MEASUREMENT OF ABILITIES OF STUDENTS TO UNDERSTAND THE TEXT BY MEANS OF CLOZE-TEST

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Abstract

The paper describes the application of Cloze-test. By the using of which it is possible to measure abilities of students to understand the text. The contribution presents results of the research work in which the comprehension of text from engineering textbook by students in the secondary school was measured. Intermediate level of the text understanding was detected for students in the third and fourth year of the study, lower level of the understanding was measured in the second year of the study. This level is appropriate from the point of view of motivating of students in learning.

Key words: text-book, cloze-test, the level understanding of the text.

ZISŤOVANIE POROZUMENIA UČEBNÉHO TEXTU ŽIAKMI POMOCOU CLOZE-TESTU

Resumé

Príspevok opisuje tvorbu cloze-testu, pomocou ktorého je možné zisťovať úroveň porozumenia textu žiakmi. Článok prezentuje výsledky prieskumu, ktorý zisťoval porozumenie textu učebníc strojníctva žiakmi strednej odbornej školy. V 3. a v 4. ročníku sa zistila stredná úroveň porozumenia textu, v 2. ročníku bola úroveň porozumenia nižšia. Takáto úroveň je vhodná z hľadiska vzbudenia záujmu žiakov o učenie.

Kľúčové slová: učebný text, cloze-test, úroveň porozumenia učebného textu.

Introduction

We can briefly characterize text-book as text intentionally modified for the teaching and learning [1]. Such text provides information about a specific discipline in a didactically edited form. Among evaluation criteria for the school text-books we can include for example the principle of proportionality of text to the age (suitable form of language, the number of new concepts, the difficulty of their defining, …) or whether the degree of readability of the text is followed [2]. Readers of text-books are students, so text-book should be understandable for them. There are a number of methods, techniques for evaluation of the understanding of the text by students. One of these techniques is the Cloze-test.

Our contribution deals with problem of the understanding of the text from engineering text-books intended for education of students in the second up to fourth years of study in vocational school [3]. Cloze-test has very good diagnostic features and can also be used as a research method.

1 Cloze-test

Cloze-test, as Gavora specifies [3], is special test for detection of coherent text understanding by students. The selected text has to be coherent and sufficiently long. The test is based on supplementation of the missing words by students. There is empty gap instead of the missing word to complete. The gap always has to have the same length, because the variation of gaps` lengths should indicate students how long the missing word is.

According to references from the literature coherent text in Cloze-test should have 200 – 400 words. The first sentence of the text is complete, so that students can identify what does the text deals. Turek [4] recommended the first 35 words in the text to be maintained, 36th word and then every tenth word is left out until there is 20 missing words. The authors` opinions differs in

this point, some authors say that every 5th, 6th, 7th word may be left out. Fixed gap between skipped words is important. In vocational texts is usually left out every tenth word, because text is full of technical terms. If left word is numeral or own noun, we keep it in text and leave out next words. The last sentence is also complete. Students fulfil cloze-test without time limitation.

The second possibility of application of cloze-test is the supplement of skipped words on the basis of same specific intentions, not according to fixed gap. Missing words are always technical terms, verbs, nouns etc. The density of skipped words is not presisely determined. The students` abilities are evaluated by number of correctly filled words in cloze-test from the total number of missing words. Correct word is also synonym or a word which has the same meaning as the original word [3]. The evaluation has to be made in an objective way. It is appropriate to establish the list of missing words and their synonyms, which can also be considered as correct. If students fulfil 57 % and more words correctly, it is high level of text understanding. The intermediate level of text understanding occurs when students fill correctly 44 – 56 % words [5]. Turek [4] presents that if students don`t fill up at least 13 missing words from 20 words, the text is very difficult for them. In other words, if students make up only 35 % and fewer of the words the text is too demanding for them.

2 Characteristics of the text-book used in research

Samples of text were selected from follow school text-books: [1]Michalíková, K. *Machine engineering II*, 2004, school book for students of the 2nd grade; [2]Michalíková, K. - Petrík, J. *Machine engineering III*, 2005, school book for students of the 3rd grade; [3]Michalíková, K. - Michalík, O. *Machine engineering IV*, 2006, school book for students of the 4th grade.

Two text samples were selected from each of mentioned text-book. Since there was vocational text full of technical terms, every tenth word was left out. The first and the last sentence of text in samples remained complete. Every student worked with two texts, there were twenty missing words in each text. One student has to fulfil 40 words. Except numerals, own nouns, prepositions and conjunctions every word was taken into account. When above mentioned parts of speech appeared in text on the 10th place, they were kept in and the next word was left out. Students from 2nd, 3rd and 4th years of study in secondary vocational school of machine engineering in Skalica were respondents, who worked with mentioned text samples. The number of the students completing the Cloze-test was 10 students from the second year of study, 17 students from the third year of study and 24 students from the fourth year of study. We gave two Cloze-tests each student while difficulty of missing words in each of tests corresponds to the year of the study.

3 Analysis of the results

Table 1 shows the results achieved by students from the second year of study at complete the text. Each student filed 40 words in two Cloze-tests.

Table 1

	*P1	the number of supplemented words – grade 2										total		
		1	2	3	4	5	6	7	8	9	10	count	v %	PV*
1. ct	20	10	6	7	6	8	9	6	5	9	5	71	35.5	200
2. ct	20	13	7	9	7	10	13	8	9	12	4	92	46.0	200
total	40	23	13	16	13	18	22	14	14	21	9	163	40.75	200
%	100	57.5	32.5	40.0	32.5	45.0	55.0	35.0	35.0	52.5	22.5	40.75	---	400

Legend: *P1 – the number of words possible to supplement for one student; PV* – the number of words possible to supplement for all students; ct – cloze-test

Table 1 indicate a lower level of the understanding of text by students from the second year of study (40.75 %). Only one student achieved a high level of understanding. For three students the text was too difficult, because they filled less than 35 % of words. The students were more successful in the second Cloze-test, they filled more words in comparison with the results of the first test. It may be caused by the fact that the second sample of text was selected from the first chapters of school text-book.

Results achieved by students from the third and fourth years of study in two Cloze-tests from appropriate school text-books are shown in tables 2 and 3.

Table 2

the number of supplemented words – grade 3				
students	1. ct	2.ct	total	
			count	%
*P1	20	20	40	100
1.	14	7	21	52.50
2.	14	7	21	52.50
3.	11	5	16	40.00
4.	10	5	15	37.50
5.	14	12	26	65.00
6.	15	10	25	62.50
7.	14	7	21	52.50
8.	7	4	11	27.50
9.	14	9	23	57.50
10.	11	7	18	45.00
11.	9	3	12	30.00
12.	9	4	13	32.50
13.	15	7	22	55.00
14.	17	13	30	75.00
15.	12	8	20	50.00
16.	11	9	20	50.00
17.	10	8	18	45.00
total	207	125	332	48.82
total %	60.88	36.76	48.82	---
PV*	340	340	680	100

Legend:

*P1 – the number of words possible to supplement for one student

PV* – the number of words possible to supplement for all students

Table 3

the number of supplemented words - grade 4				
students	1. ct	2.ct	total	
			count	%
*P1	20	20	40	100
1.	6	15	21	52.50
2.	9	13	22	55.00
3.	10	8	18	45.00
4.	7	10	17	42.50
5.	9	13	22	55.00
6.	8	10	18	45.00
7.	10	10	20	50.00
8.	9	12	21	52.50
9.	10	14	24	60.00
10.	4	5	9	22.50
11.	6	9	15	37.50
12.	8	8	16	40.00
13.	7	8	15	37.50
14.	9	9	18	45.00
15.	8	13	21	52.50
16.	7	11	18	45.00
17.	9	11	20	50.00
18.	10	12	22	55.00
19.	6	13	19	47.50
20.	10	12	22	55.00
21.	8	9	17	42.50
22.	11	9	20	50.00
23.	8	13	21	52.50
24.	9	9	18	45.00
total	198	256	454	47.29
total v %	41.25	53.33	47.29	---
PV*	480	480	960	100

Data in table 2 shows significantly different score achieved by the students from third year of study in tests. Only one student filled less than 35 % of missing words in the first Cloze-test. In the second test the number of such student increased to 13. Different score could be caused by contents of the texts in the text samples, some issues are more familiar to students than the others. Understanding level of students of the third year of study reached in both tests and it was intermediate (48.82 %).

Students in the fourth year of study have reached intermediate understanding level in both Cloze-tests (47.29 %), too. One student fulfilled 60 % of missing words, while another student fulfilled less than 35 % of missing words – test was too difficult for him. Other students reached intermediate level of understanding of text.

The minimum of fulfilled words by students from all three years of study was 22.5 % (2 students). One student from the 3rd year of study fulfilled 75 % of missing words, it is maximum value.

Conlusion

Paper points out principles of application of Cloze-tests and the possibility to measure level of the understanding of text. The aim of this paper was to find out mentioned understanding level in case of students from three years of study in the same discipline independently for each of the years. The measured level was lower in second year of study and intermediate in the third and fourth years of study. This understanding of text requires instructive direction of students by teacher and help to keep students connected to the teaching process.

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