

# CARAC TERES

Estudios culturales y críticos de la esfera digital

En este número participan ■ Andrey Artemov, Katrin Berty, Conceição Carapinha, Lorna Carson, Miguel Espigado, Carmen Fernández Junca, Dana Gálová, Juan Luis García Alonso, Jennier Isasi, Rasha Ismail, Jindřiška Krátková, Ibolya Kurucz, Oleksandre Kushch, Álvaro Llosa Sanz, Ana Sofía Marques Viana, María Martín-Noguerol, Cristina Martins, María Consuelo Oliveira Santos, Marta Pascua Canelo, Nicolás Quiroga, Maha Abdel Razeq, M.ª Ángeles Recio Ariza, Doaa Samy, Karim Sidibe, Brigitte Ströde, Christiane von Stuterheim, Felipe Tello Navarro, Pavlína Tesařová, Elena Tomášková, Carmela Tomé Cornejo, Libuše Turinská, Freiderikos Valetopoulos, Matteo Viale, Celeste Vieira

Dossier: Current Research Approaches in Humanities through the Eyes of Czech Linguists (2)

Dossier: Innovación para el multilingüismo: E-LENGUA



## **Caracteres. Estudios culturales y críticos de la esfera digital**

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DOSSIER: CURRENT RESEARCH APPROACHES IN  
HUMANITIES THROUGH THE EYES OF CZECH LINGUISTS  
(2)

Coord. Jan Gregor & Libuše Turinská

**COMPARATIVE STUDY OF CZECH AND ENGLISH  
PASSIVE VOICE IN ESP**

**VOZ ACTIVA Y PASIVA EN IFE: ESTUDIO COMPARATIVO  
DE INGLÉS Y CHECO**

**LIBUŠE TURINSKÁ**

INSTITUTE OF TECHNOLOGY AND BUSINESS IN ČESKÉ BUDĚJOVICE

**KARIM SIDIBE**

INSTITUTE OF TECHNOLOGY AND BUSINESS IN ČESKÉ BUDĚJOVICE

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**RESUMEN:**

La voz pasiva se define como la construcción gramatical en la que el objeto del verbo se presenta en la posición del sujeto. La voz pasiva en el checo e inglés tienen la misma estructura básica. Sin embargo, la voz pasiva en el checo tiene dos formas, la perifrástica y la reflexiva, la que es completamente diferente de la forma inglesa. El artículo tiene como objetivo analizar la frecuencia de las construcciones pasivas presentes en los textos técnicos presentados en línea y entonces confirmar la hipótesis de la influencia negativa que la lengua materna tiene sobre el estudio de la voz pasiva, así como señalar la importancia de enseñar dentro del marco de cursos de IFE e ICT. Para obtener los datos básicos, veinte textos técnicos en línea han sido seleccionados para el análisis. El software AntConc versión 3.4 será utilizado para recoger los datos. Los datos serán analizados y comparados para determinar la frecuencia del uso de pasivo en ambos idiomas.

**ABSTRACT:**

Passive voice can be defined as a construction in which the object of a verb appears in the position of a subject. English and Czech share the basic structure in the formation of passive. The aim of the article is to analyse the occurrence

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of passive constructions in technical articles available online and thus confirm the assumption of the existence of negative influence of language interference on the acquisition of the passive voice for Czech ESP students as well to point out the necessity to include passive voice in the curriculum of ESP. In order to get the basic data, twenty online articles, ten in Czech, ten in English, on the topic related to mechanical engineering were selected. For the data collection, the AntConc software version 3.4 was used. The data gathered were subsequently analysed and compared to confirm the hypothesis of higher frequency of using passive voice in English technical texts and thus to emphasize the importance of studying and teaching passive voice within ESP.

**PALABRAS CLAVE:**

Voz activa, voz pasiva, agente, IFE (Inglés para Fines Específicos), ICT (Inglés para Ciencias y Tecnología)

**KEYWORDS:**

Active voice, Passive voice, agent, ESP (English for Specific Purposes), EST (English for Science and Technology)

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**Libuše Turinská.** Master's Degree in English and Spanish, working at the Institute of Technology and Business in České Budějovice, the Czech Republic, since 2013. She specializes in the field of didactics of foreign languages, namely English and Spanish for specific purposes. Her latest work with a title of "Role of Grammar in Teaching ESP" was published in 2016.

**Karim Sidibe.** Master's Degree in Religious Education and English studies, working at the Institute of Technology and Business in České Budějovice, the Czech Republic, since 2011. His main focus of study is Religious Education in England, which is the topic of his Th.D. thesis. As a Th.D. student he is taking courses at the Faculty of Theology of the University of South Bohemia. So far he has published about 20 scientific papers.



The scientific study was created during the project No. 201609 of the Internal Grant Competition at the Institute of Technology and Business in České Budějovice.

## **1. Introduction**

English for Specific Purposes (ESP) has actually become one of the most studied fields in terms of learning and acquisition of English. Based on the learners' needs analysis (LNA), it aims to provide the students with the practical knowledge of the specific or technical vocabulary needed for their field of study as well as a certain amount of necessary grammar structures – necessary for adequate comprehensible expression of a particular, specific topic.

According to Hutchinson and Waters (1987), ESP can be further divided into three categories: English for Science and Technology, English for Business and Economics and English for Social Studies. This comparative study is targeted at EST students (hereinafter referred to as EST), in particular students of English for mechanical engineering.

EST or ESP as such focuses on teaching vocabulary and target language in context, therefore teaching grammar might be neglected in some of them.

This paper aims to highlight the importance of studying and teaching passive voice for the specific needs of EST students by identifying the occurrence of passive constructions in English and Czech online technical texts and subsequently comparing their frequency.

## **2. Passive voice**

Voice is a grammatical category of verbs in most languages. In both English and Czech, the category of voice is realized through

the opposition of active and passive voice. The basic definition is almost the same in both languages. As Nida (1964) claims, voice is considered a linguistic category defining the relationship between the participants and the event indicated in the verb. According to Britannica, linguistic category of voice is a “form of a verb indicating the relation between the participants in a narrated event (subject, object), and the event itself. Czech linguistic publications mostly define the voice of a verb as a grammatical, morphological means of expressing the relationship between the elements of semantic structure of a sentence and their syntactic position, that is, if the agent is in the position of a subject in the sentence. Both languages distinguish between two types of verb voice: active and passive.

### **2.1. Structure of English passive voice**

Passive voice can be defined as a construction where the object of transitive verb appears as its subject (Trask, 1993). The basic construction of passive voice in English consists of an auxiliary verb and a past participle form of a lexical verb, where the auxiliary verb indicates the verb tense and the number of participants. In spoken English, another form of passive is possible, using **to get** in the position of the auxiliary verb instead of **to be**. For the needs of this comparative study, only **to be** passive as a form of passive occurring in both languages will be taken into account.

In English, each verb tense has its passive voice (see Table 1).

<b>Verb tense</b>	<b>Passive voice</b>
<i>Present simple</i>	<i>The problem is discussed.</i>
<i>Past simple</i>	<i>The problem was discussed.</i>

<i>Present perfect simple</i>	<i>The problem has been discussed.</i>
<i>Past perfect simple</i>	<i>The problem had been discussed.</i>
<i>Simple future – will</i> <i>- going to</i>	<i>The problem will be discussed.</i> <i>The problem is going to be discussed.</i>
<i>Future perfect simple</i>	<i>The problem will have been discussed.</i>
<i>Present progressive</i>	<i>The problem is being discussed.</i>
<i>Past progressive</i>	<i>The problem was being discussed.</i>

Table 1: English passive voice - verb tenses. Source: Authors

As shown in Table 1, all simple verb tenses have passive voice. As for the progressive forms, Dušková (1994) says that there might be passive voice of progressive verb tenses other than present and past progressive. However, those are rejected by most native speakers.

## **2.2. Structure of Czech passive voice**

Czech language distinguishes between two basic forms of passive constructions. The periphrastic form of passive voice is equivalent to the English one, using the auxiliary verb **to be** indicating the tense and number of participants and passive participle of lexical verb (called n/t- participle), indicating the genre and number of participants (Karlík, 2004). The reflexive form of passive uses a reflexive particle **se** and a lexical verb in a particular tense. Both forms of passive voice occur in all verb tenses, and in some cases they can be used interchangeably (see Table 2).

<b>Tense</b>	<b>Periphrastic passive</b>	<b>Reflexive passive</b>
Past	<i>Dům byl postaven/ Dům byl stavěn.</i>	<i>Dům se postavil / Dům se stavěl.</i>
Present	<i>Dům je postaven. / Dům je stavěn.</i>	<i>Dům se staví.</i>
Future	<i>Dům bude postaven / Dům bude stavěn.</i>	<i>Dům se bude stavět.</i>

Table 2: Czech passive voice – verb tenses. Source: Authors

### 2.3. Using passive voice

In both languages, there appear verbs that cannot be used in passive voice. As Dušková (1994) states, in English those are intransitive verbs (e.g. go, stay, happen, arrive), that is, verbs that do not take an object complement, and certain state verbs (e.g. have, belong, resemble etc.). Similarly in Czech, Komárek, Kořenský, Petr, Veselková et al. (1986) claim that passive cannot be formed from intransitive verbs (e.g. *jít/go*, *žít/live*, *stárnout/grow old*, *pršet/rain*), transitive verbs expressing mental state or physical condition (e.g. *Pálí ho oči. Bolí mě hlava.*) as well as those expressing movements of parts of human body (e.g. *Sklopil oči. Zvedl hlavu.*) and most reflexive verbs using *se* morpheme (*smát se / laugh*, *posmívat se / mock*, *odvděčit se / repay*).

In terms of ditransitive verbs (verbs using both direct and indirect object), Dušková (1994) says in English both direct and indirect object may appear in the position of subject. However, in Czech only direct object can be placed in the position of subject.

As for the word order, English passive constructions have a fixed specific syntactic word order. In such constructions, the word order is as follows:

**Subject + be + past participle + object / agent**

**The problem + has been + discussed + by the participants**

In Czech, in contrast, word order is not fixed (Bischofová, 2001), placing rheme in the end-position.

English	Czech
<i>The information was given to all participants.</i>	<i>Informace byly předány všem účastníkům</i>
	<i>Všem účastníkům byly předány informace</i>

From the example given it results that it depends on the subjective opinion of the speaker which information is considered to be new, clue or the most important one.

There are a number of linguists distinguishing between various forms of passive in various languages (Quirk, 1972, Granger, 1983, Fernández, 1998). In terms of analysing the differences between English and Czech passive voice, Quirk's classification (1972) seems to be the most appropriate one, distinguishing between three types of passive:

- a) Agentive passive, where the agent is expressed and used with preposition **by**: *Finite sources of energy will soon be replaced by alternative ones.*
- b) Quasi-passive: *John was interested in linguistics.*
- c) Non-agentive passive: *The house is already sold.*

Similarly, in Czech, the agent as a doer of the action does not have to be expressed. In both languages this occurs when the agent is unknown, included in the action or not important. However, Czech as a flecional language expresses the agent by linguistic category of case, in particular, by means of the instrumental case.

All differences in passive voice arising from the form, structure and type of passive may result in misinterpreting the information sought in technical texts.

### **3. Methods**

The aim of the article was to do a review on the frequency of the passive voice in English and Czech. The hypothesis to be confirmed was based on the assumption that the passive voice constructions in technical writing will be more frequent in English than in Czech. In order to identify and analyse the occurrence of passive constructions in EST (English for mechanical engineering in particular), in total twenty online technical texts (ten in English, ten in Czech) were selected, all of them on a similar topic related to mechanical engineering. Those topics were selected in correspondence with the syllabus of the English for Mechanical Engineering courses and textbooks available in the Czech Republic.

The online texts were first downloaded and converted into .txt format and fed into AntConc freeware corpus analysis toolkit for concordance and text analysis. The data obtained were subsequently numerically treated and compared.

#### **3.1. Results and discussion**

##### **3.1.1. Source texts**

All articles were selected based on the following criteria:

- The articles must be available online;
- The topic of the articles must relate to mechanical engineering;

- The topics of the articles must be the same or almost the same both in Czech and English.

The articles being analysed and compared include the following topics: Global positioning system, Nanotechnology in medicine, 3D printing, CAD, Alternative sources of energy, Drones, metal forming processes, turbines. The following table (Table 3) shows the topics of the online articles in English and Czech. The URL addresses for each of the article are attached in Appendix 1.

Headline in English	Headline in Czech	Topic
Acrobat 3D Software to accelerate Design Collaboration Processes at Renault Group	Akrobat 3D urychlí procesy spolupráce na návrzích u skupiny Renault Group	CAD
What is GPS?	O technologii GPS	GPS
Introduction to Deformation Processes	Tváření kovů	Metal forming processes
This drone is one of the most secretive weapons in the world	Odtajněn první let britského dronu Taranis	Drones
The most common alternative energy sources	Obnovitelné zdroje energie	Alternative sources of energy
A third industrial revolution	3D tisk: Třetí průmyslová revoluce	3D printing
Nanotechnology in Medicine	Léky menší než buňka. Budoucnost medicíny je v nanotechnologii	Nanotechnology
Electric car boom raises pollution fears	Elektromobily znečišťují ovzduší víc než spalovací motory, vyplývá z analýzy	Automotive



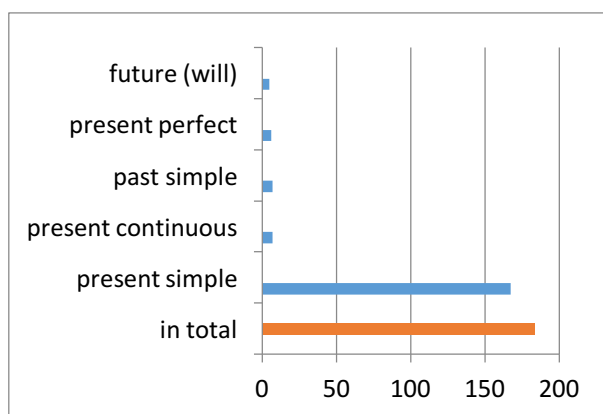
Automotive industry	Automobilový průmysl	Automotive
How does Francis turbine work?	Francisova turbína	Turbines

Table 3: Topics and headlines of online articles used. Source: Authors

When analysing and comparing the frequency and occurrence of passive voice constructions, only the shared basic structure of periphrastic passive voice (to be + past participle) in both languages was taken into consideration. Subsequently, the occurrence of reflexive passive form in Czech was analysed in order to show the contrast and to show a possible source of misinterpretation of some information contained in the online texts. Participle clauses (-ed clauses: *The company **founded** in Austria has its headquarters in Vienna.*) were not included in the analysis. The authors focused mainly on the frequency of passive constructions, tense used and the presence of the agent of the event. To see the results of the analysis, compare Graph 1 and Graph 2.

### **3.1.2. English and Czech passive constructions occurrence**

Graph 1 and Graph 2 show the occurrence and frequency of using periphrastic passive constructions in English and Czech in terms of the total number of the passive constructions used and verb tense.

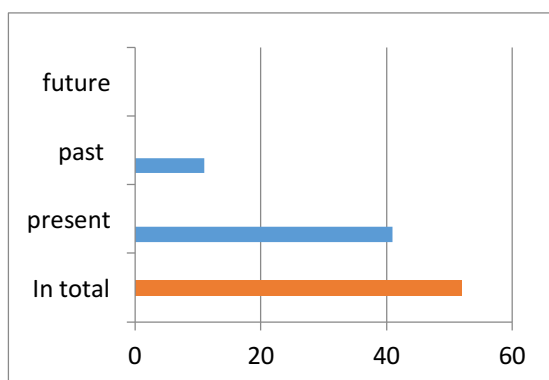


Graph 1 Number of periphrastic passive constructions in English texts.  
Source: Own processing

Graph 1 shows the occurrence and frequency of using periphrastic passive constructions in English in terms of the total number of the passive constructions used and verb tense used. In the analysed English texts 183 passive constructions appeared in total. The most frequently used tense was the present simple, used in 167 cases which accounts for almost 91 %. The share of the passive constructions in other tenses is significantly smaller, with only seven passive constructions (less than 4%) in past simple and present continuous, five in simple future (less than 3%) and six (3%) in the present perfect simple tense.

In terms of agentive passive constructions, only as much as twenty out of 183 passive constructions (less than 11%) appeared with the agent expressed, attached to the passive construction by the preposition **by**.

The online texts in Czech were subjected to the same analysis. Graph 2 shows the data referring to the periphrastic form of passive voice.



Graph 2. Number of Be + past participle passive constructions in Czech texts .  
Source: Own processing

The data presented in Graph 2 show that in ten online Czech texts, the total number of periphrastic passive constructions is 57. Similarly to English, from this number, the overwhelming majority of 43 passive constructions appeared in present tense, simple or continuous, which accounts for 75%. Only thirteen passive constructions were used in past tense (less than 23%).

As for the agentive passives, from the total number of 57 passive constructions, in only eight cases (15%) the agent of the event was expressed by means of the instrumental case.

### **3.1.3. Analysis and comparison**

As the articles presented online differ significantly in their length, it is not possible to compare their frequency and occurrence by simply comparing the number of them in both English and Czech online texts. In order to show the difference clearly, the number of verbs in active voice was determined and subsequently compared with those in passive voice, showing the ratio between the active and passive voice. The results showed that the ratio between English passive and active voice was 183:496, which is

about 1:3. In Czech, the active voice prevailed over the passive one as well, but with a significantly higher ratio of 57:606, that is almost 1:10.

The reflexive passive was not taken into account for the needs of the article, that is, for the comparison of the frequency in the use of passive voice, as it focused on periphrastic passive constructions, which share the same structure both in English and in Czech. However, the following numbers show it plays an important part when dealing with technical texts. When analysing the occurrence and use of Czech passive constructions, it was found out that the number of reflexive passive constructions in the Czech texts prevailed significantly over the periphrastic ones by 42 to 28, that is, 1.5:1. Like in the case of periphrastic passive, the majority of the reflexive passive constructions were used in present tense. The share of the individual tenses was 9% (4) in past simple, only one of them in the future simple (about 2%) and 37 (88%) in present tense.

#### **3.1.4. Discussion**

At the beginning of this comparative study, the hypothesis was formulated claiming that in terms of frequency of using passive voice in online technical texts, English passive is more frequently used than in Czech. This hypothesis was confirmed, as seen in Graph 1 and Graph 2. Moreover, it may be assumed from the difference between both languages in terms of passive voice forms that Czech EST students might have problems with the comprehension of the information contained in the English texts. As mentioned in the theoretical part of the study, in Czech language it is possible to use the reflexive passive construction which is frequently interchangeable with the periphrastic passive constructions.

As a significantly more frequently used form of passive, which does not have equivalent in English, the reflexive form of passive voice in Czech plays an important part in terms of the inter-language interference which might negatively influence the students' ability to learn about using passive constructions in English. By pointing out the difference, teachers may enhance students' comprehension of passive voice structures.

Most analysed texts are either descriptions of some specific technical process, technologies or actual news from the field of mechanical engineering. Therefore, in terms of the tense used, in both languages prevails the use of simple present (English) or present (Czech) tense, accounting for 97% of all verbs in passive voice in English and 75% of Czech verbs in passive voice.

When analysing and comparing the online texts, it was found out that some verbs are preferably used in passive rather than active voice. A concordance between English and Czech was identified in terms of verbs **use (EN) /používat (CZ)** and **call (EN)/ nazývat (CZ)** as the most frequent verbs used in passive voice.

English	Czech
<p><b>Call:</b> <i>It's what's <b>called</b> a demonstrator.</i></p> <p><i>...a phenomenon which <b>might be called</b> social manufacturing.</i></p> <p><i>Some of them <b>are called</b> automakers.</i></p> <p><i>This procedure <b>is called</b> product recall.</i></p> <p><i>They <b>are also called</b> "mixed flow turbines".</i></p>	<p><b>Nazývat:</b> <i>Stroje na válcování <b>se nazývají</b> válcovací stolice.</i></p> <p><i>Druhou průmyslovou revolucí <b>se nazývá</b> nástup internetu v 90. letech minulého století</i></p>

<p><b>Use:</b> Other techniques <b>are</b> actually <b>being used</b> today.</p> <p>... gelatin nanoparticles <b>can be used</b> to deliver drugs...</p> <p>... that <b>may</b> eventually <b>be used</b> for non-invasive surgery.</p> <p>Cold rolling <b>is</b> often <b>used</b> in the final stages of production.</p> <p>The process <b>can be used</b> for most materials.</p> <p>...which <b>are used</b> both to apply the tensile force</p> <p>Stamping <b>is used</b> to make high volume parts</p> <p>The signals <b>are used</b> to calculate the exact position.</p> <p>... coal power alone <b>was used</b> to charge electric cars.</p> <p>... it's <b>being used</b> to test technologies</p> <p>...test technologies that <b>may be used</b> in future aircraft,</p> <p>... wind energy <b>was used</b> to turn mechanical machinery ...</p> <p>... large scale wind farms that <b>are used</b> by national electrical grids</p> <p>Solar energy <b>is used</b> commonly for heating</p> <p>Solar energy <b>can be used</b> very efficiently for practical uses</p> <p>...the steam that shoots up is purified and <b>is used</b> to drive turbines</p>	<p><b>Použít:</b> Dnes <b>se</b> GPS <b>používá</b> v desítkách přístrojů.</p> <p>Energie větru <b>je</b> v dnešní době <b>využívána</b> především k výrobě elektřiny.</p> <p>Vodní energie <b>je využívána</b> pro výrobu elektřiny.</p> <p>Pro výrobu elektřiny <b>se využívá</b> proudění vody.</p> <p>Pro energetické účely <b>se využívá</b> cíleně pěstovaná rostlinná biomasa.</p> <p>Biomasa <b>může být využita</b> pro výrobu elektřiny</p> <p><b>Využívá se</b> ve své základní formě</p> <p>... v České republice <b>se geotermální energie používá</b> na vytápění...</p> <p>Nejprve <b>se tento motor užíval</b> ve strojírenských podnicích...</p> <p>...po zlepšení (zejména odlehčení) začal <b>být používán</b> také k pohonu automobilů</p> <p>V USA <b>se tento systém používal</b> již dříve.</p> <p><b>Používají se</b> pro produkci elektrické energie.</p> <p>Francisovy turbíny <b>se používají</b> v energetice.</p> <p><b>Používá se</b> pro střední a větší průtoky a spády.</p> <p>Poprvé však <b>byla</b> kotoučová brzda <b>použita</b> již roku 1906</p>
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<p><i>... flow of water <b>can be used</b> to turn turbines</i></p> <p><i>Water used for hydro power <b>can be reused</b> to...</i></p> <p><i>... but it <b>is</b> already <b>being used</b> to make specialist parts for cars</i></p> <p><i>Mass given in tons (metric tons) <b>is used</b> as a limit</i></p> <p><i>Minibuses, ..., <b>are used</b> for the transport of passengers</i></p> <p><i>Buses and coaches <b>are used</b> for the transport of passengers</i></p> <p><i>The guide vane mechanism <b>is used</b> to control water flow rate</i></p>	
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In terms of the frequency of periphrastic passive voice, a significant difference was noted between Czech and English online texts. The periphrastic form of passive voice in Czech seems to be replaced very often by more preferred reflexive passive voice in all tenses. This might pose a problem for Czech students when acquiring the periphrastic passive voice in general English, as a number of them might not be even aware of reflexive and periphrastic passive being equal in many cases. As the passive voice is used more frequently in technical texts, this may result in misinterpretation of the texts. Moreover, Czech reflexive passive does not have equivalent in English. It might therefore be a problem when trying to express the ideas in English. The structure of English clauses itself might cause problems when translating into English, as the subject in the Czech sentence does not have to be expressed, while it is a basic rule to start with a subject when constructing sentences in English.

Translating periphrastic passives from English may cause other difficulties, as in many cases, it is not possible to use literal translation of the construction.

Another complication for the right employment of passive voice poses the verb tense. English tense system is complicated for Czech students, as in Czech, there are only three basic verb tenses – past, present and future (čas minulý, přítomný and budoucí - compare Graph 1 and 2). This may result in more problems with misunderstanding or misinterpretation when trying to describe any technical problem or process in English. Language interference plays a huge role when producing a message in English.

According to CEFR, passive voice is taught at the B1 level of general English. The EST students should thus be familiar with its construction and use. As passive voice is not used in spoken Czech very often, it seems to be forgotten soon if not practiced properly. Every EST textbook should therefore contain at least one basic exercise for practicing namely basic passive constructions in the most commonly used tenses (see Graph 1), that is, in simple present and past. It would be also convenient to point out any passive construction used both in the textbook texts as well as in any online sources being used and especially at the beginning of the course, ask the students to translate or paraphrase the sentences where passive constructions are used.

#### **4. Conclusion**

Passive voice is a grammar category used both in English and Czech. In both languages, using passive voice constructions is a typical feature of scientific or technical texts. Both languages share the basic structure of periphrastic passive voice, that is, to be in the



position of an auxiliary verb and a past participle of a lexical verb. However, there are also differences resulting from a different type of language, for example different tense system, flectional vs inflectional language etc. Moreover, Czech language uses a reflexive form of passive voice, which does not have an equivalent in English and has to be translated or expressed using periphrastic passive. As this form seems to be used much more frequently than the conventional, shared form of passive, the interlanguage interference negatively affects especially the translation process from English to Czech and a vice versa.

It results from the analysis of texts which might be used as a source of information for the EST courses or for studying and teaching English for mechanical engineering, and comparing the frequency of using passive voice that this construction should be given more attention to when teaching ESP in general or EST.

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## 6. Appendix

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Article headline	URL
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Akrobat 3D urychlí procesy spolupráce na návrzích u skupiny Renault Group	<a href="http://www10.mcadcafe.com/nbc/articles/2/372943/Acrobat-3D-Accelerates-Renaultsquo;s-Design-Collaboration-Processes">http://www10.mcadcafe.com/nbc/articles/2/372943/Acrobat-3D-Accelerates-Renaultsquo;s-Design-Collaboration-Processes</a>
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