

Table 1. Linguistic features of Joke 1 and its Russian translations**Таблица 1.** Лингвистические характеристики шутки 1 и ее переводов на русский язык

Confusion categories	Confusion parameters	English (original joke)	Tans-lation 1 (AI)	Tans-lation 2 (AI)	Tans-lation 3 (HT)	Tans-lation 4 (HT)
Text	No. of sentences	2	2	2	1	1
	Average sentence length (words)	5.5	5.5	4	10	11
Punctuation marks	Question mark	1	1	1	0	0
	Exclamation mark	1	1	1	0	0
	Comma	0	0	0	1	1
	Full stop	0	0	0	1	1
Repetitiveness	Unique 1-grams	11	10	8	10	11
	Word frequency assessment (3K)	0.70	0.50	0.80	0.70	0.36
	Word frequency assessment (5K)	0.80	0.70	0.90	0.70	0.36
	Word frequency assessment (10K)	1,00	0.80	1,00	0.70	0.55
Emotional semantics	Sentiment score	-0.11 (NEU)	+0.71 (POS)	+0.70 (POS)	+0.65 (POS)	+0.77 (POS)
Readability	Automated readability index	1 (very easy)	5.79 (easy)	6.86 (fairly easy)	0 (very easy)	6.76 (fairly easy)
	Grade level	1	4-6	7-9	1-3	7-9
	Age range	6-7	9-11	12-14	6-7	12-14
	Flesch-Kincaid score	-0.57	2.23	4.50	0.82	3.98
	Coleman-Liau index	0.73	4.31	3.23	0.84	6.99
Part-of-speech (POS)	Analyticity index	0.46	0.19	0.25	0.20	0.19
	Verbality index	0.36	0.19	0.13	0	0.27
	Substantivity index	0.19	0.37	0.38	0.50	0.46
	Adjectivity index	0	0.09	0	0	0
	Pronominality index	0.19	0.09	0.13	0.20	0.09
	Autosemanticity index	0.64	0.91	0.88	0.70	0.73
Humour	Humorous effect type	Phonemic	Semantic	Semantic	Semantic	Semantic
	Humorous effect rating	N/A	13.30%	9.30%	51.30%	26,00%

	Solution classification type	N/A	3	3	3	3
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Table 2. Linguistic features of Joke 2 and its Russian translation

Таблица 2. Лингвистические характеристики шутки 2 и ее переводов на русский язык

Confusion categories	Confusion parameters	English (original joke)	Translation 1 (HT)	Translation 2 (AI)	Translation 3 (AI)	Translation 4 (AI)
Text	No. of sentences	1	1	1	1	1
	Average sentence length (words)	7	5	5	7	7
Punctuation marks	Exclamation mark	0	1	1	0	0
	Dash	0	2	2	2	2
	Full stop	1	0	0	1	1
Repetitiveness	Unique 1-grams	7	5	5	6	6
	Word frequency assessment (3K)	0.71	0.57	0.20	0.57	0.71
	Word frequency assessment (5K)	0.71	0.57	0.40	0.57	0.71
	Word frequency assessment (10K)	0.86	1	0.60	0.86	0.86
Emotional semantics	Sentiment score	-0.55 (NEG)	+0.74 (POS)	+0.80 (POS)	+0.73 (POS)	+0.72 (POS)
Readability	Automated readability index	2.93 (very easy)	15.43 (rather difficult)	1.66 (very easy)	-2.25 (very easy)	-0.46 (very easy)
	Grade level	3	1-3 year university students	1-3	1-3	1-3
	Age range	8-9	17-19	6-8	6-8	6-8
	Flesch-Kincaid score	5.68	19.37	-0.51	2.15	0.13
	Coleman-Liau index	5.17	12.27	0.17	-1.76	-0.19
Part-of-speech (POS)	Analyticity index	0.43	0.20	0.20	0.43	0.43
	Verbality index	0.29	0	0	0	0
	Substantivity index	0.43	0.40	0.60	0.29	0.57

	Adjectivity index	0.14	0.40	0.20	0.14	0
	Pronominality index	0	0	0	0.29	0
	Autosemanticity index	0.57	0.80	0.80	0.57	0.57
Humour	Humorous effect type	Semantic	Phono-semantic	Phono-semantic	Phono-semantic	Phono-semantic
	Humorous effect rating	N/A	34.00%	14.7%	28.00%	23.3%
	Solution classification type	N/A	1	2	2	2

Table 3. Linguistic features of Joke 3 and its Russian translations

Таблица 3. Лингвистические характеристики шутки 3 и ее переводов на русский язык

Confusion categories	Confusion parameters	English (original joke)	Translation 1 (AI)	Translation 2 (AI)	Translation 3 (HT)	Translation 4 (HT)	Translation 5 (HT)
Text	No. of sentences	2	2	2	1	2	2
	Average sentence length (words)	11	10	10.5	11	8.5	7.5
Punctuation marks	Comma	2	3	3	1	1	1
	Full stop	2	2	2	1	2	2
Repetitiveness	Unique 1-grams	20	20	20	11	16	15
	Word frequency assessment (3K)	0.50	0.50	0.52	0.55	0.47	0.40
	Word frequency assessment (5K)	0.73	0.55	0.57	0.64	0.47	0.40
	Word frequency assessment (10K)	1	0.70	0.67	0.64	0.77	0.47
Emotional semantics	Sentiment score	-0.09 (NEU)	+0.85 (POS)	+0.84 (POS)	+0.88 (POS)	+0.76 (POS)	+0.68 (POS)
Readability	Automated readability index	4.41 (easy)	0.62 (very easy)	3.83 (easy)	1.64 (very easy)	6.12 (easy)	7.14 (fairly easy)
	Grade level	4	1-3	4-6	1-3	4-6	7-9
	Age range	9-11	6-8	9-11	6-8	9-11	12-14
	Flesch-Kincaid score	3.72	3.91	3.92	0.11	5.97	9.25
	Coleman-Liau index	5.83	1.46	4.20	2.49	5.80	6.49
Part-of-speech (POS)	Analyticity index	0.32	0.35	0.33	0.36	0.18	0.20
	Verbality index	0.27	0.20	0.19	0.18	0.29	0.27

	Substantivity index	0.09	0.15	0.19	0.36	0.18	0.20
	Adjectivity index	0.14	0.10	0.10	0	0.06	0.13
	Pronominality index	0.32	0.30	0.14	0.09	0.24	0.20
	Autosemanticity index	0.46	0.45	0.52	0.64	0.59	0.60
Humour	Humorous effect type	Semantic	Semantic	Semantic	Phonosemantic	Semantic	Semantic
	Humorous effect rating	N/A	8.7%	13.3%	42.0%	14.7%	21.3%
	Solution classification type	N/A	2	2	2	2	2

Table 4. Linguistic features of Joke 4 and its Russian translations

Таблица 4. Лингвистические характеристики шутки 4 и ее переводов на русский язык

Confusion categories	Confusion parameters	English (original joke)	Translation 1 (AI)	Translation 2 (HT)	Translation 3 (AI)	Translation 4 (HT)
Text	No. of sentences	2	3	2	2	3
	Average sentence length (words)	12	5.3	10.5	5.3	6.7
Punctuation marks	Question mark	1	1	1	1	1
	Exclamation mark	0	1	1	1	0
	Comma	2	0	0	0	0
	Inverted commas	4	4	4	4	4
	Colon	0	2	2	2	2
	Full stop	1	1	1	1	2
Repetitiveness	Unique 1-grams	23	16	21	16	19
	Word frequency assessment (3K)	0.46	0.44	0.81	0.44	0.53
	Word frequency assessment (5K)	0.96	0.44	0.86	0.44	0.58
	Word frequency assessment (10K)	1	0.44	0.91	0.5	0.68
Emotional semantics	Sentiment score	-0.54 (NEG)	+0.82 (POS)	+0.68 (POS)	+0.82 (POS)	+0.75 (POS)
Readability	Automated readability index	5.18 (fairly easy)	6.04 (fairly easy)	4.01 (easy)	4.17 (easy)	-1.26 (extremely easy)
	Grade level	5	4-6	4-6	4-6	1
	Age range	10-11	9-11	9-11	9-11	4-6
	Flesch-Kincaid score	3.84	6.48	1.41	4.22	-0.83
	Coleman-Liau index	5.01	3.6	3.38	2.37	-1.75

Part-of-speech (POS)	Analyticity index	0.33	0.06	0.24	0.06	0.25
	Verbality index	0.25	0.31	0.24	0.31	0.15
	Substantivity index	0.25	0.25	0.14	0.25	0.25
	Adjectivity index	0.13	0	0	0	0.05
	Pronominality index	0.21	0.19	0.33	0.38	0.3
	Autosemanticity index	0.5	0.75	0.48	0.63	0.5
Humour	Humorous effect type	Semantic	Semantic	Semantic	Semantic	Semantic
	Humorous effect rating	N/A	10,00%	62,00%	12,00%	16%
	Solution classification type	N/A	2	2	2	3

Table 5. Linguistic features of Joke 5 and its Russian translations

Таблица 5. Лингвистические характеристики шутки 5 и ее переводов на русский язык

Confusion categories	Confusion parameters	English (original joke)	Translation 1 (AI)	Translation 2 (HT)	Translation 3 (AI)	Translation 4 (HT)
Text	No. of sentences	1	1	1	1	2
	Average sentence length (words)	9	8	10	13	7.5
Punctuation marks	Comma	2	2	3	2	3
	Dash		1	1	1	
	Inverted commas	2	2	2	4	4
	Full stop	1	1	1	1	2
Repetitiveness	Unique 1-grams	9	8	10	13	14
	Word frequency assessment (3K)	0.44	0.50	0.50	0.69	0.47
	Word frequency assessment (5K)	0.78	0.50	0.60	0.77	0.73
	Word frequency assessment (10K)	1	0.50	0.60	0.77	0.73
Emotional semantics	Sentiment score	+0.19 (NEU)	+0.69 (POS)	-0.52 (NEG)	+0.79 (POS)	+0.73 (POS)
Readability	Automated readability index	6.1 (fairly easy)	8.48 (fairly easy)	5.57 (fairly easy)	5.05 (fairly easy)	8.34 (fairly easy)
	Grade level	6	7-9	7-9	7-9	7-9
	Age range	9-11	12-14	12-14	12-14	12-14
	Flesch-Kincaid score	6.28	8.24	6.76	6.56	8.71
	Coleman-Liau index	6.39	7.27	5.87	5.49	7.29
Part-of-speech (POS)	Analyticity index	0.11	0.13	0.20	0.23	0.20
	Verbality index	0.27	0.25	0.30	0.15	0.27
	Substantivity index	0.28	0.50	0.40	0.31	0.33
	Adjectivity index	0.17	0	0	0	0.20

Humour	Pronominality index	0.11	0.13	0.10	0.23	0.13
	Autosemanticity index	0.78	0.75	0.70	0.54	0.67
	Humorous effect type	Semantic	Semantic	Semantic	Semantic	Semantic
	Humorous effect rating	N/A	12.7%	10.7%	18.7%	58%
	Solution classification type	N/A	2	2	2	2

Table 6. Linguistic features of Joke 6 and its Russian translations

Таблица 6. Лингвистические характеристики шутки 6 и ее переводов на русский язык

Confusion categories	Confusion parameters	English (original joke)	Translation 1 (AI)	Translation 2 (AI)	Translation 3 (AI)	Translation 4 (HT)	Translation 5 (AI)
Text	No. of sentences	2	2	2	2	2	2
	Average sentence length (words)	3	4	7	6	6.5	2.5
Punctuation marks	Question mark	0	1	1	1	0	0
	Exclamation mark	0	1	0	1	0	0
	Comma	0	0	0	0	2	0
	Inverted commas	0	2	2	0	0	0
	Ellipsis	0	0	0	0	1	0
	Full stop	2	0	0	0	1	2
Repetitiveness	Unique 1-grams	6	8	14	12	13	5
	Word frequency assessment (3K)	0.33	0.63	0.71	0.75	0.69	0.40
	Word frequency assessment (5K)	0.67	0.88	0.71	0.83	0.69	0.40
	Word frequency assessment (10K)	1	1	0.71	0.83	0.69	0.40
Emotional semantics	Sentiment score	+0.17 (NEU)	-0.51 (NEG)	+0.70 (POS)	+0.51 (POS)	+0.61 (POS)	+0.50 (POS)
Readability	Automated readability index	5.19 (fairly easy)	1.38 (easy)	0.71 (easy)	5.59 (easy)	-5.23 (very easy)	7.22 (fairly easy)
	Grade level	5	1-3	4-6	7-9	1	7-9

	Age range	10-11	6-8	9-11	12-14	4-6	12-14
	Flesch-Kincaid score	3.28	2.72	4.34	8.09	-5.10	4.38
	Coleman-Liau index	3.73	-1.58	4.32	4.55	-11.05	-1.33
Part-of-speech (POS)	Analyticity index	0	0	0.21	0.17	0.31	0
	Verbality index	0.33	0.25	0.14	0.08	0.15	0.40
	Substantivity index	0.50	0.25	0.21	0.25	0.23	0.20
	Adjectivity index	0	0	0.07	0.08	0	0
	Pronominality index	0.17	0.25	0.28	0.33	0.23	0
	Autosemanticity index	0.83	0.63	0.50	0.50	0.46	1
Humour	Humorous effect type	Semantic	Semantic	Semantic	Semantic	Semantic	Semantic
	Humorous effect rating	N/A	16%	15.3%	4.7%	34%	30%
	Solution classification type	N/A	3	3	3	3	3

Table 7. Linguistic features of Joke 7 and its Russian translations

Таблица 7. Лингвистические характеристики шутки 7 и ее переводов на русский язык

Confusion categories	Confusion parameters	English (original joke)	Translation 1 (HT)	Translation 2 (AI)	Translation 3 (AI)
Text	No. of sentences	2	1	3	2
	Average sentence length (words)	9	14	4.7	8
Punctuation marks	Question mark	0	0	1	0
	Comma	0	1	1	1
	Dash	0	0	1	0
	Colon	0	0	1	0
	Full stop	2	1	2	2
Repetitiveness	Unique 1-grams	9	14	14	16
	Word frequency assessment (3K)	0.15	0.57	0.57	0.63
	Word frequency assessment (5K)	0.67	0.71	0.57	0.75
	Word frequency assessment (10K)	0.94	0.79	0.57	0.83

Emotional semantics	Sentiment score	-0.57 (NEG)	+0.79 (POS)	+0.75 (POS)	+0.72 (POS)
Readability	Automated readability index	1 (very easy)	10.17 (difficult)	9.18 (fairly easy)	3.12 (fairly easy)
	Grade level	1	9-11	4-6	1-3
	Age range	6-7	15-16	9-11	6-8
	Flesch-Kincaid score	3.65	10.77	8.02	2.15
	Coleman-Liau index	1.82	9.98	5.86	2.96
Part-of-speech (POS)	Analyticity index	0.17	0.14	0.21	0.19
	Verbality index	0.39	0.14	0.07	0.25
	Substantivity index	0.17	0.36	0.43	0.25
	Adjectivity index	0	0.07	0.07	0
	Pronominality index	0.22	0.21	0.07	0.06
	Autosemanticity index	0.39	0.57	0.71	0.63
Humour	Humorous effect type	Semantic	Semantic	Semantic	Semantic
	Humorous effect rating	N/A	56.00%	34.00%	10.00%
	Solution classification type	N/A	3	1	1