

Effectiveness of learning Japanese words through a serious game

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We studied the effects of learning Japanese words with an educational game as opposed to traditional learning.

To find these effects we found 30 participants to test with, we split them up in two groups of each 15 participants. The first group was asked to learn 20 words in 10 minutes, the second group was asked to play an educational game for 10 minutes, the game would teach them the same words group 1 was supposed to learn.

Afterwards both groups made a test to see how many words they remembered, and a motivation test to see which learning method motivated the participants most.

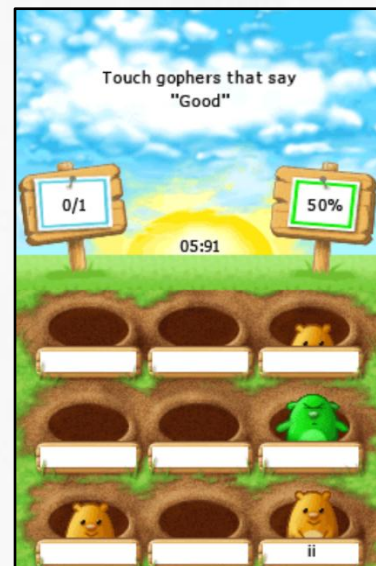
To the right you see the game we used, it consists of multiple mini-games and tests, with which you can gain mastery points and ultimately gain a higher rank within the game.

For our research we used two of these mini-games, one of which you can see in the picture to the right (hit a word) and a multiple choice game. Each of the games teaches you ten Japanese words.

White	shiroi	Good	ii
Black	kuroi	Bad	dame
Blue	aoi	Yes	hai
Red	akai	No	ie
Green	midori	Hello	konnichiwa
Brown	chairo	Goodbye	sayounara
Yellow	kiro	This	kore
Orange	orenji iro	That	sore
Gray	haiiro	Thank you	arigatou
Pink	pinku	I (formal)	watashi

The results from the test and motivation test are used to find out if the game or the traditional way of learning the words was more effective. The test consisted of a selection of 15 words from the 20 that were learnt. The highest obtainable score was 30, two points per word. The motivation test was made with a five point likert scale, with the likert items ranging from strongly disagree to strongly agree. The results were studied using a T-test.

The statistics showed that the traditional way of learning was more effective than learning with the game, we also did not find a significance difference in motivation between the two methods.



The other group of participants had to learn 20 words from either a paper or some type of screen, you can see them in the picture to the left.

We chose very common words that shouldn't be too hard to remember and we chose the Japanese language to make sure the language was new to the participants.

In the table below you can see some of our results.

Method/ Statistics	Test mean	Test standard deviation	Motivation test mean	Motivation test standard deviation
Game	14,53	5,53	3,62	,35
Wordlist	22,40	4,04	3,57	,64