistent quality of language services throughout their career lifecycle. To fortify this endeavor, gleaning insights from other transportation sectors is crucial. Specifically, our attention needs to be directed towards the language competency tests crafted in the aviation sector for interactions between air traffic controllers and pilots. The International Civil Aviation Organization (ICAO)'s deep involvement in this arena for almost two decades offers a wealth of benchmark insights, establishing foundational pillars for our efforts in developing VTS standards. Consequently, this paper delves into summarized insights from the ICAO, which act as the literary backbone for the information paper VTS 53-6.3.1. These insights aim to streamline forthcoming discussions, with a spotlight on various key aspects like the general framework of the test, language evaluation, target audiences, test modes, pertinent subjects, and more.

1.1 Purpose of the document

An input paper for the development of the Guidelines on the VTS English competency test

1.2 Related documents

IALA Recommendation R 1012 - VTS Communication

IALA Guideline G 1132 – VTS Voice Communications and Phraseology

2 BACKGROUND

After the successful completion of the IALA Guideline G 1132 – VTS Voice Communications and Phraseology, the next logical step is its integration into VTS language training and evaluating its on-the-job effectiveness. Addressing this is of paramount importance, considering there is a clear demand for a VTS-specific English language test aligned with the updated guidelines. This test would be incorporated within the national training framework, offering a precise assessment of trainees' English proficiency levels from their initial

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² Leave open if uncertain

entry to the culmination of IALA model courses at various tiers. Gaining insights from similar sectors, like aviation - especially in the communication between air traffic controllers and pilots - is essential. Given that ICAO has engaged with this issue for nearly two decades, their benchmarks will be able to provide a solid foundation for future discussions in the VTS domain.

3 DISCUSSION

3.1 Suggested Considerations on the Development of the Guidelines on the VTS English Competency Test (in VTS 53-6.3.1.)

In the informational paper VTS 53-6.3.1. recommendations have been put forth for establishing *a guideline on the VTS English competency test*. These recommendations are derived from the outcomes of tests conducted in the Republic of Korea over the past two years, targeting all Korean VTSOs. The proposed guidelines can be broadly categorized into two main sections: The General Framework of the Test and Language Evaluation, as detailed below:

3.1.1. The General Framework of the Test

- **Duration of the test:** Recommended to be a maximum of 30 minutes with a total of 10 questions that increase in difficulty and complexity.
- **Test mode (CBT):** The test should be CBT-based, allowing for instant data collection and electronic storage.
- **Subjects of the questions:** Questions should focus on situations where the IMO SMCP and IALA Phraseology apply, especially emphasizing standardized VTS communications using standard message structures and phrases.
- **Expiration date:** The validity of language testing should be for a duration that considers the complete career lifecycle of VTSOs, with a maximum limit of 5 years.
- **Minimum standards for language testing administration:** Requirements include a soundproof recording room, technical support, security measures, invigilation, and oversight.

3.1.2. Language Evaluation

- **Rating scale:** Comprises of six levels. While the IMO Model course suggests seven levels including 'beginner', 'false beginner', 'elementary', 'lower intermediate', 'intermediate', 'upper intermediate', and 'advanced'. The two initial levels ('beginner' and 'false beginner') can be merged into a single 'beginner' level.
- **Detailed evaluation criteria:** Should align with the IALA Guideline 1132 to maintain consistency across IALA documentation and worldwide implementation. Major elements to be considered in the evaluation criteria are mentioned but are not limited to the following:

[Table 1] Evaluation Criteria based on IALA Guideline 1132

| Evaluation Factors | Details |
|-------------------------|--|
| Standard VTS Procedures | - Message structures (p.9) - Message markers (p.10) |
| Standard Phraseology | - Phonetic alphabet (p.12) - Phonetic numbers (p.12) - Position, bearings, course, distance, speed, time, geographical names (p.13-14) - Standard phrases (p.20-31) |
| Plain language | - General rules for construction and content of messages (p.9) - Ambiguous terminology (p.16) |
| Delivery techniques | - Tone and volume (p.14) |

| | |
|-------------------------------|---|
| | <ul style="list-style-type: none"> - Emphasis on keywords (p.15) - Word grouping and pausing (p.15) |
| Interpretation and monitoring | <ul style="list-style-type: none"> - Questioning techniques (p.15-16) - Response (p.16) - Corrections (p.17) - Repetition (p.17) - How to interpret a message (p.17) |

- **Test designers and assessors:** The team should include specialists in VTS, navigation, English training, and linguistics, particularly English for Specific Purposes (ESP). This is crucial considering that VTS English training demands advanced knowledge in both language teaching and VTS operation.
- **Comprehensive and complete set of VTS language testing development and assessment course:** IALA should develop and provide this comprehensive course to achieve the highest standardization of communicative output globally through testing.

3.2 Insights through a Comparison with the Manual on the Implementation of ICAO Language Proficiency Requirements (Doc. 9835)

3.2.1. Targets: Both Native and Non-native English Speakers

The ICAO language proficiency requirements are applicable to both native and non-native English speakers in the context of international aviation. English, as the dominant language for aviation communication, requires non-native speakers to undergo specialized training to enhance their proficiency. However, effective communication is a shared responsibility, as miscommunication can stem from both linguistic challenges and human factors such as carelessness or impatience. Native English speakers also play a crucial role in this process. They must be aware of their communicative approach when interacting with non-native speakers, emphasizing clarity, and avoiding jargon or colloquialisms. This cooperative approach is fundamental for ensuring safe radiotelephony communication.

3.2.2. Test Modes

3.2.2.1. Direct Testing

Direct testing involves live, person-to-person interactions, either face-to-face or telephonically, between the test-taker and an interlocutor who may also serve as an examiner or rater. Assessments can be in real-time or recorded for later evaluation. Methods include face-to-face interviews, role-plays, and conversation-like interviews based on set prompts. This mode provides a more natural, communicative testing environment with the flexibility of tailoring prompts on-the-fly, thus offering an infinite supply of unique test scenarios. Such real-time adaptability reduces the chances of rehearsed responses. However, this format is more resource-intensive, requires strict standardization to prevent biases, and can be affected by inadvertent variations due to human interactions, such as differences in speech clarity or speed.

3.2.2.2. Semi-Direct Testing

In semi-direct testing, test-takers respond to pre-recorded and standardized prompts, with their responses recorded for later evaluation. This mode typically takes place in audio or computer lab settings. The standardized nature of the prompts ensures fairness across test-takers and allows for simultaneous testing of multiple candidates. Additionally, the use of an automated system reduces human resource requirements. However, the inflexibility of pre-recorded prompts can limit the evaluation scope, making it challenging to assess the full range of abilities, particularly in the "interactions" category. Role-plays and simulations may also feel more restricted and focus mainly on routine language use.

3.2.3. Subjects of the Questions

3.2.3.1. The Scope of Aeronautical Radiotelephony Communications

ICAO emphasizes the importance of adhering to standardized phraseology. Divergence from this standard can lead to misunderstandings, especially among non-native English speakers. Beyond linguistic challenges, cultural differences add layers of complexity to radiotelephony communication. Stress, absence of visual cues, and linguistic barriers intensify these communication difficulties. Thus, it is imperative for native English speakers to recognize and navigate these challenges. To enhance clarity and comprehension, they should adopt strategies such as maintaining a neutral tone, stating concerns explicitly, and avoiding jargon. ICAO's standards do not aim to totally eliminate communication errors, but to strive for a substantial reduction. This requires a blend of standardized phraseology, linguistic proficiency, awareness of communication pitfalls, and mutual understanding between native and non-native English speakers.

With this context in mind, Chapter 3 of the Manual dives into the specifics. It highlights that both ICAO standardized phraseology and plain language are vital in evaluating Aeronautical Radiotelephony Communications, as detailed below:"

Phraseology

- **Definition:** Phraseology in aeronautical radiotelephony communications denotes the use of standardized words and phrases. These have been meticulously developed over time to ensure clear, efficient, and safe interactions between air traffic controllers and flight crews. Such standardized phraseology, consisting of about 400 words with precise meanings, serves to reduce confusion by offering a consistent vocabulary. Unlike informal jargon, this language emphasizes efficiency and safety, often employing imperative or passive sentences. Notwithstanding its importance, adherence to ICAO standardized phraseology is not uniform worldwide, which can lead to potential misunderstandings.
- **Usage:** Used by both air traffic controllers and flight crews during radiotelephony communications; and provides a consistent set of expressions that both parties can understand, reducing the risk of misinterpretation.
- **Features:** Specific terms and expressions have been agreed upon and listed in resources like Annex 10, Volume II, and Chapter 12 of ICAO Doc 4444.
 - **Restricted Vocabulary:** Contains around 400 words, each with a specific and often exclusive meaning within the aviation domain.
 - **Precise:** Each word or phrase in the phraseology has a clear and definite meaning.
 - **Efficient:** Often uses short sentences and deletes "function words" to convey information succinctly.
 - **Operational:** Beyond being just a linguistic tool, phraseology also represents operational procedures, crucial for safety and coordination.
 - **Mandatory Compliance:** Although there are regional variations and occasional non-compliance, the usage of standardized phraseology is emphasized given the high stakes involved in aviation communication.

Plain Language

- **Definition (inferred from the Manual):** Within the realm of aeronautical radiotelephony, plain language likely refers to the use of common language, beyond standardized phraseology, to ensure clear understanding, especially during situations where phraseology might be insufficient or when a more nuanced or descriptive communication is required.

- **Usage:** Employed when standardized phraseology does not cover the specific situation or when more clarification is needed; and assist in negotiations in radiotelephony communications, especially given the different perspectives and goals of controllers and pilots.
- **Features**
 - **Flexibility:** Allows for a broader range of communication than restricted phraseology.
 - **Clarity:** While it is less standardized than phraseology, the focus remains on ensuring that the message is clear and understood by both parties.
 - **Supportive:** In an environment with speakers of varying English proficiency, plain language can help bridge understanding.
 - **Situational:** Especially useful in unexpected or non-standard situations where phraseology might not be applicable.
 - **Precise:** Each word or phrase in the phraseology has a clear and definite meaning.

In essence, while phraseology provides a structured and standardized mode of communication for routine situations in aeronautical radiotelephony, plain language offers the flexibility to navigate complex or unique situations ensuring mutual understanding and safety.

3.2.3.2. Dominant Themes and Topics

In the field of aeronautical radiotelephony communications specified in section 3.4 of the Manual, various test tasks or prompts exist. Tasks that closely resemble real-world activities are generally the most effective. It is essential to understand that the notion of a work-related context can be interpreted in diverse ways.

A focused interpretation might seek to emulate radiotelephony communications, encompassing the use of plain language in unusual, unforeseen, or emergent scenarios. **A more expansive understanding** of the holistic descriptors and Rating Scale would target the extraction of plain language on topics intertwined with radiotelephony communications or aviation procedures, rather than directly mimicking radiotelephony dialogues. Such tasks could involve Q&A sessions, solution-centric dialogues, informational briefs, imitative exercises, and role enactments. Both interpretative approaches hold validity. Whichever is taken, this competence is intimately tied to an array of dominant themes and topics, encapsulating:

- Lexicographic elements, notably abbreviations and acronyms;
- Environmental considerations, encompassing geographical and topographical features;
- Specific aviation-related terminologies, touching upon flight operations, cargo descriptions, and technological facets;
- Communicative modalities (i.e., auxiliary verbs) and numeric expressions;
- A wide range of situational themes, from daily operational activities to critical scenarios like malfunctions and health emergencies;
- Regulatory and procedural elements, inclusive of enforcement mechanisms, protocols, and rules.

Below is an inventory of events, domains, and subdomains detailed in the Appendix B of the Manual. They characterize the day-to-day communications of air traffic controllers and pilots. These events represent both routine and non-routine control situations that every controller should be competent to handle.

Events, domains, and subdomains in Aerodrome Control

- Airmiss(es)
- Air shows

- Approach delays
- Belly landing
- Bird risk/hazard
- Bomb threat/alert/scare
- Cargo problems/dangerous goods
- Fire on board
- Ground movement incidents
- Health problems
- Incidents on landing
- Industrial action
- MET (weather) conditions
- Missed approach
- Parachute jumping/dropping activity
- Pilot not familiar with airfield
- Pilot's temporary disability
- Problems linked to flight plan
- Problems linked to passenger's behaviour + unlawful interference
- Re-routing/diversion
- Special flights
- Take-off incidents
- VFR flights lost/in difficulty
- VIP flights

Events and Domains Linked to En-route and Traffic Control

- Administrative problems
- Aids for VFR flights
- Aircraft breakdowns
- Aircraft proximity + pilot complaints
- ATC system breakdowns
- Bomb scare
- Cargo problems Dangerous goods
- Change in flight plan
- Collisions
- Fire on board
- Health problems
- Lack of fuel
- Misunderstandings
- Passenger behaviour + unlawful interference
- Request to relay
- Special conditions on arrival
- Special flights
- Unauthorized manoeuvres
- Weather/MET problems

Other Domains

- Activities on the field
- Aerodrome/airfield environment
- Aircraft breakdowns
- Airfield facilities/installations
- Ground services
- Procedures

3.2.4. Expiration Date

In accordance with ICAO's guidelines on language proficiency for aviation personnel, there are specific intervals for re-evaluation based on the proficiency level demonstrated by the individual. The document states:

The language proficiency of aeroplane and helicopter pilots, flight navigators required to use the radio telephone aboard an aircraft, air traffic controllers, and aeronautical station operators who demonstrate proficiency below the Expert Level (Level 6) should be formally evaluated at intervals in accordance with an individual's demonstrated proficiency level, as follows:

- a) those demonstrating language proficiency at **the Operational Level (Level 4)** should be evaluated **at least once every three years**; and
- b) those demonstrating language proficiency at **the Extended Level (Level 5)** should be evaluated **at least once every six years**."

Periodic assessments play a pivotal role in ensuring ongoing compliance with language proficiency requirements. Given this context, it's vital to also consider the washback effect in language testing and the implications it carries for both training methodologies and the behavior of test-takers.

The "washback effect" pertains to the influence a test exerts on both training programs and test-takers' behavior, which means that the design and content of a language test can greatly affect the teaching and learning methods leading up to the assessment. Properly designed tests should encourage high-quality training focused on genuine proficiency improvement and ensure pilots and air traffic controllers to possess the necessary language proficiency for safe operations rather than mere rote learning or test-focused preparation. A well-structured aviation language test should positive washback, driving training and learning towards achieving genuine language proficiency (i.e., ICAO's Operational Level 4) and inspiring learners to engage in proficiency-based language activities rather than narrow, test-specific preparations. In essence, while test familiarization is valuable, it should never replace genuine language proficiency training. True proficiency training should holistically address all six skills in the ICAO Rating Scale and extend beyond just test preparation, ensuring test-takers can efficiently operate, especially in high-stress scenarios.

3.2.5. Language Testing Administration for Implementation

After the adoption of Assembly Resolution A36-11, Proficiency in the English Language Used for Radiotelephony Communications (2007b), states were encouraged to publish their language proficiency plans, which included both their roadmap and interim measures to mitigate risk before actual enforcement. This was designed to help states communicate their strategies for adhering to language standards and reducing associated risks.

[Extract 1] ICAO Resolution A36-11

A36-11: Proficiency in the English language used for radiotelephony communications

Whereas to prevent accidents, ICAO introduced language provisions to ensure that air traffic personnel and pilots are proficient in conducting and comprehending radiotelephony communications in the English language, including requirements that the English language shall be available on request at all stations on the ground serving designated airports and routes used by international air services;

Recognizing that the language provisions reinforce the requirement to use ICAO standardized phraseology in all situations for which it has been specified;

Recognizing that Contracting States have made substantial efforts to comply with the language proficiency requirements by 5 March 2008;

Recognizing that some Contracting States encounter considerable difficulties in implementing the language proficiency requirements including the establishment of language training and testing capabilities;

Recognizing that some Contracting States will require additional time to implement the language proficiency provisions beyond the applicability date;

Whereas in accordance with Article 38 of the Convention any Contracting State which finds it impracticable to comply in all respects with any international standard or procedure is obliged to give immediate notification to ICAO;

Whereas in accordance with Article 39 b) of the Convention any person holding a licence not satisfying in full the conditions laid down in the international standard relating to the class of licence or certificate held, shall have- endorsed on or attached to the licence all the particulars in which this person does not satisfy such conditions; and

Whereas pursuant to Article 40 of the Convention no personnel having certificates or licences so endorsed shall participate in international navigation, except with the permission of the State or States whose territory is entered.

(Extracted from ICAO Assembly Resolution A36-11, 2007a)

An effective language proficiency plan must encompass:

- a) a timeline for adoption of the Language Proficiency Requirements in their national regulations;
- b) a timeline for establishment of language training and assessment capabilities;
- c) a description of a risk-based prioritization system for the interim measures to be put in place until full compliance with the Language Proficiency Requirements is achieved;
- d) a procedure for endorsing licences to indicate the holders' language proficiency level; and
- e) designation of a national focal point in relation to the English language proficiency implementation plan;

3.2.6. Rating Scales

The ICAO Language Proficiency Rating Scale is distinct, formulated primarily for aeronautical communications. Although prevalent English language tests exist, equating them directly with the ICAO scale is not straightforward. Attempts to correlate the ICAO scale with established tests like TOEFL, TOEIC, ALTE, IELTS, and CEF have been made since its 2003 introduction. While there may be partial overlaps in certain linguistic areas, an all-encompassing correlation is not feasible. Many prevalent tests lack an assessment of speaking proficiency, which is crucial for ICAO's purposes. Even if they do, their evaluation contexts, like academia or business, differ from the aviation-centric focus of the ICAO scale. Hence, while scores from renowned tests might offer initial insights for training, they should not be directly equated with ICAO's unique requirements.

The ICAO scale encompasses six proficiency levels, ranging from Pre-elementary to Expert. These levels aid Contracting States in formulating language standards for recruitment and training. Importantly, the Expert Level 6, although inclusive of native and nearly-native speakers, exceeds the requirements for standard aeronautical communications and is not a pivotal requirement for efficient communication in this field. The scale is grounded in the principle that native fluency should not be considered the apex in an international context. Thus, even native speakers must adhere to ICAO's standards. It is paramount to note that achieving Level 4 proficiency in all categories is essential for effective communication in aeronautical radiotelephony.

[Table 2] Expert, Extended and Operational Levels (Appendix A, 2010)

| LEVEL | PRONUNCIATION | STRUCTURE | VOCABULARY | FLUENCY | COMPREHENSION | INTERACTIONS |
|-----------------|---|---|---|---|--|--|
| Expert 6 | Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding. | Both basic and complex grammatical structures and sentence patterns are consistently well controlled. | Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register. | Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously. | Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties. | Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues and responds to them appropriately. |
| Expert 5 | Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding. | Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning. | Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work-related topics. Paraphrases consistently and successfully. | Able to speak at length with relative ease on familiar topics but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors. | Comprehension is accurate on common, concrete, and work-related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or | Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively. |

| | | | | | | |
|-----------------|---|---|---|---|--|--|
| | | | | | accent) or registers. | |
| Expert 4 | Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding. | Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning. | Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances. | Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting. | Comprehension is mostly accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies. | Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming, or clarifying. |

3.2.7. Detailed Evaluation Criteria

The ICAO Language Proficiency Rating Scale is distinctively tailored to address spoken language, specifically in the context of aeronautical radiotelephony. Its primary focus is on the functionality and clarity of oral communication within the aviation sphere, rather than on high grammatical accuracy or native-like pronunciation. Crucially, the overall proficiency rating granted to an individual corresponds to their weakest score in any of the six designated linguistic performance skills: pronunciation, structure, vocabulary, fluency, comprehension, and interactions.

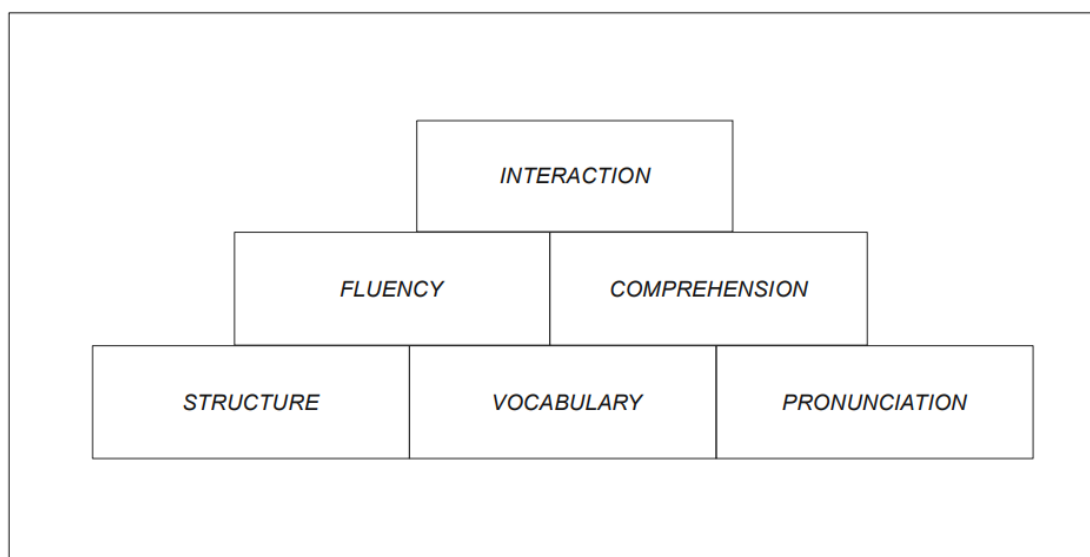
- **Pronunciation (phonological competence):** The six-tier pronunciation descriptors apply to both native and non-native speakers. Native English speakers with a strong regional dialect may only reach Elementary Level 2, whereas non-native speakers with distinct accents could achieve Expert Level 6, provided their pronunciation does not hinder understanding.
- **Structure (grammatical competence):** Grammatical structures are informed by task-relevant language functions which involve the accurate use of syntactic structures and language features like

tenses and modality. Proper use of grammar and syntax is vital for conveying meanings. Grammar errors are broadly classified as global (affecting meaning) and local (not affecting meaning).

- **Vocabulary (lexical competence):** Vocabulary involves both individual words and multi-word expressions. Proficiency is evident in the accuracy and speed with which one recalls and uses vocabulary.
- **Fluency:** Centers on producing unrehearsed speech at an appropriate pace. As proficiency increases, non-functional hesitations and fillers reduce. Fluency variations become evident in longer interactions, influenced by the predictability of prior inputs.
- **Comprehension:** Refers to the ability to recognize and understand speech. Proficiency aids in understanding complex discourse, unexpected topics, unfamiliar accents, and challenging listening conditions. This skill centers on listening and understanding. In aviation, pilots depend on air traffic controllers for precise information, vital for safety. Both controllers and pilots must be prepared for unforeseen situations and clear communication, especially during aviation complications. Though comprehension is one of six skills in the Rating Scale, it accounts for 50% of the workload in verbal interactions.
- **Interaction:** Interaction focuses on the ability to have spontaneous dialogues and achieve communication goals. This is characterized by the speed and appropriateness of responses, conversational initiatives, responsiveness to interlocutor feedback, and addressing misunderstandings.

These skills can be illustrated as a pyramid. At its base are the linguistic sub-skills: structure, vocabulary, and pronunciation. Above them are the performance skills: fluency and comprehension, and at the pinnacle is interaction, drawing from all the skills below.

[Figure 2] A pyramid structure of language proficiency skills (p. 2-10, 2010)



3.2.8. Test Designers and Assessors

3.2.8.1. Testing Team Qualification

Testing teams are at the heart of language proficiency evaluations in the aviation sector, guaranteeing assessments that are accurate, reliable, and relevant. The integrity of these evaluations hinges on the qualifications of these teams. Consequently, members constituting the testing teams should be acquainted with essential ICAO publications, which includes the standards and practices, holistic descriptors, Doc 9835, and the ICAO Rated Speech Samples CD.

3.2.8.2. The Organization of Testing Team

Test design and development team

For a holistic and effective test design and development, the team should be composed of members with:

- **Operational expertise:** Individuals with radiotelephony experience, encompassing roles such as flight crew member, air traffic controller, and aeronautical station operator. A grasp over current aeronautical operations and procedures is indispensable.
- **Language test development expertise:** Professionals specialized in language test creation, fortified with training, education, or experience. They should also have a deep understanding of best practice principles in the domain.
- **Linguistic expertise:** This includes knowledge of theoretical and applied linguistics, principles of language learning, and experience in language teaching.

The convergence of these skills ensures that the test development project has a robust foundation, ensuring a holistic approach.

Test administration team (Administrators and interlocutors)

Administrators and interlocutors are responsible for the smooth execution of the test. They should be proficient in the test's administrative guidelines. Interlocutors, in particular, should have an advanced language proficiency level, with recurrent training mandates and should ideally possess expertise in aviation operations or language testing.

Rater team

For optimal evaluation, it is recommended that at least two raters assess language tests.

- **Operational expertise:** This brings operational integrity to the assessment, allowing for informed judgments on language aspects crucial for aviation operations.
- **Language specialist expertise:** This ensures that ratings are based not just on a generic understanding of the language but also on a nuanced appreciation of its intricacies and implications in an aviation context.

While laypersons might provide general feedback or informal judgements on language proficiency, the stakes in aviation are high. Consequently, when test-takers do not meet the required proficiency level, they necessitate accurate feedback pinpointing areas of improvement. Similarly, a detailed rationale is essential for those who achieve proficiency ratings of 4, 5, or 6.

4 REFERENCES

- [1] International Civil Aviation Organization. (2007a). Resolutions Adopted at the 36th Session of the Assembly. Provisional Edition. Montreal: ICAO.
- [2] International Civil Aviation Organization. (2007b). Assembly Resolutions in Force (Doc 9902). Montreal: ICAO.
- [3] International Civil Aviation Organization. (2010) Manual on the Implementation of ICAO Language Proficiency Requirements. Montreal: ICAO.

5 ACTION REQUESTED OF THE COMMITTEE

The Committee is requested consider the suggestions of this paper and take appropriate actions.