

## Evaluation of all 156 questionnaires

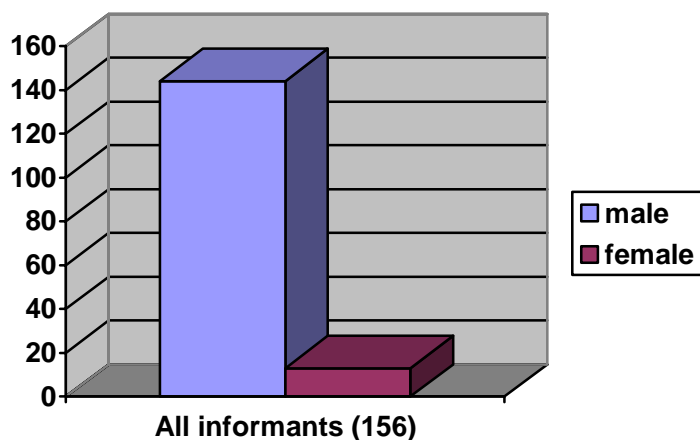
### Notes:

156 questionnaires (in English and German language) were returned from 28 countries by pilots and controllers. In order to give a combined evaluation of the four types of questionnaire the following conventions have been employed:

- italics mark the differences between the questionnaires of controllers and pilots (begins with question No. 10)
- the numbers in brackets are those of the questionnaires for controllers
- informant No. 1 (c) – 9 (c) are the answers of **controllers** in **German** language
- informant No. 10 (c) – 23(c) are the answers of **controllers** in **English** language
- informant No. 24(p) – 96(p) are the answers of **pilots** in **German** language
- informant No. 97(p) – 156 (p) are the answers of **pilots** in **English** language
- answers given in German are not translated, instead summarising remarks are given in brackets

### A. Personal questions

#### 1. (1.) Sex



Sex	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
Male	6 = 66.7 %	12 = 85.7 %	70 = 95.9 %	55 = 91.7 %	143 = 91.7 %
Female	3 = 33.3 %	2 = 14.3 %	3 = 4.1 %	5 = 8.3 %	13 = 8.3 %

#### 2. (2.) Age

Informants	using German language	using English language
Controllers	25 – 57 years	27 – 55 years
Pilots	19 – 74 years	16 – 74 years

### 3. (3.) Nationality

Argentine(2), Austrian(6), British(3), Cameroonain(1), Canadian(5), Croatian(1), Dutch(1), Finnish(4), French(3), German(78), Guatemala(1), Indonesian(1), Irish(1), Japanese(1), Luxembourgian(3), Norwegian(1), South African(3), Portuguese(1), Mexican(1), Papua New Guinea(1), Romanian(1), Russian(1), Polish(1), Spanish(12), Swiss(3), Tunisian(1), US(17)

### 4. (4.) Mother tongue (for multilingual persons preferred language)

Afrikaans(2), Arabic(1), Catalan(1), Croatian(1), Czech(1), Dutch(2), English(29), Finnish(3), French(6), German(90), Hebrew(1), Indonesia(1), Italian(1), Japanese(1), Luxembourgian(3), Norwegian(1), Polish(1), Portuguese(1), Romanian(1), Spanish(15)

### 5. (5.) English education in years (only for English speakers)

Diverse; therefore not comparable.

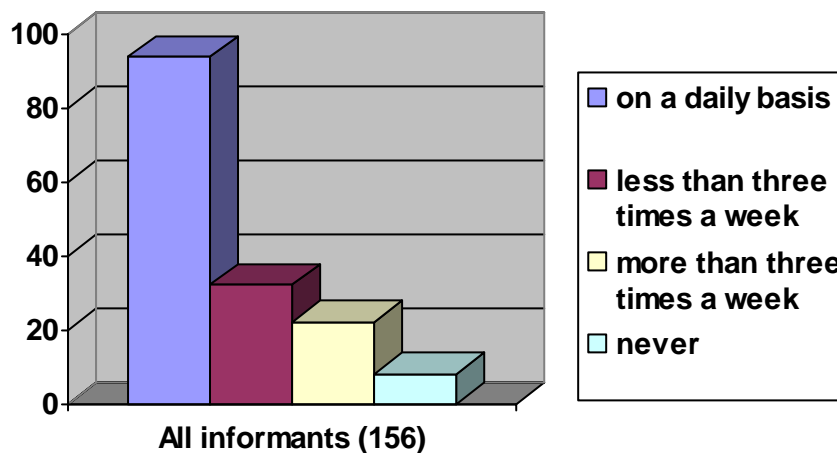
### 6. (6.) Level of education achieved

Diverse; not comparable; various, seemingly high level of education for most informants.

### 7. (7.) Length of stay abroad in an English-speaking country in months (for non-English speakers)

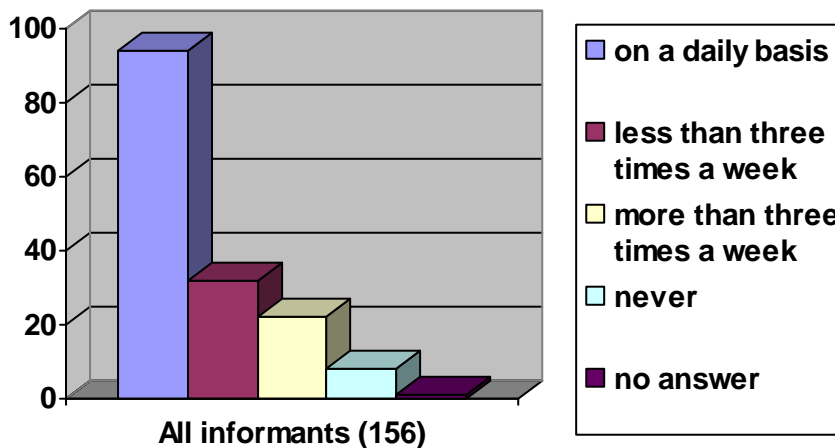
Diverse; some had no stays or only a few days; two thirds of respondents had had at least a two-month stay.

### 8. (8.) Use of English in working life (only within the aeronautical context)



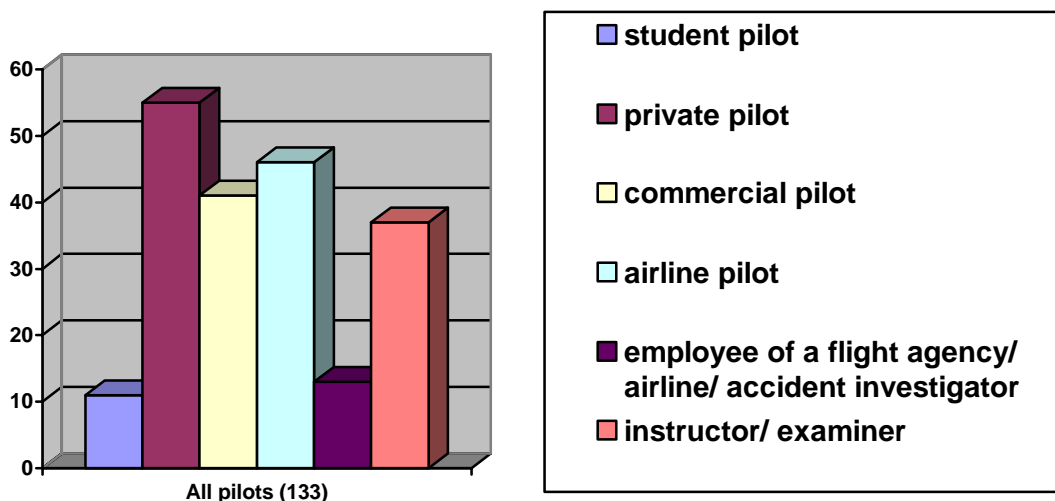
Use of English (for aviation)	Controllors (9 German = 100%)	Controllors (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
on a daily basis	7 = 77.8 %	14 = 100.0 %	32 = 43.8 %	41 = 68.3 %	94 = 60.3 %
less than three times a week	0 = 0 %	0 = 0 %	19 = 26.1 %	13 = 21.7 %	32 = 20.5 %
more than three times a week	2 = 22.2 %	0 = 0 %	15 = 20.5 %	5 = 8.3 %	22 = 14.1 %
never	0 = 0 %	0 = 0 %	7 = 9.6 %	1 = 1.7 %	8 = 5.1 %

**9. (9.) Use of English in private life (use in a broader context for various purposes)**



Use of English (in private life)	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
on a daily basis	0 = 0 %	7 = 50.0 %	2 = 2.7 %	35 = 58.3 %	44 = 28.2 %
less than three times a week	6 = 66.7 %	3 = 21.4 %	47 = 64.4 %	12 = 20.0 %	68 = 43.6 %
more than three times a week	1 = 11.1 %	3 = 21.4 %	11 = 15.1 %	6 = 10.0 %	21 = 13.5 %
never	2 = 22.2 %	1 = 7.1 %	12 = 16.4 %	7 = 11.7 %	22 = 14.1 %
no answer	0 = 0 %	0 = 0 %	1 = 1.4 %	0 = 0 %	1 = 0.6 %

**10. (10.<sup>1</sup>) Aeronautical activity (mark all that apply)**



<sup>1</sup> With question No. 10 the differences between questionnaires for pilots and controllers begin, which is marked by italics, while the number in brackets give the respective number of the questionnaire for air traffic controller.

Aeronautical activity (multiple answers possible)	Pilots (73 German)	Pilots (60 English)	Total (133)
Student pilots	7	4	11
Private pilots	40	15	55
Commercial pilots	13	18	41
Airline pilots	26	20	46
Employee of a flight agency/airline/accident investigators	5	8	13
Instructor/examiners	12	25	26

**Note:** percentages cannot be given because of multiple answers

**11. – 17. (11. – 13.) Flying experience/ experience as air traffic controller (in years)**

- experience as **pilot** ranging from 0 to 55 (21 out of 133 have more than 30 years)
- experience as **controller** up to 32 years (11 out of 23 have more than 10 years)
- 59 out of 133 **pilots** have experience with jet or turboprop aircraft
- 72 out of 133 **pilots** have experience with multi-engine aircraft
- 14 out of 133 **pilots** have experience with rotorcraft
- 11 out of 23 **controllers** also have experience as pilots

**18. (14.) What is your closest airport/ airfield etc? (please give its ICAO four-letter identifier)**

• ICAO-Code	• World Region/ Country
• A	• <b><u>Western South Pacific</u></b>
• AY	• AYPY [Port Moresby Jacksons INTL/ Papa New Guinea]
• [Papua New Guinea]	•
•	•
• C	• <b><u>Canada</u></b>
• C	• CYYC [Calgary], CYXE [Saskatoon], CYYZ [Toronto], CEN3 [Three Hills Airport], CYOW [Ottawa]
•	•
• D	• <b><u>West Africa</u></b>
• DT [Tunisia]	• DTMB [Monastir]
•	•
• E	• <b><u>Northern Europe</u></b>
• EB [Belgium]	• EBBR [Brussels],

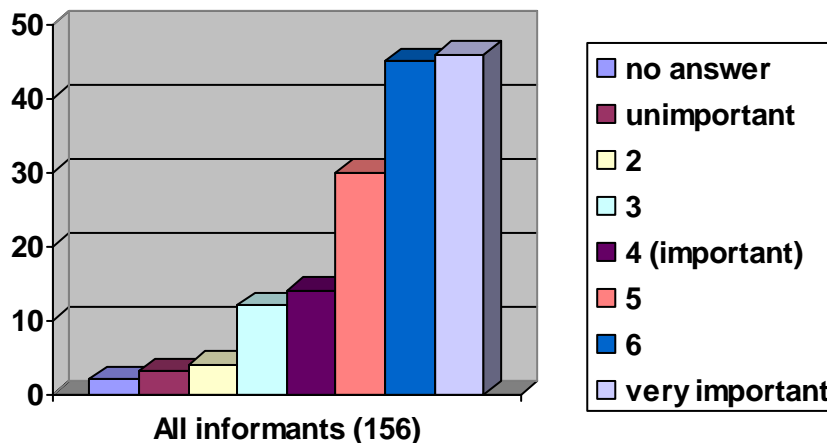
- **ED**
- **[Germany (civil)]**
- **EF [Finland]**
- **EG**
- **[United Kingdom]**
- **EH [Netherlands]**
- **EL [Luxembourg]**
- **EP [Poland]**
- **ES [Sweden]**
- **ET [Germany (military)]**
- 
- **F**
- **FA [South Africa]**
- **FK [Cameroon]**
- **FM [Madagascar]**
- 
- **G**
- **GM [Morocco]**
- **K [USA]**
- **EDSB [Karlsruhe/ Baden-Baden], EDDF [Frankfurt a. M.], EDDF-LHC<sup>2</sup> [Frankfurt/ M./ Lufthansa Cargo], EDDN [Nuremberg], EDFN [Friedrichshafen], EDDT [Berlin-Tegel], EDDB [Berlin-Schönefeld], EDDW [Bremen], EDDM [Munich], EDDG [Münster-Osnabrück] EDDV [Hannover-Langenhagen], EDVK [Kassel-Calden], EDDW [Bremen], EDDH [Hamburg], EDDL [Düsseldorf], EDPA [Aalen-Heidenheim], EDFA [Egelsbach], EDDS [Stuttgart], EDDE [Erfurt], EDDR [Saarbrücken], EDDV [Hannover], EDFB [Reichelsheim], EDDK [Cologne/Köln-Bonn], EDIA [Memmingen], EDFM [Mannheim], EDFX [Hockenheim], EDMU [Gundelfingen], EDBX [Görlitz], EDMK [Kempten-Durach], EDMA [Augsburg], EDDC [Dresden],**
- **EFHK [Helsinki – Vantaa Airport], EFOU [Oulu Airport]**
- **EGGP [Liverpool – John Lennon Airport], EGLL [London Heathrow], EGSS [London Stansted], EGCN [Doncaster], EGCF [Scunthorpe], EGNE [Retford], EGNF [Worksop], EGSY [Sheffield], EGNM [West Yorkshire], EGCJ [Sherburn-in-Elmet], EGNJ [Kingston upon Hull]**
- **EHAM [Amsterdam Airport Schiphol]**
- **ELLX [Luxembourg Airport]**
- **EPWA [Warsaw/ Frédéric-Chopin Airport]**
- **ESMS [Malmö Airport]**
- **ETSI [Ingolstadt-Manching]**
- 
- **Southern Africa**
- **FAJS [Johannesburg], FALA [Lanseria]**
- **FKKD [Douala Airport]**
- **FMMI [Antananarivo, Madagascar]**
- 
- **Northwestern Africa**
- **GMAD [Agadir]**
- **KPUB [Pueblo, CO], KHWO [Hollywood, FL], KPHX [Phoenix, AZ], KEDN [Enterprise, AL], K4V0 [Rangeley, CO], KFTW [Fort Worth, CO], KSYR [Syracuse, NY], KLWV [Lawrenceville, IL], KMYF [Montgomery, San Diego, CA], KRDU [Raleigh-Durham, NC], KRAL [Riverside, CA], KL12 [Redlands, CA], KHIO [Portland-Hillsboro, OR], KBOI [Boise], KLAS [Las Vegas], KGCN [Grand Canyon Nat. Park Apt.], KSRC [Searcy, AR], KOLM [Olympia, WA]**
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<sup>2</sup> The extension “-LHC” helps identify pilots of the German airline Lufthansa Cargo.

- L
- LE [Spain]
- LF [France]
- LH [Hungary]
- LO [Austria]
- LR [Romania]
- LP [Poland]
- M
- MG [Guatemala]
- MM [Mexico]
- 
- 
- N
- NZ [New Zealand]
- 
- O
- OE [Saudi Arabia]
- 
- S
- SA [Argentina]
- 
- W
- WI [Indonesia]
- 
- Z
- ZS
- Southern Europe and Israel
- LEAM [Almería], LEBB [Bilbao], LEZG [Zaragoza], LEBL [Barcelona], LEMG [Málaga]
- LFSB [Basel Mulhouse], LFBZ [Biarritz], LFMD [Cannes], LFRQ [Pluguffan], LFQQ [Lille], LFSN [Essay/ Nancy]
- LHBP [Budapest – Ferihegy Airport]
- 
- LOWL [Linz], LOWW [Vienna], LOWS [Salzburg], LOWI [Innsbruck]
- LROP [Bukarest – Otopeni Airport],
- 
- LPCS [Cascais, Portugal], LPPT [Dubai, Saudi Arabia]
- 
- Central America
- MGGT [La Aurora]
- 
- MMJC [Atizapan de Zaragoza]
- 
- 
- South Pacific
- NZRO [Rotoru, NZ]
- 
- 
- Southwest Asia (excluding Israel ), Afghanistan and Pakistan
- OEJN [King Abdul Aziz Intl. Apt. - Jeddah]
- 
- 
- South America
- SAZM [Mar del Plata, Argentina], SAEZ [Buenos Aires, Argentina]
- 
- 
- Maritime Southeast Asia (except the Philippines )
- WIII [Indonesia – Jakarta Airport]
- 
- 
- China , Mongolia and North Korea
- ZSLY [Linyi, China]

**B. This section is intended to elicit your opinions on the causes for accidents and incidents within aviation related to the use of the English language**

**19. (15.) Lack of command of English**



Lack of English command	of English	of Controllers (9 German = 100%)	of Controllers (14 English = 100%)	of Pilots (73 German = 100%)	of Pilots (60 English = 100%)	Total (156 = 100%)
no answer		0 = 0%	0 = 0%	1 = 1.4%	1 = 1.7%	2 = 1.3%
unimportant		0 = 0%	1 = 7.1%	1 = 1.4%	1 = 1.7%	3 = 1.9%
2		0 = 0%	0 = 0%	4 = 5.5%	0 = 0%	4 = 2.6%
3		0 = 0%	0 = 0%	9 = 12.3%	3 = 5.0%	12 = 7.7%
4 (important)		3 = <b>33.3%</b>	1 = 7.1%	7 = 9.5%	3 = 5.0%	14 = <b>9.0%</b>
5		1 = 11.1%	0 = 0%	14 = 19.2%	15 = 25.0%	30 = <b>19.2%</b>
6		3 = <b>33.3%</b>	4 = 28.6%	25 = <b>34.3%</b>	13 = 21.7%	45 = <b>28.8%</b>
very important		2 = 22.2%	8 = <b>57.2%</b>	12 = 16.4%	24 = <b>40.0%</b>	46 = <b>29.5%</b>

20. (16.) In what situation does this typically happen (e.g. in a certain *phase of the flight/ phase of controlling*, while discussing certain topics, during *flights into/ from certain countries*, etc.)?

**Notes:**

- in general summarising statements about the main arguments are given (the numbers in brackets gives an idea how often the piece of answer was given)
- if a representative answer is given, it has not been corrected for errors of any kind
- the parts considered to be important for this paper are set into bold print
- “left blanks” are not shown here, but in the separate evaluation (cf. appendix E/ DVD)

**Pilots/ controllers from certain countries/ regions:**

Africa(4)/ underdeveloped countries(1), China(5)/ Asia(4), Egypt(2)/ Arabic speaking countries(1), France(18)/ French speaking countries (others than France)(4), Germany(2), Greece(1), India(1), Italy(8), Japan(2), Poland(1), Portugal(2), Russia(7)/former states of Soviet Union (CIS)(5), Spain(8)/ Southern Europe(5), South America(3), Turkey(2), USA(1), countries with other non-Germanic speech families(1)

**Phases of flight/ control:**

all flight phases, also flight preparation(10), **conditional/ route/ long clearances**, including several instructions(6), handover(1)

**Pilots/ aerodromes involved:**

private pilots flying VFR(5), with little experience(1), glider(1), on smaller, regional airfields(2)

**Attitudes:**

laziness(1), non-professionalism(1), being tired(1), pretending(!) as if understood though it is not(1)

**Typical situations:**

- deviations from the standard in **abnormal situations** (i.e. emergencies, non-routine deviations from planned flight path, altitude busting, reissuing clearances, requesting something unusual etc.), when **Standard Phraseology does not suffice** to communicate and it is necessary to resort to plain English(22)
- whenever pilots with English as a foreign language (EFL) fly into countries with native speakers of English (lack of proficiency)(5), especially when heavy accent or bad pronunciation is involved(3), also flight instruction(2)
- whenever a national language is allowed for ATC (apart from English)(3)/ special situation in Quebec/ Canada: bilingual ATC(1)

### Inner feelings:

Lack of command of English becomes clear when there is a high degree of workload and **stress**(19) (e.g. during approach, landing or departure, on busy airports and in areas of **high traffic density**, while crossing a control zone, induced by unfamiliarity with the local airspace structure, loss of orientation)

### Selected answer:

(**bold print** indicates items considered to be important [ ] = summarising translation):

**Informant**    **How would you explain this?**

**78 (p)**            **dreifach Anweisung:** Heading, FL und neue Freq. Immer in **Italien**  
[calls containing multiple instructions, e.g. heading, FL and frequency change]

### **21. (17.) How would you explain this?**

- **low/ no command of general English** in critical situations beyond the basic set of Standard Phraseology (27), especially French(2), Italians(2), Chinese(2), Spanish(1)
- **no command of English Standard Phraseology** (4)
- **not using English Standard phraseology** (3)
- **no real standardisation**, i.e. Standard English Phraseology that is different from General ICAO Phraseology, e. g. in Germany(1), USA(2)
- **using other national languages(10) due to national pride(4)**, e.g. France(4), Mediterranean countries(1), Germany(2), also mix of languages(1)
- **diverse “accents”** of speakers of English as a **foreign** language(10), e.g. Moroccans(1), Chinese(3), Far East(1), Portugal(1), Brazil(1)
- **diverse dialects/ varieties** of **native** speakers of English (7)
- **no or bad English education/ training/ different background/ bad selection** (also during flight training) (14), e.g. regions of former Soviet Union (1), bad pronunciation (4) especially of male controllers (1)
- **stress/ time factor leading to faster rate of speech/ length of message/ not concentrated** (16)
- **fear to use/ talk in a foreign language** (2)

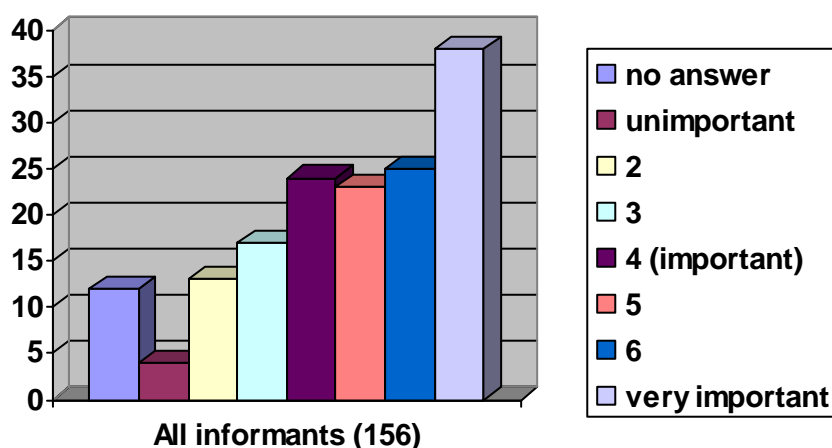
### Selected answers:

(**bold print** = considered to be important/ [...] = comment/ summarising translation)

<b>Informant</b>	<b>How would you explain this?</b>
<b>17 (c)</b>	I think that <b>non-native speakers perhaps try harder to understand and thus often get instructions correctly when American pilots just do not.</b>
<b>18 (c)</b>	A pilot's lack of English understanding translates itself in often having to repeat transmissions. One of the reasons I think is that in, for example, <b>Mediterranean countries controllers communicate with pilots in their mother tongue so that they don't have enough practice or are not being forced enough to communicate in English.</b>
<b>21 (c)</b>	<b>When everything goes "as usual" one manages with standard phraseology. In emergencies one has less time to think, and relevant vocabulary is not practiced often enough!</b>

- 22 (c) **IN CASE IN EMERGENCY WE DON'T USE PHRASEOLOGY TO COMMUNICATE TO PILOTS BUT WE USE GENERAL ENGLISH.** e.g. when there is smoke in a cabin, the pilot will talk to ATC by general english, not using phraseology.
- 23 (c) **Uncommon situations occur rarely** and on a daily communication with pilots only standard phraseology are used, when comes the time to use "**planned english**" some times it means to remove **durst** on the dictionary. **lack of practice**
- 29 (p) Phrasologie weicht **von der in Dtl. üblichen englischen Phrasologie** ab, zusätzlich wird teilweise sehr schnell und undeutlich gesprochen [differences of English phraseology used in Germany and elsewhere/ often speech very fast]
- 45 (p) **viel zu schnell und zu nachlässig gesprochen durch den Lotsen, männliche Lotsen zum Teil deutlich schlechter in der Aussprache als weibliche** [speech rate too fast/ often sloppy pronunciation/ pronunciation of female controllers often better than that of male ones]
- 58 (p) **mangelnder Wortschatz**, kein konsequentes Anwenden der Standard Phraseology, Kommunikation in der Muttersprache [lack of vocabulary/ not consequently sticking to phraseology/ using national languages]
- 60 (p) **nationaler Umgang mit anderen Sprachen als Französisch** [French as a political matter]
- 99 (p) **ACCENTS UNIQUE TO THE REGION, FAST SPEAKING CONTROLLERS, PILOTS NOT USED TO AMERICAN ENGLISH AVIATION-SPEAK**
- 106 (p) **NON ENGLISH SPEAKING PILOTS STRUGGLING TO KEEP UP WITH RAPID FIRE COMMUNICATIONS BY OVERWORKED AMERICAN CONTROLLERS**
- 108 (p) **standard phraseology is easy to learn, but in non standard situations it doesn't fit**
- 112 (p) When flying in **Quebec**, we have **both english and french** being spoken on ATC frequencies, which results in the controller **often having to repeat himself, once in each language**, so that both parties can understand what is happening. In an **urgent situation that requires immediate action**, this does not lend itself to a safe outcome, since only one of the pilots could potentially receive this information in time to do something about it. The same situation would occur if one of the pilots did not understand what was being told to them, and ATC had to repeat themselves.
- 116 (p) **radio communications are used for standard procedures** in standard situations 99% of the time (**mostly also in standard regions, e.g the typical VFR pilot is used to his immediate neighbourhood, the commercial pilot to his/her country or continental zone, the ATC covers only one sector**). When something unexpected needs to be communicated, **the transmitting part has trouble describing his or her situation and the receiving part has trouble understanding the meaning. This is by the way true for native speakers as well, and in all the languages!!** out of habit. **Non-native speakers are more careful to use standard phrases.**
- 119 (p) WELL SOMETIMES, THE **NON-ENGLISH SPEAKING CREWS FEELS NERVOUS WHEN FIRST CONTACTING THE ATS SERVICES, THIS IS I THINK A NATURAL HUMAN RESPONSE TO THIS TYPE OF SITUATION. WITH MORE EXPERIENCE LESS PROBLEMS WITH ATS SERVICES.**
- 122 (p) When the **clearance is too long**, it's hard to understand so much info in such a short time that I think we miss some things without even noticing. The **accent** is also a factor, for example with **moroccan** or **chinese** controllers with non-native english speaking pilots.
- 136 (p) Miscommunication occurs when **unusual topics or situations** surface and pilots/controllers must resort to their understanding of "plain" English as opposed to memorized ATC phraseology
- 137 (p) **Spanish** or **French** citizens consider English as a second language which don't need to be learned. They have a **very basic level of English** and when they are on a critical situation, they don't react as they should.
- 141 (p) The **mis-use of locally established communication with internationally operating crew**. I.e. the **Irish** use a lot the expression "grand" in the meaning of great or phantastic. Just across the Irish Sea a "grand" achievement is a £1000 job completed.... Litter is used in England and India....in the US no one understands this word.
- 145 (p) Living in a French speaking environment where the English skills, even at ATC controller / pilots level, is not regarded as the highest, the puzzling faces after hearing some "**special**" **English words by native English** speakers makes me sometimes smile....

22. (18.) Simply not using the English language (whether intentionally or not)



Not using English language	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	1 = 11.1%	2 = 14.3 %	4 = 5.5 %	5 = 1.7 %	12 = 7.7 %
unimportant	0 = 0 %	1 = 7.1 %	1 = 1.3 %	2 = 3.4 %	4 = 2.6 %
2	1 = 11.1%	0 = 0 %	11 = 15.1 %	1 = 1.7 %	13 = 8.3 %
3	3 = 33.3 %	1 = 7.1 %	10 = 13.7 %	3 = 5.0 %	17 = 10.9 %
4 (important)	1 = 11.1 %	1 = 7.1 %	11 = 15.1 %	11 = 18.3 %	24 = 15.4 %
5	1 = 11.1 %	1 = 7.1 %	13 = 17.8 %	8 = 13.3 %	23 = 14.7 %
6	0 = 0 %	3 = 21.5 %	12 = 16.4 %	10 = 16.6 %	25 = 16.0 %
very important	2 = 22.2 %	5 = 35.8 %	11 = 15.1 %	20 = 33.3 %	38 = 24.4 %

23. (19.) In what situation does this typically happen (e.g. in a certain phase of the flight/controlling, during flights into/ from certain countries, etc.)?

- **to improve communication:** switching to national language common to ATC and pilots(2), when only domestic pilots are on the frequency(4), to counteract noise(1), when getting long clearances(1)
- **other:** after having confirmed frequency change(1), in times of low traffic(1), within the cockpit(2), during flight instruction(1), flight preparation(1), military aircraft(2)
- **non-routine, unusual situations:** emergencies/ stressful situations(19), emotions/ frustration(1)
- **flying in certain countries:** France (also IFR and major airports)(30), Spain(14), Italy(5), Africa(1), South America(3), Southern Europe(2), Middle East(1), China(7), Portugal(1), Russia(4); Germany (3), via telephone before entering the plane in Germany(1), VFR in Germany(1), West Africa(French)(1), Algiers(1), Njamena(1) [Njamena = capital of Chad?], Poland(1)
- in general languages belonging to the Romance speech family(1)

**Selected answers** (bold print = considered to be important/ [...] = comment/ summarising translation)

Informant	Situation
90 (p)	Wenn die FIS oder der Controller versucht uns einzuschätzen.[when ATC tries to evaluate language proficiency of pilots]
97 (p)	Of course the whole traffic can be executed in the national language of that

- particular country.** But how many languages should pilots speak if they fly internationally? The common language is english.
- Province of Quebec**
- 105 (p)**
- 106 (p)** **FRENCH SPEAKING PILOTS IN THE QUEBEC REGION** OF CANADA DOMINATING THE UNICOM FREQUENCIES AND MAKING IT DIFFICULT FOR AMERICAN PILOTS (OR ENGLISH SPEAKING CANADIANS) TO GET ON THE FREQUENCY. WHERE I FLY, THERE ARE 5 OR 6 NON-TOWERED FIELDS THAT ALL USE 123.0 MHZ FOR UNICOM. SOME ON THE NEW YORK SIDE OF THE BORDER AND SOME ON THE CANADIAN SIDE. THE FRENCH SPEAKING PILOTS SEEM TO DELIGHT IN FILLING UP THE FREQUENCY WITH CHATTER, WHICH MAKES IT IMPOSSIBLE FOR THE REST OF US TO GIVE TIMELY POSITION REPORTS OR GET AN AIRPORT ADVISORY.
- 119 (p)** Experienced this at airfields in **France**. They **just refused to speak English**. Thank goodness I had also learned a little French.
- 132 (p)** **spanish** language is an official language of ICAO, then, there are spanish pilots speaking in spanish language with air traffic control at the same time foregin pilots are flying on this area
- 147 (p)** In **West Africa** most of radio transmissions are **in French**, unable to follow the flow of traffic around you, very much the same in Brasil, (Portugese)
- 148 (p)** **All phases of flight.( France,Algiers,Njamena [= Chad?])**
- 152 (p)** When a non-Enlish speaking pilot gets **frustrated** with instructions or when an **emergency** situation arises, they often revert to their natural language.
- 156 (p)** IN THE MILITARY I FLEW EXTENSIVELY IN **GERMANY AND KOREA**. THE **KOREANS USED ENGLISH EXCLUSIVELY BUT NOT NECESSARILY WELL**. **GERMANS OFTEN SLIPPED INTO GERMAN UNNECESSARILY** (WHICH I HAD TO TRANSLATE FOR MY CREW).

#### 24. (20.) How would you explain this?

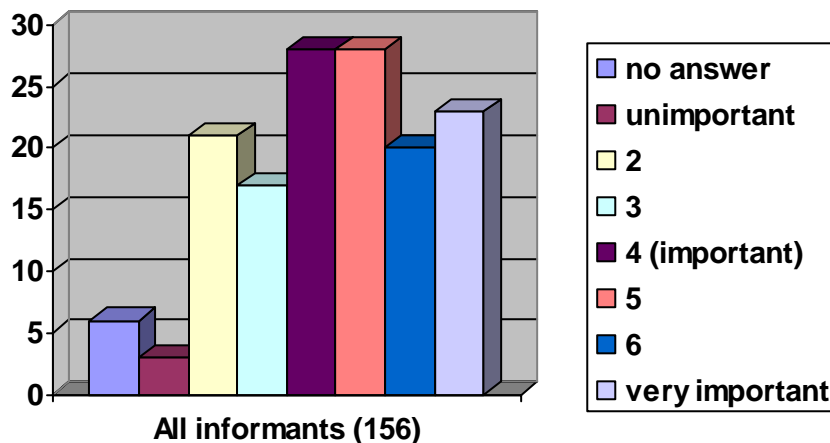
- **Laziness/ lack of discipline** (7)
- **Emotions: fear** to use English(3), especially on the part of speakers of a Romance language (i.e. French, Spanish etc.)(1), **frustration**(1), falling back to one's mother tongue due to **stress**(8)
- **National languages (mother tongue) easier as means of communication**(14)
- Using **other "ICAO languages"** (i.e. English, French, Spanish, Arab, Russian, Chinese)(3)/ **not sticking to ICAO standards**(1)
- **National pride**(15)/ **refusing** to use English as a foreign language over one's own territory(2)
- **No respect** of others' need to gain situational awareness(2)
- **Lack of proficiency in English**(10), **neglecting/ bad English education**(2)
- **Multilingualism**(3)

**Selected answers** (bold print = considered to be important/ [...] = comment/ summarising translation)

Informant	Possible explanation
<b>20 (c)</b>	Pig-headedness/rabid <b>nationalism on the part of French or Spanish ATC and Aircrew</b> . I found it extremely disconcerting while flying jump-seat on training flights on a number of different occasions. Doesn't do much to enhance the situational awareness of the general air traffic environment from the cockpit. In an area such as <b>Russia</b> for example, where there are not going to be any non-native flight crew, then the use of a mother tongue is fine. However where there is such a degree of mixing of nationalities in the airspace, use of a common language should be rigidly enforced for safety's sake.
<b>21 (c)</b>	Using English for communication when English-speaking pilots are listening helps increase the situational awareness, so that they know what is happening around them. <b>It is also a way to show respect!</b>
<b>64 (p)</b>	<b>Zum Englischsprechen muß man zu viel nachdenken [talking in English occupies a lot of mental capacity]</b>
<b>99 (p)</b>	<b>LACK OF PROFESSIONALISM, TAKING THE EASY WAY OUT</b>

- 101 (p) Two native speakers are probably safer speaking in their own language., however this could lead to loss of situational awareness in other pilots in the area.
- 106 (p) **CULTURAL CHAUVINISM? POOR RADIO DISCIPLINE OR JUST PLAIN RUDENESS.**
- 112 (p) Obviously people would tend to **revert to their most natural language when confronted with an urgent situation**, which might lead to a lack of communication with the controlling agency and other pilots, which in turn could lead to accidents.
- 117 (p) One example would be the region of **Quebec in Canada when pilots refuse or can't speak English** and there are possible traffic conflicts.
- 118 (p) it is **easier** to speak in your mother tongue
- 119 (p) **National pride, stubbornness!**
- 120 (p) **There are people preferring speaking some other language, for example German. Simply because they know it better.**
- 146 (p) Why france should be the most consistently problematic ? No idea.. doesn't seem to be a problem for the Germans / Italians or the Spanish... or the Chinese, Japanese or Russians.. Maybe I'm a little prejudice **having had a colleague killed at Paris CdeG due to a controller screwing up (which anyone ca do), unfortunately he screwed by giving a take-off clearance in French forgetting that he'd cleared my colleague to line up on the same runway.. in English...** Speaking in two languages on a frequency makes about as much sense as using multiple frequencies that some of us are not aware of.. keeping a mental picture of what is happening around us is an essential part of our work in the cockpit.. even having the ability to speak some french I'm not fluent enough to to understand a fast spoken exchange between two native french speakers. **Maybe they're peeved at French not being chosen as the international language of the air...** though why it should have been is beyond me since it rates maybe 4th or 5th in a table of internationally spoken languages...
- 147 (p) **English is not embraced by these communities as the only language in aviation**
- 148 (p) I don't want to bring a nationality or language in here, but **the"French"speaking countries are known for this.( France,Algiers,Njamena [=Chad?] just to mention a few)Also South America Brazil( widely spoken non-stop on the air....same problems.Sao Paulo,Rio de Janeiro)speaks Portugese** all the time to the pilots and for me that flies into those airports have great difficulty to form a mental picture of the traffic around me. Also **Argentina....Spanish**
- 152 (p) **Lack of language comprehension and lack of use in English plus the frustration level** of trying to relate a situation quickly and unable to think of the right words.

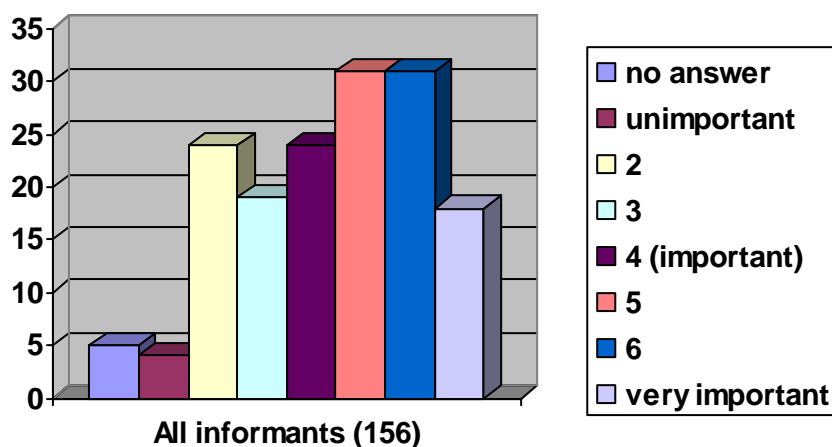
## 25. (21.) Environmental influences while transmitting (e.g. background noise, etc.)



Environmental influences	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	3 = 4.1 %	3 = 5.0 %	6 = 3.7 %
unimportant	0 = 0 %	0 = 0 %	2 = 2.7 %	1 = 1.7 %	3 = 1.8 %
2	0 = 0 %	0 = 0 %	13 = 17.8 %	8 = 13.3 %	21 = 13.5 %
3	2 = 22.2 %	1 = 7.1 %	7 = 9.6 %	7 = 11.7 %	17 = 10.9 %
4 (important)	3 = 33.3 %	3 = 21.5 %	13 = 17.8 %	9 = 15.0 %	28 = 17.8 %
5	1 = 11.1 %	5 = 35.8 %	12 = 16.5 %	10 = 16.6 %	28 = 17.8 %
6	2 = 22.2 %	2 = 14.1 %	15 = 20.5 %	11 = 18.3 %	20 = 12.8 %

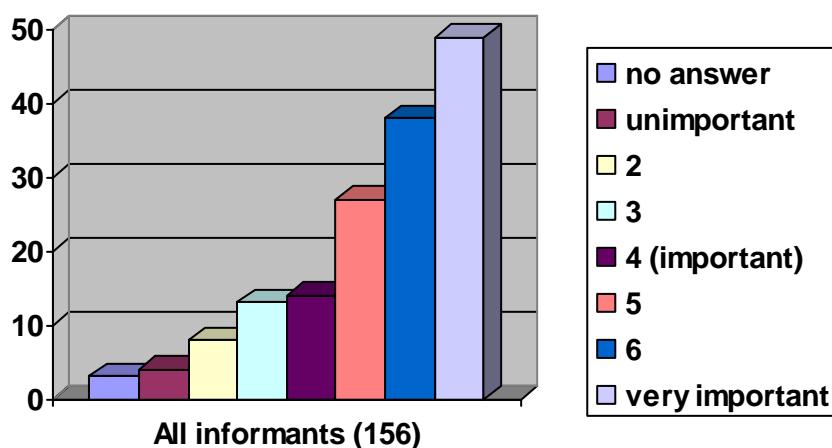
very important 1 = 11.1 % 3 = 21.5 % 8 = 11.0 % 11 = 18.3 % 23 = 14.7 %

**26. (22.) "Perfidies" of the radio technology (e.g. interferences)**



"Perfidies" of radio technology	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	2 = 2.7 %	3 = 5.0 %	5 = 3.2 %
unimportant	0 = 0 %	0 = 0 %	2 = 2.7 %	2 = 3.3 %	4 = 2.5 %
2	1 = 11.1 %	1 = 7.1 %	13 = 17.8 %	9 = 15.0 %	24 = 15.4 %
3	1 = 11.1 %	2 = 14.3 %	11 = 15.2 %	5 = 8.3 %	19 = 12.2 %
4 (important)	2 = 22.2 %	3 = 21.4 %	12 = 16.4 %	7 = 11.7 %	24 = 15.4 %
5	1 = 11.1 %	3 = 21.4 %	15 = 20.5 %	12 = 20.0 %	31 = 19.9 %
6	3 = 33.3 %	1 = 7.1 %	14 = 19.2 %	13 = 21.7 %	31 = 19.9 %
very important	1 = 11.1 %	4 = 28.7 %	4 = 5.5 %	9 = 15.0 %	18 = 11.5 %

**27. (23.) Not sticking to the Standard Phraseology/ use of idioms (by using common speech, e.g. the verb "hold" can be misinterpreted as "continue" since in some English dialects it can mean "continue doing sth.")**



Not sticking to Standard Phraseology	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	2 = 2.7 %	1 = 1.6 %	3 = 1.9 %
unimportant	0 = 0 %	0 = 0 %	1 = 1.3 %	3 = 5.0 %	4 = 2.7 %
2	0 = 0 %	0 = 0 %	4 = 5.5 %	4 = 6.7 %	8 = 5.1 %
3	0 = 0 %	1 = 7.1 %	8 = 11.0 %	4 = 6.7 %	13 = 8.3 %

4 (important)	2 = 22.2 %	0 = 0 %	8 = 11.0 %	4 = 6.7 %	14 = 9.0 %
5	2 = 22.2 %	1 = 7.1 %	16 = 21.9 %	8 = 13.3 %	27 = 17.3 %
6	3 = 33.3 %	4 = 28.7 %	13 = 17.8 %	18 = 30.0 %	38 = 24.3 %
very important	2 = 22.2 %	8 = 57.1 %	21 = 28.8 %	18 = 30.0 %	49 = 31.4 %

## 28. (24.) Can you think of similar examples?

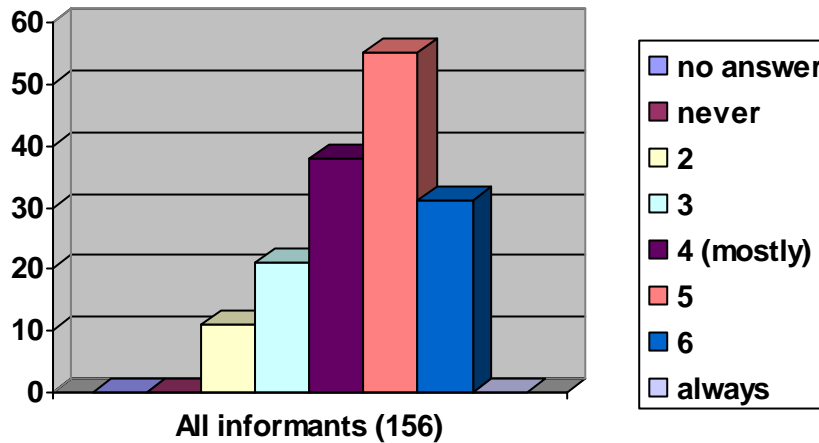
**Note:** [...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important

Informant	Similar examples
	<ul style="list-style-type: none"> <li>• “continue” vs. “maintain”(1)</li> </ul>
2 (c)	continue <b>present hdg und</b> maintain <b>present hdg</b> von ICAO <b>gefordert: 1500fpm or greater</b> <b>anstatt [instead of] 1500 or more</b>
	<ul style="list-style-type: none"> <li>• “maintain”</li> </ul>
122 (p)	SOME PILOTS DOES NOT UNDERSTAND WHEN A TEMPORARY ALTITUDE IS ASSIGNED AND INSTRUCTED AS " <b>CLIMB AND MAINTAIN...</b> " IE. YOU FILED AS FINAL ALT. FL 330, AND THE ATS TELL TO YOU "CLIMB AND MAINTAIN FL290" THIS CAN CAUSE SOME CONFUSION TO THE PILOT, MAKING HIM TO THINK THAT HIS ALTITUDE IS AMMENDED TO FL290. [see also “expectation”/“wishful hearing” in question # 46/39]
	<ul style="list-style-type: none"> <li>• instructions that are too short, i.e. “speed 170” instead of “reduce speed 170kt”→ unclear: accelerate? reduce?/</li> <li>• too short and non-standard pronunciation of numbers(1)</li> </ul>
37 (p)	Standardanweisung <b>climb FL threehundred</b> wird in <b>Südeuropa</b> häufig als <b>tree zero zero</b> gegeben. [in southern Europe often „FL three zero zero“ instead of “three hundred”]
	<ul style="list-style-type: none"> <li>• “hold position”(ICAO) vs. “taxi into position and hold”(US)(1) vs. “clear to line up”(Russia)(1) vs. “line up and hold” vs. “line up and go”(1)</li> </ul>
17 (c)	English " <b>HOLD POSIION</b> " is similar to American " <b>taxi in to position and hold</b> ", but have VERY different meanings, which have resulted in serious runway incursions.
128 (p)	<b>Holding Point</b> and <b>Line up</b> are often mixed in our training
149 (p)	<b>Line-up and hold</b> vs <b>line-up and go</b> . [...]
89 (p)	" <b>HOLD POSITION FOR ROLLING TAKE OFF</b> "
	<ul style="list-style-type: none"> <li>• “hold short <b>UUof</b>” vs. “hold <b>on</b>”</li> <li>• “go ahead” vs. “pass your message”(2)</li> </ul>
18 (c)	Instead of using the phraseology “go ahead” when a pilot has just called you we have to use “ <b>pass your message</b> ”. The phrase "go ahead" can mean "go and do want you want to do" whilst you only want them tell you what their intentions are. It has happened that pilots on a gate called for a pushback request, the controller only picked up a callsign (due to heavy workload) and said "go ahead" so the pilot thought he had a pushback clearance and pushed back causing a conflict on the apron.
115 (p)	<b>UK-Phrase is "Pass your Message"</b> (which is very good) rather than ICAO " <b>Go ahead</b> " - which is very poor as it <b>could be misinterpreted with "go on doing what you asked for or are doing"</b> , e.g. enter a CTR thus without proper clearance.
	<ul style="list-style-type: none"> <li>• <b>US vs. ICAO nomenclature(2)</b></li> </ul>
29 (p)	z.B. <b>flight following (USA)</b> ist hier <b>traffic information.</b> , <b>QNH</b> kennt keiner in den USA - ist <b>Altimeter.</b> , request <b>QDM</b> kennt keiner in den USA - dort requestet man ein heading oder <b>vectors.</b> , auch ist meines Wissens <b>Flightlevel65 in den usa 6500ft.</b> ..., davon gibt es viele Abweichungen
35 (p)	Insbesondere diverse <b>Abweichungen in der amerikanischen Phraseologie</b> <b>gegenueber der ICAO-Phraseologie</b> fallen mir hier immer wieder <b>negativ auf:</b> <b>FAA "Taxi into position and hold"</b> = ICAO " <b>Line up and wait</b> " (= rollen zum Haltepunkt *auf* der Piste) <b>FAA "Taxi and hold short of RWY XY"</b> = ICAO " <b>Taxi to holding point rwy XY</b> " (= rollen zum Rollhalt *ausserhalb* der Piste) -> insbesondere besteht IMHO damit Verwechslungsgefahr zwischen <b>FAA "taxi into position and hold"</b> und ICAO " <b>taxi to holding point</b> " <b>FAA "ident"</b> (= Aufforderung, den "ident"-Knopf am Transponder zu druecken) vs.

"identified" (Bestätigung durch den Fluglotsen, dass das Luftfahrzeug identifiziert ist).

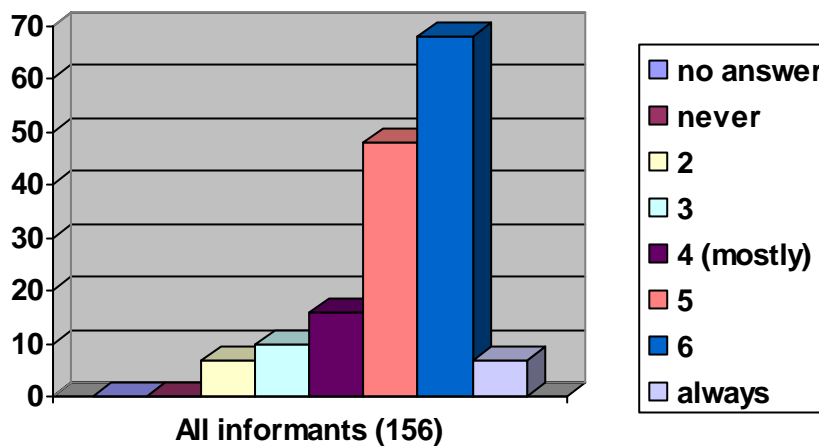
- **non-standard naming of waypoints/ reporting points(1)**
- 42 (p) Icherwartete **"report W-point"** und erhielt **"report five miles out"**, was der gleiche Punkt ist, aber mich mental doch ziemlich aus dem Programm warf, so dass ich trotz überlastetem Funk zweimal nachfragen musste
- **“to” vs. “two” (5)/ “for” vs. „four“(2)**
- 47 (p) **descending "to" 2000 ft (unüberlegte Verwendung von "to" bei Höhenangaben, Verwechslungsgefahr mit "two")**
- 116 (p) **"to" or "two": climb two six zero - roger, climbing to six zero**  
**"for" or "four": request four thousand - roger, descend to one thousand (understood as request for (one) thousand**
- **Unclear reference of “behind”(1)**
- 58 (p) **behind** - kann **vor** oder **hinter** der Haltelinie an der Runway sein  
[...]
- **insufficient readbacks(1)/ confirmations(1)**
- 52 (p) Meiner Meinung nach durch Standardphraseologie abgedeckt. Ein Problem ist meiner Ansicht nach dass viele Piloten selbst Richtungsanweisungen (Heading, Alt. Speed) sowie Frequenzen, QNH etc **schlicht mit Wilco oder Roger beantworten bzw teilweise garnicht oder nur das Callsign bestätigen.**  
**[non-standard readbacks, instead acknowledgements by simply using WILCO]**  
**ok, right used as correct**
- 135 (p)
- **Non standard initial call(1)**
- 62 (p) [...]  
Italien:  
A/C: "...checkin in..."  
Lotse versteht: "...highjacked..."
- 70 (p) **"Station calling...?" als verständnislose Antwort vieler französischer Lotsen auf den Initial Call., Symbol der mangelnden Sprachkenntnis/-willigkeit.** Viele Initial Calls **müssen wiederholt** werden, dadurch unnötige Frequenz-Blockaden. **Weitgehende Unfähigkeit, englisch zu sprechen und zu verstehen, sobald es über die Standard-Phrasen hinaus geht. Selbst wenn man als Pilot versuchsweise kompletten Unsinn zurückliest, wird oft von Controller-Seite nicht korrigiert.** Hartnäckige **Nicht-Verwendung der ICAO-Phrasen.** [...] [lack of command of English as to initial calls and non-standard communication → blockage of frequency due to a lot of asking]
- **„clear/ed“**
- 101 (p) Use of the word **"clear"** or **"cleared"** for other than landing or takeoff.
- **“go around” vs. “overshoot”**
- 143 (p) the word **overshoot** is often used in the sense of **'going around** and trying the approach again. **overshoot** can also imply overrun of the runway threshold at the departure end.
- **“peculiarities”/ local deviations from standard phraseology**
- 144 (p) used in **Miami** by ATC: **descent south** ( means descent FL180!!! )  
used in **JFK** when pilot ask to say again: **go to penalty box** (means **direct holding and wait**) used in **Jersey %26 Guernesey island: retournez en france, ne revenez que lorsque vous saurez parler anglais** (means **turn around and come here when you'll able to talk english**)
- **“Take off” vs. “break ground”**
- 152 (p) Yes, While instruction in **IRAN teaching Iranian Army students in English**, you had to be very specific and clear when speaking. One instructor friend asked his student to **"break ground"**, when he wanted his student to **take off**. The Iranian student said OK, and quickly pulled the collective control up causing the helicopter to leap off the ground 2 meters. Then he quickly lowered the collective to the bottom, **causing the helicopter to smash into the ground. The student said the ground did not break, but the helicopter was damaged substantially.** Another example with one of my students on a first flight, I was doing all of the flying and explaining the use of the various controls. My student kept saying **"yes sir" after every explanation. I became suspicious he did not understand me, so I asked him if he could see the pink elephants hanging on the main rotor blades. His "yes sir", confirmed my suspicions and I knew I would have trouble teaching him to fly a helicopter.**

29. (25.) Do pilots stick to Standard Phraseology?



Pilots stick to Standard Phraseology?	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %
never	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %
2	1 = 11.1 %	1 = 7.1 %	6 = 8.2 %	3 = 5.0 %	11 = 7.1 %
3	1 = 11.1 %	0 = 0 %	11 = 15.1 %	9 = 15.0 %	21 = 13.4 %
4 (mostly)	1 = 11.1 %	3 = 21.4 %	19 = 26.0 %	15 = 25.0 %	38 = 24.4 %
5	3 = 33.3 %	4 = 28.6 %	26 = 35.6 %	22 = 36.7 %	55 = 35.3 %
6	3 = 33.3 %	6 = 42.9 %	11 = 15.1 %	11 = 18.3 %	31 = 19.8 %
always	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %

30. (26.) Do controllers stick to Standard Phraseology?



Controllers stick to SP?	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %
never	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %	0 = 0 %
2	0 = 0 %	0 = 0 %	4 = 5.5 %	3 = 5.0 %	7 = 4.5 %
3	1 = 11.1 %	0 = 0 %	5 = 6.8 %	4 = 6.7 %	10 = 15.6 %
4 (mostly)	2 = 22.2 %	3 = 21.4 %	6 = 8.2 %	5 = 8.3 %	16 = 10.3 %
5	2 = 22.2 %	5 = 35.7 %	26 = 35.6 %	15 = 25.0 %	48 = 30.5 %
6	3 = 33.3 %	6 = 42.9 %	28 = 38.4 %	31 = 51.7 %	68 = 43.6 %

always 1 = 11.1 % 0 = 0 % 4 = 5.5 % 2 = 3.3 % 7 = 4.5 %

Comments of two pilots in question No. 28 (24) ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

**Informant**

151 (p)

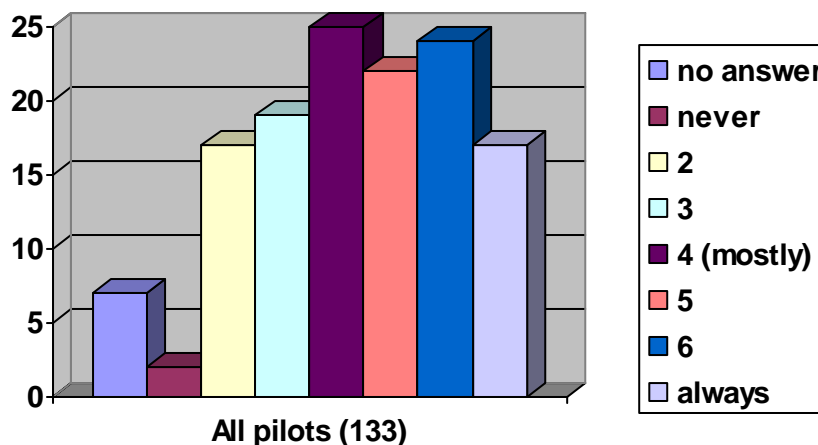
**relevant comments**

The controllers some times have to break from the Standard Phraseology to get a point across. I've heard pilots with limited english repeat what ever the controller says or what was said when they where previously in that position. Example, Controller: Cessna 1234 extend downwind for traffic and tower will call base. Pilot: Roger, turn base. Controller: No, Cessna 1234, keep flying straight on the downwind and I will tell you when to turn base.

146 (p)

To be fair I would say that **departing from std phraseology is more common among pilots that controllers.** [...]

31. (-) Does bad atmosphere between the crew members within the cockpit cause many misunderstandings, ultimately leading to adverse effects for the flight?



Atmosphere within the cockpit	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (133 = 100%)
no answer	n/a	n/a	2 = 2.7 %	5 = 8.4 %	7 = 5.3 %
never	n/a	n/a	1 = 1.4 %	1 = 1.7 %	2 = 1.5 %
2	n/a	n/a	10 = 7.3 %	7 = 9.6 %	17 = 12.8 %
3	n/a	n/a	10 = 7.3 %	9 = 12.3 %	19 = 14.3 %
4 (mostly)	n/a	n/a	12 = 16.4 %	13 = 17.8 %	25 = 18.9 %
5	n/a	n/a	13 = 17.8 %	9 = 12.3 %	22 = 16.5 %

6	n/a	n/a	14 = 19.2 %	10 = 13.7 %	24 = 18.9 %
always	n/a	n/a	11 = 15.1 %	6 = 8.2 %	17 = 12.8 %

32. (-) *When is it most dangerous? (i.e. in which phase might this create errors?)*  
[addressed to pilots only]

- all the flight (briefing, taxiing, take-off, enroute, approach, landing), especially in **stressful situations**(64)
- during **changing phase of flight**, e.g. from enroute to approach(4)
- **unexpected situations**: re-clearances/ weather/ technical problems/ delays/ momentary disorientation **and** especially when **decisions have to be made**(11)
- during **instruction**(1)
- among a **multinational crew**(1)
- difference in **gender** and **age**(1)
- relationship of the crew is **no factor**(1)

**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Phase of flight
110 (p)	<b>Bad human relationships. Lack of cooperation. Lack of protection by the senior officer of his junior crew</b>
117 (p)	When you have <b>crew members of different nationalities and they don't respect each other.</b>
122 (p)	<b>WHEN ONLY ONE PILOT IN A MULTIPLE CREW KNOWS AND UNDERSTAND ENGLISH</b>
133 (p)	<b>It would be very strange that the relationship of the crew would affect the flight</b>
152 (p)	If you have a <b>younger pilot-in-command</b> than his <b>co-pilot who may have more years experience</b> , that is a situation to be careful. <b>Sometimes a female pilot may feel uncomfortable with a male co-pilot and that can worsen if he has more flying experience and age.</b>
52 (p)	<b>Durch eine schlechte Atmosphäre wird viel weniger nachgefragt und auch viel kürzer und angebundener gesprochen. Ferner wird vor allem weniger gesprochen was eine Abnahme des Informationsflusses mit sich bringt.</b>

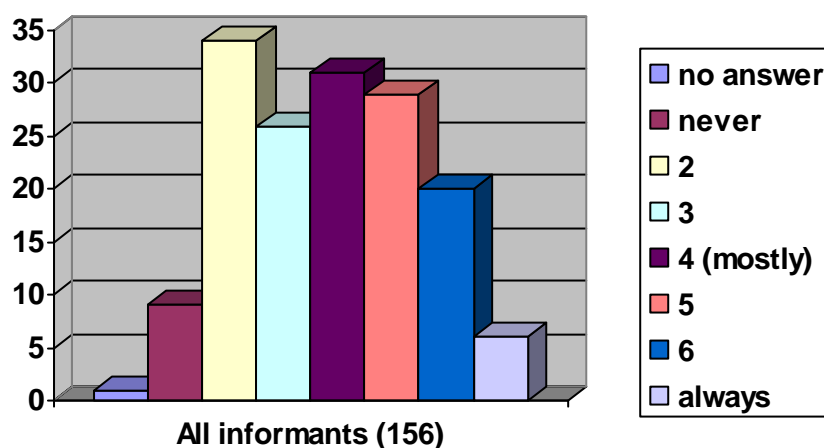
33. (-) *What might be the reasons for the bad atmosphere?* [addressed to pilots only]  
[→ Ch. 11.4]

- **stress/ workload/ time pressure**(16), but
- also during times of **too little workload/ boredom/ too much routine**(4) and
- the time between these phases, i.e. **during the change**(1)
- stress induced after **having lost “the overall picture”** after a period of felt **invulnerability** (feeling too safe with the tendency of being too passive)/ being “behind” the aircraft → stress because of trying to catch up(1)
- **asymmetric social order/ hierarchical** structuring of personnel(3)
- **lack of coordination** before flight/ **non-professionalism**(4)/ **no discipline/ insufficient CRM standards**(3), no “silent cockpit”(4)
- **interpersonal reasons**: non-liking/ liking(2), bad mood(1), problems “at home”(1), also with the employer(1)
- **bad attitudes**: macho/ impulsivity(1)/ chauvinism/ being an “old hand”(1)/ arrogance/ being ignorant(1)/ anti-authority(2) → too little communication(1)
- not being able to communicate due to a **lack of English proficiency/ resignation**(2)
- intercultural **prejudice**(1) and **cultural** differences(1)
- **being not explicit enough/** pre-conceived idea of the tasks of the other pilot(1)

**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Possible explanation
81 (p)	<b>Zu sicheres Gefühl beim Fliegen.</b> Der Genuss der Aussicht geht vor staendiger Kopfarbeit/Kontrolle, die noetig ist, um dem Flugzeug stets voraus zu sein. <b>Einmal aus dem Agieren ins reagieren zu kommen heisst nur noch gestresstes Verhalten zu zeigen.</b> Der Stress fuehrt zur Stereotypie und man tendiert sich nur noch auf eine oder wenige Dinge einzulassen, als es u.U. noetig waere.
100 (p)	<b>Prejudice</b> on the part of one or more crewmembers against a crewmember of <b>another nationality.</b>
106 (p)	NON PROFESSIONALISM
110 (p)	Company or syndicate problems with the pilots
118 (p)	<b>one crewmember wants to overrule the other, to show whos the boss</b>
122 (p)	EXPERIENCE OR <b>EDUCATION</b>
130 (p)	HUMAN LIMIST VS HEAVY TRAFIC
144 (p)	<b>Especially on international airport, lot of traffic, often complex flight path, bad conditions (IMC) or arrival after long flight with unexperimted copilot.</b>
145 (p)	not wanting to listen to the "adverse" object
146 (p)	lack of professionalism... concentrate on doing things correctly.. sort out the diffences on the ground.
149 (p)	<b>Pre-conceived idea by each pilot of what the other wants or does not want. Not informing the other pilot of any changes made to a/c configuration, freq changes, etc.</b>
152 (p)	<b>Cultural bias as in middle-eastern men not taking instruction or commands from women. Also some pilots do not feel comfortable asking questions of subordinates. They feel they should already know everything and often act like it when they really don't.</b>

34. (27.) Does bad atmosphere between the crew members and the controlling facility (Tower, Ground etc.) cause many misunderstandings, ultimately leading to adverse effects for the flight?



Atmosphere between cockpit & ATC	Controllors (9 German = 100%)	Controllors (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	0 = 0 %	1 = 1.7 %	1 = 0.6 %
never	1 = 11.1 %	3 = 21.4 %	3 = 4.1 %	2 = 3.3 %	9 = 5.8 %
2	3 = 33.3 %	2 = 14.3 %	21 = 28.8 %	8 = 13.3 %	34 = 21.8 %
3	2 = 22.2 %	3 = 21.4 %	11 = 15.1 %	10 = 16.7 %	26 = 16.7 %
4 (mostly)	1 = 11.1 %	1 = 7.1 %	17 = 23.2 %	12 = 20.0 %	31 = 19.9 %
5	0 = 0 %	4 = 28.7 %	9 = 12.3 %	16 = 26.7 %	29 = 18.6 %
6	2 = 22.2 %	1 = 7.1 %	11 = 15.1 %	6 = 10.0 %	20 = 12.8 %

always            0 =    0 %    0 =    0 %    1 = 1.4 %    5 = 8.3 %    6 = 3.8 %

**35. (28.) When is it most dangerous? (i.e. in which phase might this create errors?)**

- during **frequency change/ handover**, because this sometimes needs too much (and often too fast) talk(6)
- during **unexpected situations** (e.g. weather, technical problems), which demands flexibility(3)
- during **stressful** phases (taxiing, start, departure, approach, landing etc., often combined with delays)/ in general, **when aircraft are closest to each other**(56)
- in countries with a working culture governed by **asymmetric social orders/ hierarchical** structure(1)
- **always**(11)
- **lack of English proficiency** on the part of controllers(1)
- **seldom/ generally good atmosphere** (4)
- bad atmosphere **improves(!)** communication because participants are more concentrated(2)

**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Phase of flight
8 (c)	wenn schon, dann <b>bei unangenehmer Atmosphäre weniger Probleme, man ist viel mehr konzentriert</b>
18 (c)	Any stage of controlling but <b>especially when there are heavy delays (e.g. due to bad weather) and pilots and controllers get stroppy with each other on the frequency. Concentration levels are adversely affected by agitation between pilots and controllers.</b>
21 (c)	<b>When aircraft are closest to each other! Usually on approach.</b>
30 (p)	Vorallem der Fall, in Ländern die ein <b>sehr starkes "Autoritätsgefälle" haben und nach dem zweiten mal Nachfragen aggressiv und laut werden....</b>
72 (p)	Lotsen habe ich i allg als professionell und zurückhaltend mit ihren Bewertungen erlebt.
100 (p)	There is no specific stage of flight. <b>Pilots must always fly the aircraft first. Controllers should understand this requirement. Controllers are only advisors. Pilots conform if able to do so safely. Most controllers are not pilots and have little concept of flight requirements.</b>
146 (p)	again.. departure and approach phases.. high work load for both controllers and pilots.. <b>poor performance by either can exacerbate an already tense situation placing an even higher workload on everyone concerned..</b> if poor performance from a particular quarter (eg .. controllers at Kinshasa DR Congo) is anticipated it can help prepare us for the ordeal but everyone has a breaking point !
152 (p)	When given instructions for taxi to takeoff <b>that may deviate from normal due to traffic or weather.</b> Some pilots <b>do not see the big picture</b> and think this jerk is picking on me causing resentment <b>and "I am going to do this my way attitude".</b>
2 (c)	<b>wenn sich die Kollegen verstehen, wird eher über privates gesprochen und man die frquenz evtl leiser dreht.</b>

**36. (29.) What might be the reasons for the bad atmosphere?**

- interpersonal problems **within the cockpit**(2)
- **hierarchical** thinking of pilots(3)
- **national** thinking of controllers and pilots(1)
- **wrong expectations** about the duties of the participants and not knowing what their primary goal is/ differing working culture/ ignorance (14)
- **stress/ time pressure/ delays/ impatience**(19)

- prejudice due to certain qualitative aspects of language, i.e. pilots and controllers **make judgements on each other** based on tone/ pitch/ rate of speech, etc./ “unfriendliness”(5)
- **loss of situational awareness**(3)
- **fears to interfere with/ violate legal regulations**(1)
- **(supposed) lack of experience**(4)
- personal reasons/ **non-professionalism**/ wrong career choices/ bad mood/ inability to admit (obvious) mistakes/ frustration(8)
- **seldom**(2)
- **technical deficiencies/ contingencies** (e.g. old facility)(1)
- **lack of English proficiency** for proper communication → insecurity(4)
- **organisational problems** (e.g. authorities)(1)

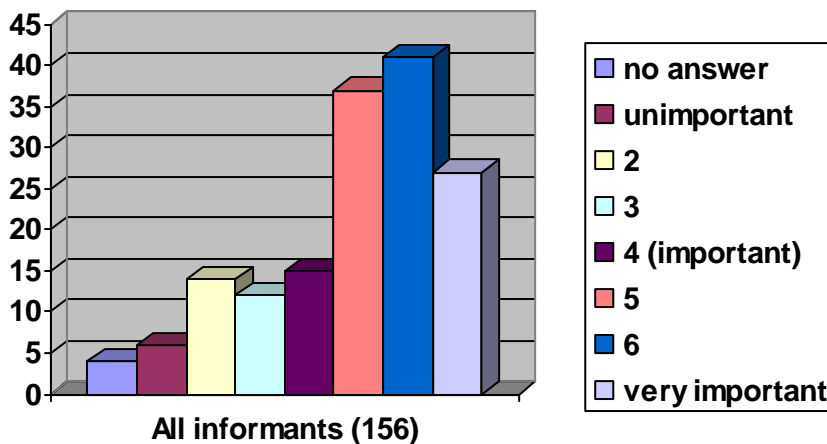
**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Possible explanation
17 (c)	Some pilots/controllers <b>do not know when to keep their opinions of the radio frequency. While a telling-off is happening the rest of the situation can go wrong</b>
18 (c)	<b>Heavy delays. Lack of awareness of the overall situation - pilots think they are the only ones around on the frequency and don't see the bigger picture. A controller's lack of understanding of cockpit workload and commercial pressures pilots are under.</b>
20 (c)	Never experienced it. I've always found professional flight crew to be just that - very professional in their approach to the job. <b>If something happens that you're not happy with, don't ball somebody out over the R/T, do it later over the phone. It's more private that way and less likely to embarrass.</b>
50 (p)	Antipathie, verbale Aggression, etc. - <b>wird freundlich gesprochen hört man auch gerne zu...</b>
64 (p)	<b>häufig: Angst gegen irgendwelche Vorschriften zu verstoßen, Angst, etwas falsch zu machen, Angst, sich als unerfahrener Pilot zu outen</b>
77 (p)	<b>Wenn man etwas "braucht" vom Lotsen, es aber nicht bekommt, verschlechtert sich natürlich die Atmosphäre und daraus folgen dann die Missverständnisse.</b>
83 (p)	<b>Wichtigsterische Flugleiter</b>
91 (p)	<b>Schubladendenken (Vorurteile), Machtverhältnisse</b>
99 (p)	<b>EGO'S GET IN THE WAY AND EMOTIONS TAKE OVER RATHER THAN PUTTING THEM ASIDE AND FLYING SAFELY</b>
100 (p)	<b>Any Captain that thinks he is God.</b> That is why CRM was invented to try to change that kind of thinking. The Captain is the one who needs to understand and use CRM techniques.
101 (p)	Prejudicial feelings toward nationality of pilot or controller., resentment at having to use English in one's own country.
104 (p)	The ATC can become <b>frustrated with the non-English speaking student pilots with thick accents</b> as they are difficult to understand, and they do not always comply with ATC instructions because I believe they don't understand what they've been told to do.
106 (p)	<b>PILOTS IN A HURRY, ANTI AUTHORITY ATTITUDES, ETC.</b>
107 (p)	1. <b>Missed radio calls</b> 2 Misunderstood clearances causing a busy controller to repeat instructions 3. Pilot or controller with a <b>heavy workload</b> at the time
110 (p)	<b>Country's wrong aeronautical authorities</b>
112 (p)	When a controller is <b>losing patience</b> , sometimes they dismiss the people who are causing the distraction as a nuisance, and might even fail to keep track of them properly
122 (p)	<b>NOT UNDERSTANDING WHAT IS TOLD TO YOU, THIS CAUSE STRESS OR INSECURITY.</b>
136 (p)	<b>Sudden change of instructions without apparent sense/explanation. Rerouting in most overloaded phases of flight.</b>
140 (p)	bad mood, <b>refusal to be open minded. controlling facilities usually listen if you are ready to explain that you're not quite sure of procedures to follow.</b> this does not mean that you enter into a controlled area with no minimum preparation
147 (p)	<b>Non-standard clearance, unreasonable request from one of the sides</b>
149 (p)	<b>Impatience</b> with both sides due to miscommunication ( <b>language barriers</b> ) leading to multiple communications to get one direction or clearance

- 152 (p) **Misunderstanding of what is being requested of us. Also blind faith that all controllers are always right**, when we pilots often see their mistakes. I was given a takeoff clearance from my present position once. If I had taken off, I would have flown directly into the path of a landing aircraft that could not have avoided me. That made me so mad at that tower controller, I said I would talk to him about this later and I did after I cooled off somewhat.
- 155 (p) **stress, miscommunication, flight is late, passengers arrived late, bad weather**

**37. (30.) Wrong or misleading intonation**

(e.g. *the command "back! - on the power" vs. "back on! - the power"; "eight zero clear" is understood as "FL 80 is clear" instead as "is FL 80 clear?"; "traffic ten o'clock, three miles, level at 4000" is misunderstood as an "instruction" to maintain 4000 feet instead of a "general traffic information"*)



Wrong/ misleading intonation	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	0 = 0 %	3 = 5.0 %	4 = 2.6 %
unimportant	0 = 0 %	1 = 7.1 %	5 = 6.8 %	0 = 0 %	6 = 3.8 %
2	1 = 11.2 %	0 = 0 %	9 = 12.3 %	4 = 6.7 %	14 = 9.0 %
3	0 = 0 %	2 = 14.3 %	5 = 6.8 %	5 = 8.3 %	12 = 7.7 %
4 (important)	2 = 22.2 %	1 = 7.1 %	2 = 2.7 %	11 = 18.3 %	15 = 9.6 %
5	2 = 22.2 %	2 = 14.3 %	23 = 31.7 %	10 = 16.7 %	37 = 23.7 %
6	2 = 22.2 %	3 = 21.4 %	19 = 26.0 %	17 = 28.3 %	41 = 26.3 %
very important	2 = 22.2 %	5 = 35.8 %	10 = 13.7 %	10 = 16.7 %	27 = 17.3 %

**38. (31.) Can you think of similar examples?**

**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Other examples
9 (c)	Gerade bei Traffic Info sollte <b>NIE</b> der Level des Traffic genannt werden, sondern „1000ft above / below“ o.ä. [the informant suggests not using FL for traffic advisory, instead use alt in ft followed by above/ below]
22 (c)	<b>After take off maintain runway heading 4000 feet.</b> Could be misunderstood by the pilot after reached 4000 feet he can alter the heading.
23 (c)	“ABC-Tower:traffic is at FL100 on Radial 110°, call crossing R100° at 110”. Not asking for confirmation, pilots could interpret this as to report crossing FL100 establish on R110, ignoring the traffic information.
34 (p)	Nichteinhalten der Standardphrasologie macht es besonders für Leute mit stark abweichender Muttersprache schwierig. [not sticking to standard phraseology makes it difficult to understand especially for speakers of EFL] Meine Erfahrung

bezieht sich auf Piloten aus Asien denen es völlig unbekannt ist, dass Sätze mit verschiedenen Betonungen trotz gleichem Wortlaut verschiedene Bedeutungen haben können. [for pilots from Asia it seems to be completely unknown that despite identical wording as to the meaning of sentences stress can be distinctive]

82 (p)

„You fly 2 NM righth of track“ – sollte keine Feststellung sein, sondern Aufforderung!

101 (p)

The command "takeoff power" interpreted as "take off the power." Use standard phraseology, whether from ICAO or company operations manuals.

123 (p)

descend 130 feet is misunderstood as an instruction to descend and maintain 130 feet

154 (p)

"climb 280" instead "climb to FL 80"

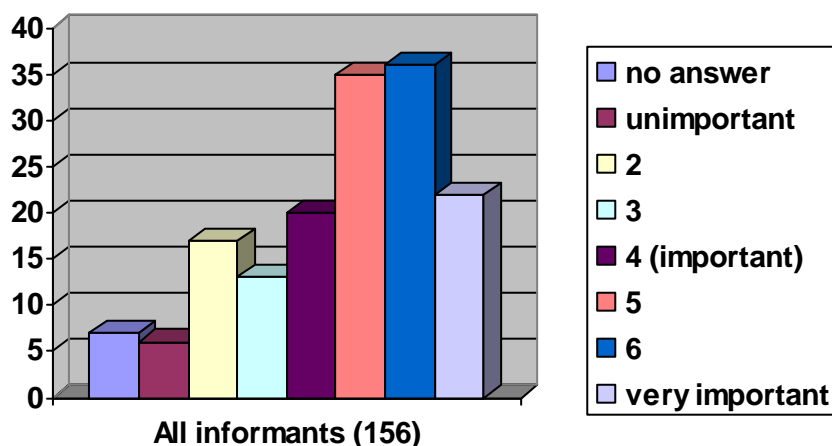
156 (p)

AMERICAN ENGLISH IS MY PRIMARY LANGUAGE AND I HAVEN'T THOUGHT ABOUT THIS PROBLEM. BUT I'VE OFTEN HAD MORE PROBLEMS UNDERSTANDING BRITS THAN ESL SPEAKERS.

31 (p)

keine konkreten, aber sehr oft ist nicht herauszuhören, ob es nun eine Frage oder eine Anweisung ist [often a question is being understood as an instruction, and vice versa]

39. (32.) Similar sounding words (e.g. "cheer up" vs. "gear up" within the cockpit; confusion of "to" and "two", or instruction fly "Eastwood" vs. fly "eastward" etc.)



Similar sounding words	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	2 = 2.7 %	5 = 8.3 %	7 = 4.5 %
unimportant	0 = 0 %	1 = 7.1 %	3 = 4.1 %	2 = 3.3 %	6 = 3.8 %
2	0 = 0 %	0 = 0 %	9 = 12.3 %	8 = 13.3 %	17 = 10.9 %
3	1 = 11.1 %	0 = 0 %	8 = 11.0 %	4 = 6.7 %	13 = 8.3 %
4 (important)	1 = 11.1 %	2 = 14.3 %	7 = 9.6 %	10 = 16.7 %	20 = 12.8 %
5	4 = 44.5 %	1 = 7.1 %	19 = 26.0 %	11 = 18.3 %	35 = 22.4 %
6	2 = 22.2 %	7 = 50.0 %	14 = 19.2 %	13 = 21.7 %	36 = 23.1 %
very important	1 = 11.1 %	3 = 21.5 %	11 = 15.1 %	7 = 11.7 %	22 = 14.1 %

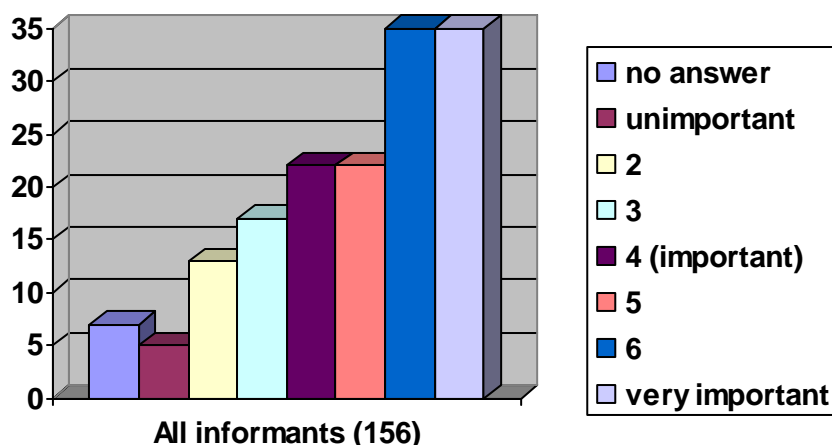
40. (33.) Can you think of similar examples?

**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; bold print indicates items considered to be important)

Informant	Other examples
5 (c)	Weniger, zu Verwechslungsproblemen führt eher der Ähnlichklang verschiedener Waypoints [homophonous naming of waypoints is considered to be worst]
6 (c)	Es gibt viele ähnliche Intersectionnamen: Rodis - Robis, Noras – Nogra [there are many similar sounding names of intersections, e.g. Rodis vs. Robis, Noras vs. Nogra]

- 8 (c) an der **polnisch/tschechischen Grenze** ist ein **Punkt TUSIN**, oft aus dem Nordosten (Weissrussland) angefliegen - oft Verwechslung "Fly direct TUSIN" als "Fly direct to SIN" (**SIN gibt es nicht**, Piloten scheinen es nach 40-120 Sekunden Suche im Computer zu sehen) [at the borderline to Poland and Czech Republic there is a waypoint called TUSIN, which is often headed to from the northeast (i.e. Belarus). The instruction „Fly direct TUSIN“ i soften misinterpreted as „Fly direct SIN“] Best example ever: descend to 2000ft (instead of descend to ALTITUDE 2000 ft)
- 15 (c) "ABC-TOWER: **Climb to 50 maintain.**"
- 22 (c) "TOWER-ABC: **Roger, climbing two five zero and report maintainng.**". Did he clear me 250 or to 50? If pilot does not check he will surely go for 250.
- 101 (p) "**Cleared to two thousand**" interpreted as "**cleared two two thousand.**" Use standard phraseology: "Climb and maintain two thousand."
- 116 (p) The confusion arises only from improper use of the language (see my examples above).**As soon as the danger of confusion is recognized** my experience tells me that all participants are very careful like repeating the real meaning. **E.g two similar callsigns on the frequency, Lufthansa 739, N25739.** "Lufthansa739, I say again Lufthansa 739, climb to..."
- 119 (p) "for" and "four", "expecting" and "expedite", but normally the context is quite clear.
- 134 (p) **Afirmative-Negative, Ready for take off-clear to take off,**
- 138 (p) Many but people **should be aware of them** and not using them

41. (34.) Ambiguities in meaning (e.g. "at takeoff" is interpreted as "waiting on runway for takeoff clearance" instead as "we are taking off")



Ambiguous meaning	Controllors (9 German = 100%)	Controllors (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0%	0 = 0%	4 = 5.5%	3 = 5.0%	7 = 4.5%
unimportant	0 = 0%	1 = 7.1%	4 = 5.5%	0 = 0%	5 = 3.2%
2	0 = 0%	0 = 0%	7 = 9.6%	6 = 10.0%	13 = 8.4%
3	0 = 0%	1 = 7.1%	9 = 12.3%	7 = 11.7%	17 = 10.9%
4 (important)	1 = 11.1%	1 = 7.1%	9 = 12.3%	11 = 18.3%	22 = 14.1%
5	2 = 22.2%	1 = 7.1%	11 = 15.1%	8 = 13.3%	22 = 14.1%
6	6 = <b>66.7%</b>	6 = <b>42.9%</b>	14 = 19.2%	9 = 15.0%	35 = 22.4%
very important	0 = 0%	4 = 28.7%	15 = <b>20.5%</b>	16 = <b>26.7%</b>	35 = 22.4%

42. (35.) Can you think of similar examples?

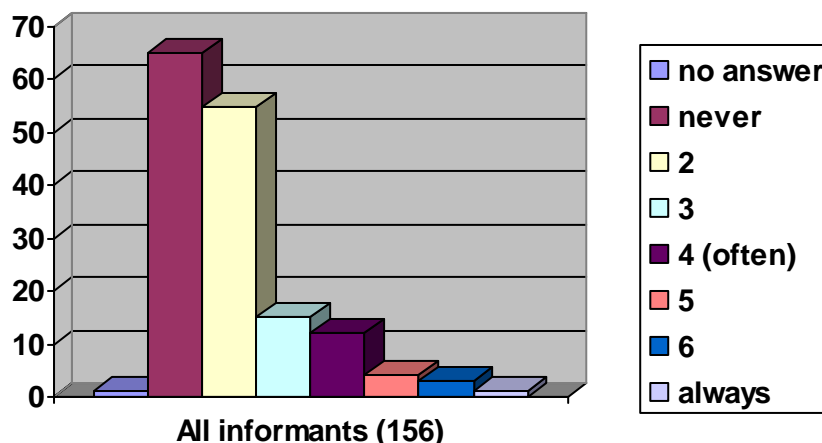
**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

**Informant Other examples/ comments**

- 1 (c) vielleicht ganz die satzbetonung, sondern generell verschachtelte oder längere anweisungen werden kaum verstanden. z.b. **traffic boeing 737 on 2 miles final runway 27, follow as number 2**, sorgt regelmäßig für ratlosigkeit auf wen sich jetzt die 2 meilen **beziehen** etc.

- [unclear reference as to whom „2“ refers]
- 18 (c) **We only use the words "take-off" in "cleared for take-off". We use the word "departure" for all other clearance (e.g. "are you ready for departure?").**  
The word "next" in the UK means "the first one" whilst I know that on the continent it can mean "not this one but the one after that".
- 19 (c) **Again, standard phraseology is usually well understood by non-English pilots.**  
Some foreign pilots understand 'Line up and wait' as a clearance to take off (happened to me once!)
- 22 (c) **"ABC-TOWER: descend FL170 at 2500ft/minutes minimum."**  
**"TOWER-ABC: Roger, we are cleared from FL330 to FL170 at 2500ft/minutes minimum."**  
Controller understanding: the traffic is leaving FL330 at the moment of the clearance. Pilot understanding: We are cleared FL170, we can start our descent at any moment! well, someone else might be cleared behind to descend from FL370 to FL190 at 2000ft/minutes maximum, but has the first one vacated FL330?
- 44 (p) **Maintain a good rate until out of FL140 vs. Maintain a good rate out of FL 140.** (einmal is FL140, einmal ab FL 140)
- 48 (p) In den USA bedeutet: **maintain fl 310 eine Freigabe zum Steigen / Sinken auf die genannte Höhe [in the US „maintain“ is equivalent to „climb/ descend“]**
- 52 (p) **check left of loc.** Impliziert dem fliegenden Piloten oft er solle nach links verbessern obwohl er bereits links des localizers fliegt und nach rechts korrigieren sollte. [unclear reference of instruction „check left of loc.“]
- 99 (p) **BETTER TO SAY..."N12032 READY TO DEPART RUNWAY 9L," THAN "READY FOR TAKEOFF"**
- 119 (p) **The word "clear" as a command (e.g. to vacate the runway) and as the general usage for ATC clearances**
- 121 (p) **Clear to taxi holding point....instead, taxi approved to holding point..**
- 136 (p) **"Ready for takeoff / Ready for departure" It's not the same but it is often used incorrectly.**  
[when talking of *departure* you are not yet on the active runway for taking off]
- 140 (p) full sentence plus acknowledgement should eliminate these ambiguities  
[this is a question of time/ unnecessary blockage of frequency]
- 146 (p) **UK trained pilots will generally not use the words "take-Off" at all.. this is following the confusion at tenerife that resulted in 500+ deaths.. unfortunately I do still hear other nationality pilots stating that they're ready for take-off.. especially the Americans.. we're taught "ready for departure" ... I recently was cleared out of Addis Ababa to climb 280.. my requested cruising level was FL280... the wording was similar enough to make me query it as by ommiting the words Flight Level it came across as climb "to 80"**

43. (36.) **Do you think national phrases during the initial call for greetings (e.g. hi, hello, bon jour, buenos días, dobrý den, etc.) is a factor for miscommunication, because they might be mixed up with words relevant for the flight, especially in other countries?**



Ambiguous phrases for greeting?	Controllors (9 German = 100%)	Controllors (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	1 = 1.4 %	0 = 0 %	1 = 0.6 %
never	5 = 55.6 %	4 = 2.9 %	40 = 54.8 %	16 = 26.7 %	65 = 41.7 %
2	0 = 0 %	7 = 50.0 %	26 = 35.6 %	22 = 36.7 %	55 = 35.3 %

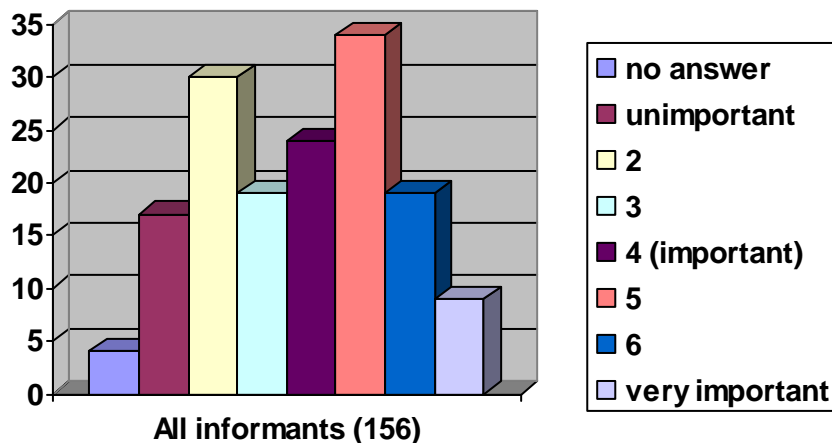
3	3 = 33.3 %	1 = 7.1 %	4 = 5.5 %	7 = 11.6 %	15 = 9.6 %
4 (often)	1 = 11.1 %	1 = 7.1 %	2 = 2.7 %	8 = 13.3 %	12 = 7.7 %
5	0 = 0 %	1 = 7.1 %	0 = 0 %	3 = 5.0 %	4 = 2.6 %
6	0 = 0 %	0 = 0 %	0 = 0 %	3 = 5.0 %	3 = 1.9 %
always	0 = 0 %	0 = 0 %	0 = 0 %	1 = 1.7 %	1 = 0.6 %

44. (37.) Have you ever misinterpreted a foreign set phrase for greeting as an instruction?

Selected answers: ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

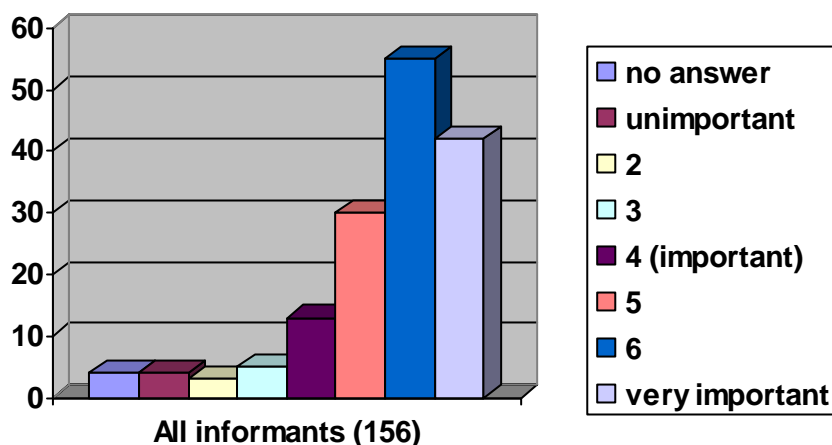
Informant	Ambiguous foreign set phrase for greeting/ comments
8 (c)	nein, einige Lotsen reagieren boshaft auf Verwechslungen (vor allem auf "Zdrastujte" - Russisch statt Polnisch). Dagegen <b>beim Verlassen meines Sektors</b> wird oft z.B. "Contact Lvov Radar 135,6 <b>goodbye</b> " als "Contact Lvov Radar 135,625" verstanden - nach einigen Faellen sage ich es bei "Kurzer Frequenz" (1xy,z00) nicht mehr
18 (c)	Personally I've never had any problems with "international greetings" and I can't think of a situation where a pilot has misinterpreted this either.
20 (c)	<b>Never, but I do think it sets an important tone for the "discourse" to follow. At least with little niceties like that you know that it's a human being with whom you're dealing (albeit a highly trained professional), and not just an automaton.</b>
21 (c)	Since it is standard practice, I don't think this causes a serious problem, but maybe pilots think otherwise. Their opinion should matter more than that of the controllers! <b>Saying "bye" at the end of the communication is dangerous, as it can be interpreted as "five".</b> Example: ATC: Ryanair eight two two one, contact Madrid on one three two decimal <b>six. Bye!</b> RYP8221: Madrid frequency one three two decimal <b>six five</b> , RYP8221. (Ryanair will now switch to incorrect frequency 132,65 instead of 132,6! And it will take some time to solve the misunderstanding. In the best case, nobody will be listening on 132,65 and RYP will come back to the previous frequency in a minute or two.)
27 (p)	<b>Ja</b>
50 (p)	nein, aber z.B. beim Einflug nach Österreich (mit deutscher Anmeldung) kommt der Reply meistens in Englisch - ist eine überflüssige Komplikation...
52 (p)	<b>nein, pure Höflichkeit</b>
57 (p)	<b>Ja</b>
99 (p)	CAN'T THINK OF ONE...
120 (p)	I never did it... But I never use them. I think, by initial call they are OK, all other calls are relevant
132 (p)	no. <b>I think an initial call for greetings in national language is good for the cockpit - atc good atmosphere</b>
134 (p)	<b>Yes. Portugal.</b>
147 (p)	No, and I hear them a lot
150 (p)	I am not a yerker...

45. (38.) Do you consider such set phrases to be important?



Set phrases for greeting important?	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	0 = 0 %	4 = 6.7 %	4 = 2.6 %
unimportant	0 = 0 %	1 = 7.1 %	9 = 12.3 %	7 = 11.6 %	17 = 10.9 %
2	3 = 33.3 %	5 = 0 %	7 = 9.6 %	15 = 25.0 %	30 = 19.1 %
3	1 = 11.1 %	1 = 7.1 %	9 = 12.3 %	8 = 13.3 %	19 = 12.2 %
4 (important)	2 = 22.2 %	2 = 14.3 %	10 = 13.7 %	10 = 16.7 %	24 = 15.4 %
5	2 = 22.2 %	3 = 14.3 %	21 = 28.8 %	8 = 13.3 %	34 = 21.8 %
6	1 = 11.1 %	1 = 7.1 %	13 = 17.8 %	4 = 6.7 %	19 = 12.2 %
very important	0 = 0 %	1 = 7.1 %	4 = 5.5 %	4 = 6.7 %	9 = 5.8 %

46. (39.) How important do you regard the phenomenon of “wishful hearing” (= instructions are interpreted due to daily routine evoking over-expectation, i.e. "it happened this way 100 times and it will continue like this")?



Set phrases for greeting important?	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	0 = 0 %	0 = 0 %	4 = 6.7 %	4 = 2.6 %
unimportant	0 = 0 %	0 = 0 %	2 = 2.7 %	2 = 3.3 %	4 = 2.6 %
2	0 = 0 %	0 = 0 %	3 = 4.1 %	0 = 0 %	3 = 1.9 %
3	1 = 11.1 %	0 = 0 %	2 = 2.7 %	2 = 3.3 %	5 = 3.2 %
4 (important)	0 = 0 %	0 = 0 %	6 = 8.2 %	7 = 11.7 %	13 = 8.3 %
5	1 = 11.1 %	1 = 7.1 %	14 = 19.3 %	14 = 23.3 %	30 = 19.2 %
6	5 = 55.6 %	5 = 35.7 %	26 = 35.6 %	19 = 31.7 %	55 = 35.3 %

very important 2 = 22.2 % 8 = 57.2 % 20 = 27.4 % 12 = 20.0 % 42 = 26.9 %

#### 47. (40.) Have you already had a similar experience during your flying career?

**Selected answers:** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Similar experience/ comments
2 (c)	c/s abc: <b>expect</b> FL xyz to cruise antwort öfter: <b>climbing</b> fl xyz.
3 (c)	das gibt es oft, gerade bei routinierten Piloten, die während irgendwelcher checks den Funk <b>quasi nebenher</b> erledigen.
8 (c)	Es gibt <b>Standard-Sinkinstruktionen</b> , z.B. FL 220 <b>nach Prag</b> , Flugzeug aus FL 380 wird zuerst zum Sinken zum FL 320 freigegeben, versteht es als FL 220
12 (c)	<b>Many times with levels.</b> , normally <b>close to TMA boundary</b> aircraft are given <b>clearance to descent to flight level 100</b> and when closing the boundary and other level is given it has been <b>misinterpreted</b> as 100
13 (c)	This is bad one. You just think you will hear something same than many times before. ATCOs usually know if clearance is different than usual and <b>then they have to be extra careful.</b>
15 (c)	I gave a traffic <b>information</b> about a/c1 to a/c2 : "traffic at fl40, proceeding inbound ...." and a/c2 <b>interpreted it as an instruction</b> to descend to fl40 or I asked a pic to report <b>"how many minutes you need to line-up and take off rwy...?"</b> and he <b>understood he had been cleared to line-up</b> [also problem of intonation?]
18 (c)	If you tell pilots to <b>taxi</b> via a <b>particular route all the time</b> , they will <b>'mishear'</b> you when you tell them something <b>different</b> (because of work in progress on a taxiway) and still read back what they usually hear every day. <b>Personally I speak a bit more slowly and try to emphasize any 'other-than-usual' instructions which works well.</b>
21 (c)	<b>Not only does this happen subconsciously.</b> If the pilot or the controller hear something strange, they sometimes will consciously think <b>"he said ..., but he probably meant ...", as usual</b> ). But if it is important to understand the exact meaning, pilots and controllers will certainly ask for a clarification.
22 (c)	Yes, a B747 cargo uses regularly my airport and is <b>very often</b> cleared for Arc-DME procedure, but <b>one day</b> he was cleared for VOR procedure for traffic separation but he carried out the same ARC-DME and face the taking of traffic with only 4 miles separation in a non radar environment.
23 (c)	yes I had two aircraft with very similar callsign on different route but both was expecting descend one of them had no confliction traffic for descend but the other should have been vectored .the wrong aircraft picked up my descend clearance but <b>the vigilance of other traffic</b> helped me to immediatly correct my clearance
24 (p)	Verwechslung der Segelflug(rechts)- und Motorflug(links)-Platzrunde -> falsche Annahme der Position
30 (p)	ohne Frage... - aus dem Süden kommend über die <b>Schweiz</b> oft <b>"non-standard waypoints: Lamur - Diton...</b> Aber auch <b>Armor</b> findet sich in der Datenbank.... <b>Laamuur und Armuur (oft so ausgesprochen von den Franzosen/Schweizern) klingen also ähnlich</b> , da man aber eben meistens Lamur bekommt, <b>nimmt man das schon mal an ohne nachzufragen</b> - besonders wenn der andere im Cockpit schon die fmc-eingabe getätigt hat....
31 (p)	zb in der <b>TMA Wien</b> bekommt man vfr immer SQ mit 15XX - <b>man konzentriert sich nach längerer zeit automatisch nur mehr auf die letzten beiden ziffern. und wenn die ersten beiden dann mal anders sind...</b>
37 (p)	procedure <b>bei dba</b> : Im T/O commands: <b>gear up, N1 speed up, flaps up. 3 mal up. Kann zu Verwechslung aus Routine führen</b>
48 (p)	es wird <b>Rollfreigabe</b> zu einer Bahn <b>erwartet</b> , doch eine Freigabe <b>zu einer anderen Bahn erteilt...</b>
58 (p)	es wird eine <b>bestimmte departure route(wie im Flugplan) erwartet</b> , dann hört man auch gerne die erwartete route <b>obwohl</b> sie <b>abweichend</b> von der tatsächlichen ist
62 (p)	<b>Munich: Anflug auf 26L...</b> <b>ATC:"Cleared to land 26R"</b> <b>A/C:"Cleared to land 26L"</b>
63 (p)	<b>landefreigaben auf parallelbahnen</b> (in EDDF erwartet man als GA Flufgeug <b>immer</b> die 25L), wenn man dann <b>unerwartet</b> die 25R bekommt kann dies für kurzfristige <b>Verwirrung</b> sorgen.
64 (p)	es wurden schon <b>clearances "gehört"</b> , <b>nur weil sie erwartet wurden.</b> gerade, wenn man unsicher ist im Verständnis (aufgrund einer schlechten <b>Aussprache</b> ) kann es

- vorkommen, daß man etwas hört, was nicht oder ganz anders gesagt wurde.
- 65 (p) falsche Landerichtung angegeben, weil **zum ersten Mal seit 4 Monaten** wieder die andere Richtung in Betrieb war (passiert sowohl Piloten als auch Controllern)
- 76 (p) allgemein **bekannt auch unter "target fixation"**. der wunsch ist der vater des gedanken etc...
- 91 (p) Die **Qualität vom HF Funk** ist oft **sehr schlecht (z.B. Indien oder Myanmar)**, da spielt **wishful hearing zusammen mit Erfahrung** seitens d.Cockpit-Crew sicherlich eine große Rolle...**Auch** konnte ich es beobachten, wenn Cockpit **schlechte Englischkenntnisse** hat und endlich einen englischen native speaker verstehen will (USA)...Außerdem auch nach entnervtem **Rätselraten**, wenn seitens ATC schlechtes (=unverständliches) Englisch gesprochen wird und die Funksprüche nicht zu verstehen sind.
- 101 (p) Numerous times with students who hear what they **expected to hear, but fail to listen to the rest of the clearance**. All crewmembers must listen to the entire transmission.
- 106 (p) YES. **BUSTING ALTITUDES. ALSO, NOT BEING SWITCHED TO TOWER FROM APPROACH CONTROL ON LANDING**
- 119 (p) no, not long enough in the business I suppose. But since you **normally write the important instructions** and also **read it back** I don't think it is a big issue.
- 128 (p) **Similar callsigns (D-CD and D-ECD)** for two airplanes on the downwind leg made it hard for me to find out which plane got "cleared to land" and which had to fly the go around  
[also problem of similar sounding]
- 129 (p) Yes, and it was **caught by readback to the controller** of what I though I heard. I was expecting a left base entry to runway 27 and repeated that when the instruction was downwind entry to 27. **Readback caught the error**.
- 138 (p) Pilot was clear to taxi to runway 36 for an **intersection takeoff** but in the way the controller due to 0 **wind change** it to 18 because it was easier to the departing aircraft to get to destination so when clear to takeoff he **departed in the wrong direction**
- 146 (p) **Almost always landed R13 at a particular airport... on one occasion** in a year of ops they were landing 31... **I continued onto the downwind leg for R13 while repeating the clearance for an approach to 31...** weather was marginal VFR with no instrument app available... single crew ops, increased work-load due time pressure and weather... felt a bloody fool when I finally woke up.
- 147 (p) Many times, in every situation, even **at home airport** - very dangerous
- 148 (p) I suppose you can also call 'wishful hearing' **qanother name'selective hearing'**.This one must gaurd against especial..y when you are **tired**.
- 154 (p) **expecting a RT**, for a direct route, and **receiving a LT (270°)**
- 155 (p) Yes, flying in and out of **Las Vegas, NV**, most of the time I received a standard clearance. No problem even if I have passengers on board who distract me with questions (in helicopter and even after telling them they should be quiet). But if I receive different clearances I got several time caught by surprise and I really had to listen carefully.

## C. Open questions regarding personal experience with miscommunication

Can you remember at least one situation, where you had to live through a critical moment while flying, and which you can trace back to defective communication or rather to problems of using the English language? (if you can think of things apart from what has been asked so far, please feel free to explain)

### Selected answers for questions No. 48. (41.) to 52. (45.)

48. (41.) Where? ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Place
2 (c)	Karlsruhe Rhein Radar UAC
3 (c)	Wegen nicht vorhandenem englisch funkte ein französischer Pilot deutsch, aber <b>verstand die DEUTSCHE Phraseologie "durchstarten" nicht</b> und verursachte damit beinahe einen Unfall

- 4 (c) Düsseldorf/Essen
- 8 (c) ACC Warschau (Ostpolen)
- 17 (c) Large international airport(s)
- 21 (c) Traffic on short final, declaring emergency
- 41 (p) Paris Airspace, Frankreich
- 45 (p) **Südfrankreich** und **Italien**. Die Lotsen "**wollen**" anscheinend **nicht** in **klaren** und **ruhigem** Englisch sprechen und verfallen permanent in ihren **landestypischen** Redeschwall
- 62 (p) Florida/ USA
- 65 (p) Süd-England
- 74 (p) China nahe bei Hongkong
- 77 (p) Italien
- 91 (p) Delhi
- 92 (p) LOWS
- 105 (p) **Quebec City**. Controller spoke in **French** to other aircraft and **answered my calls in French even though I initiated the call in English**.
- 106 (p) I USED TO FLY FEDEX FREIGHT INTO JFK AFTER MIDNIGHT. ONCE, WHILE I AND SEVERAL OTHER AIRCRAFT WERE BEING VECTORED FOR THE LOCALIZER, **THE CONTROLLER ANGRILY ISSUED EMERGENCY TURNS AND CLIMBS TO A DEPARTING B-747 FREIGHTER OPERATED BY AN ASIAN CARRIER**. THE CREW APPARENTLY **IGNORED OR DIDN'T UNDERSTAND** THE STANDARD INSTRUMENT DEPARTURE, AND CAME CLOSE TO ONE OF US OUT THERE IN THE SOUP.  
ANOTHER TIME, SAME AIRPORT, SAME FREIGHT MISSION, I WAS INSTRUCTED TO GO AROUND AFTER TURNING ONTO SHORT FINAL **DUE TO A SOUTH AMERICAN CREWED DC-8 THAT HAD IGNORED OR MISINTERPRETED A CONTROLLER'S INSTRUCTION AND TAXIED OUT ONTO MY RUNWAY**.
- 146 (p) Asturias, Spain
- 147 (p) **Congo, Mozambique, Angola**

49. (42.) **When?** ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Time
2 (c)	2006
3 (c)	?
4 (c)	Morgens
8 (c)	ca. 2005
17 (c)	Oftentimes
21 (c)	6 months ago
41 (p)	10/2005
62 (p)	2004 während Flugausbildung
65 (p)	Sommer 2005
74 (p)	~1998
77 (p)	vor ca. 2 Jahren
91 (p)	im Anflug
92 (p)	Sommer 2007
105 (p)	On transfer from Approach to Tower
106 (p)	BOTH INCIDENTS HAPPENED IN 1997
146 (p)	2002
147 (p)	Oftentimes

**50. (43.) Involved persons (please note: do not state a name, a person or an airline; you should name the (supposed) nationality, the (supposed) mother tongue (at least the "family of languages" to which the speaker might belong to, e.g. Romance, Slavonic etc) ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)**

<b>Informant</b>	<b>Persons involved</b>
2 (c)	türkische Piloten
3 (c)	siehe oben
4 (c)	<b>Französische</b> Piloten (2x).
8 (c)	<b>Chinesische</b> Piloten
17 (c)	pilots of some airlines have no grasp whatsoever of aviation english, which makes issuing taxi instructions almost impossible
21 (c)	<b>English</b> pilot
41 (p)	light aircraft, N-reg., based Vienna, Austria, crew oesterreichisch., zahlreiche airliner, crew franzoesisch
45 (p)	französisch, belgisch, italienisch
62 (p)	Amerikanische Muttersprachler in verschiedenen Akzenten -> Flugschüler verschiedener Nationalitäten (German,Austrian,Japanese)
65 (p)	Controller (Engländer??) Cockpitcrew (Deutsche)
74 (p)	Controller und Besatzung
77 (p)	Italienischer Privatpilot, italienischer Lotse auf dem Tower eines italienischen Verkehrsflughafens, eutsches Verkehrsflugzeug.
91 (p)	ATC %26 diverse andere (internationale) Flugzeuge
92 (p)	Österreicher Deutsche
146 (p)	Spanish controller
147 (p)	<b>African languages, with either Portugese or French influence, much less problems in countries like Zimbabwe, Zambia, Kenya - countries where English is more common, although heavily accented</b>

**51. (44.) What happened? (simply describe the events, technical terms can be used) ([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)**

<b>Informant</b>	<b>What happened?</b>
2 (c)	Nach einem radio comm. failure von einem Airliner mußte ich diesen "interviewen" wo er sich denn die letzte Stunde "rumgetrieben hatte". auf meine Frage: meine Frage: "on which frequency were you over the last hour?" we have been trying to reach you on guard because you did not answer our calls" Ich bekam <b>keine vernünftige Antwort, mehr ein Gestammel</b> das er auf meiner Frequenz sei.
3 (c)	c152 im kurzen endanflug zu langsam nach weit ausgeholter Platzrunde, zu schnell sich von hinten annähernde B737
4 (c)	<b>2x IFR-Pickup</b> mit Beech1900 (Turboprop 19 Sitze). Die französchen Piloten <b>verstanden kein englisch</b> . Daher war es <b>unmöglich eine IFR-Freigabe zu geben</b> . Auch Aufforderungen zu bestimmten Flugwegen wurden nicht verstanden. Daraus resultierten je 3x Luftraumverletzung und 1x Confliction zu B737.
8 (c)	Information ueber Turbulenzen gegeben - ein entgegenfliegendes Flugzeug auf FL 380 hat "moderate turbulence" gemeldet, darauf sagte ich zum Flugzeug auf FL 370 "China XXX, moderate turbulence <b>reported 20 miles ahead on FL 380</b> ", darauf kam die Antwort "Roger, <b>crimbing Fright Revel 380</b> "
17 (c)	Any imaginable instructin has at some time been <b>misconstrued</b> . I have instructed pilots <b>to hold position and wait for a "follow-me" vehicle to overcome further errors and safety risks</b>
21 (c)	The plane had a problem with the flaps, and the <b>pilot declared emergency speaking too fast</b> . It was <b>not clear</b> to me if he said the number of people on board or the

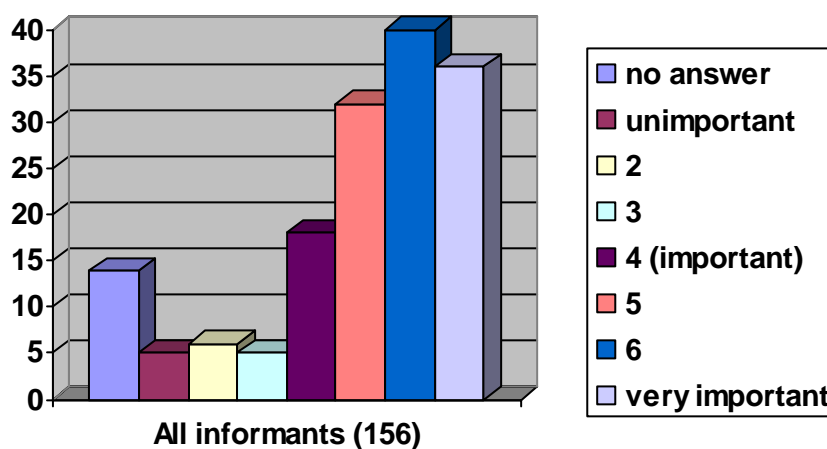
- remaining fuel, but I didn't ask for clarification (communications are recorded and we might listen if necessary, and I did not want to increase the stress on the pilot). Saying remaining fuel and number of souls on board is standard procedure in emergencies.
- 41 (p) On approach Unterschreiten der minimum seperation: airliner und ATC kommunizierten **mit einheimischen Flugzeugen ausschliesslich in franzoesisch**, Position und Absichten der airliner konnten nicht verstanden werden, **Anweisungen an uns kamen in sehr schlechtem Englisch**, dadurch wurde seperation zu einem airliner stark unterschritten, die immediate action erforderte.
- 45 (p) Durch **permanenten Sprachwechsel des Lotsen zwischen Französisch und Englisch** (3 VFR-Flieger auf Französisch in der CTA, 1 IFR Departure in Französisch und 1 IFR-Arrival (wir) in Englisch) erhielten wir die Verkehrsinformationen gar nicht und unsere Landefreigabe auf Französisch. **Dies hat bei nur mäßigen Sichtverhältnissen zu erheblichem Stress im Cockpit geführt.**
- 62 (p) -komplettes Nichtverstehen kompletter Funksprüche seitens der Ausländer wegen **Nichteinhalten der Phrasologie** und schweren Dialekts (texanisch)  
-Österreicher fliegt Verkehrslandeplatz an. Sein English ist schwer von öster. **Akzent** geprägt ->aber Phrasologie ist richtig. Seine Übertragungen werden vom Lotsen schwer verstanden, doch statt dem üblichen "Say again" wurde munter drauflos geplaudert:"Ok state callsign again say your parking" Der anfliegende Pilot war auf Grund seiner mangelnden Englischkenntnisse nicht in der Lage die Fragen des IOTSEN zu beantworten
- 65 (p) Controller waren nicht zu verstehen, z.T. sogar von englischen "Einheimischen", dadurch z.T. falsches Verhalten beim An-/Abfliegen von Flughäfen
- 74 (p) Auf Grund eines technischen Defektes mussten wollten wir ein enroute Holding fliegen, bis das Problem evtl. gelöst war. Da der Controller unser Ansinnen nicht verstehen konnte, mussten wir zurück nach Hongkong fliegen, Kerosin ablassen und wieder landen.
- 77 (p) Der Italiener machte Touch and Go während wir im Anflug waren. Sämtliche **Konversation zwischen Lotse und Ital.Pilot lief nur auf italienisch**. Wir **konnten nicht abschätzen, was er tat** und der Lotse unterrichtet uns auch nicht. Das führte dann zu der Situation, dass wir der Bahn näher kamen und der italiener nun doch eine full-stop Landung machte und mit back-track begann. Hätten wir die Kommunikation verstanden hätten wir darauf reagieren können und unsere Geschwindigkeit früh reduziert. Der Loste wollte un auch nicht für den go.around verantwortlich sein und sheuchte den Italiener schneller von der Bahn, aber am Ende waren wir doch schon in 200 Fuss, als die Bahn endlich frei war.
- 91 (p) Controller war im **Stress** (ca. 10-15 Flugzeuge) und sprach ein **SEHR schnelles, leider aber umso undeutliches Englisch**. Je mehr Flugzeuge die Funksprüche nachfragten (weil nicht verstanden), umso schneller und hektischer wurde seine Aussprache...bis er alle Flugzeuge abfragte, wie sie ihn verstehen. Ein Engländer fasste es kurz: **'Sir, you are loud, but not clear'**.
- 92 (p) am **Holding Point** wurde **"Ready for Take off"** statt **"Ready for departure"** gefunkt, und **ohne** dass der Tower **nachgefragt** hat über die Richtigkeit gab es sofort ein **"Cleared for Take off"**. Beim Line up mit Sofortstart wurde dann über den Funkverkehr deutlich, dass eine **Linienmaschine im Anflug** war und doch sehr verwirrt war über den Verkehr über der Piste.
- 105 (p) My initial and subsequent calls were **answered in French. Had no idea where other aircraft were or what my status was**
- 146 (p) Operating Survey aircraft **over Biscay to the north of Asturias** ... survey area included the approach path to the ILS.. Asturias is (was?) a non radar airfield requiring position reports from pilots to assist the controller with traffic seperation... I responded to a request for my position.. in answer I gave the position and added information regarding my heading as the line being flown would take me through the ILS approach.. weather was approx 7/10s cloud cover at our altitude (low)... heard the controller talking to another a/c in Spanish.. a few minutes later while crossing the approach path we came out of a cloud to find a Fokker 100 regional jet very close and very definately on a colision path.. (300 mtrs)... I pulled up and to the right he pulled hard left and I lost sight of him beneath me... We almost lost 50 odd people aboard both the a/c plus anyone unfortunate to be underneath us and all because the controller forgot about my a/cs position and track and **spoke Spanish to conflicting traffic..**
- 147 (p) Confirmed approach clearance ment for other aircraft with no response from ATC, almost mid-air on final at FQMA., use of "to" in climb clearance interpreted as "two", climbed through other aircraft level (before TCAS) FNLU airspace,

52. (45.) In your opinion, what might have caused this?

([...] means deletion/ [ ] means comment/ translation; **bold print** indicates items considered to be important)

Informant	Possible explanation
2 (c)	man hat meine einfach <b>gestellte Frage nicht verstehen können</b> da dies <b>über die normale Phraseology hinausging</b> . Meiner Ansicht nach können die Piloten zwar von A nach B fliegen aber wenn etwas außer der Reihe passiert, sind die nicht instande sich auszudrücken. Es wird <b>anscheinend bei der Ausbildung / Auswahl kein Wert darauf gelegt</b> .
3 (c)	siehe oben
4 (c)	Piloten konnten <b>nur Teile der Standardphrasologie</b> .
8 (c)	<b>Mangelnde Englischkenntnisse, extreme Differenzen in der Aussprache zwischen Chinesisch und europäischen Sprachen</b>
17 (c)	-
21 (c)	The pilot came from England!!
41 (p)	stures beibehalten des nicht-englischen ATC-Sprechfunkverkehrs
45 (p)	-
62 (p)	<b>Abweichung von Phrasologie (ATC)</b> <b>Unzureichende weiterführende Englischkenntnisse (Pilot)</b>
65 (p)	Controller haben englischen Dialekt gesprochen, aber kein ICAO-Englisch. In allen europäischen Ländern waren die Controller besser zu verstehen als dort in England. Dieses wurde von einheimischen Piloten bestätigt, die ebenfalls große Probleme hatten, die Controller zu verstehen.
74 (p)	<b>schlechte Englischkenntnisse</b>
77 (p)	<b>falscher Nationalstolz</b>
91 (p)	<b>Unsicherheit im Englischen</b>
92 (p)	mangelnde <b>Konzentration</b>
105 (p)	-
106 (p)	<b>BUSY AIRPORT (EVEN AT ONE IN THE MORNING!) HARRIED CONTROLLERS SPEAKING ENGLISH IN A HURRIED FASHION, ETC.</b>
146 (p)	see above
147 (p)	Mostly, <b>non-ICAO terms used by ATC</b> , one controller working more frequencies,

### 53. (46.) What do you think of such a survey?



Set phrases for greeting important?	Controllers (9 German = 100%)	Controllers (14 English = 100%)	Pilots (73 German = 100%)	Pilots (60 English = 100%)	Total (156 = 100%)
no answer	0 = 0 %	1 = 7.1 %	3 = 4.1 %	10 = 16.7 %	14 = 9.0 %
unimportant	1 = 11.1 %	1 = 7.1 %	2 = 2.7 %	1 = 1.7 %	5 = 3.2 %

<b>2</b>	1 = 11.1 %	0 = 0 %	2 = 2.7 %	3 = 5.0 %	<b>6 = 3.8 %</b>
<b>3</b>	0 = 0 %	0 = 0 %	1 = 1.4 %	4 = 6.7 %	<b>5 = 3.2 %</b>
<b>4 (important)</b>	2 = 22.2 %	1 = 7.1 %	10 = 13.7 %	5 = 8.3 %	<b>18 = 11.5 %</b>
<b>5</b>	2 = 22.2 %	2 = 14.3 %	16 = 21.9 %	12 = 20.0 %	<b>32 = 20.5 %</b>
<b>6</b>	2 = 22.2 %	2 = 14.3 %	22 = 30.1 %	14 = 23.3 %	<b>40 = 25.6 %</b>
<b>very important</b>	1 = 11.1 %	7 = 50.0 %	17 = 23.3 %	11 = 18.3 %	<b>36 = 23.1 %</b>