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The Relationship between Ambiguity Tolerance and Success in Reading Comprehension in a Foreign Language

Abstract: Reading comprehension in a foreign language appears to be a highly complex process for the majority of learners. This receptive skill requires taking risks and anticipating the meaning of unfamiliar words and grammatical structures. The fact of the matter is that a significant number of individuals have difficulty in tackling the number of confusing elements of language which appear in a written text. Tolerance of ambiguity is undoubtedly a cognitive and learning style which can either facilitate or disturb the reading process. Although ambiguity tolerance affects various aspects of human life, its role in foreign language learning seems to be indispensable. On the one hand, ambiguity tolerant students, who easily cope with new information found in a text, are bound to achieve success in reading. On the other hand, ambiguity intolerance is extremely helpful in paying attention to details and it makes individuals careful while answering different intricate questions included in a reading test (Brown 1991). This study aims to check the relationship between the level of ambiguity tolerance and success in reading comprehension in a foreign language on the basis of the results of scientific research done by the author of the article. The first three sections present the theoretical issues concerning proficiency in reading and ambiguity tolerance. The fourth section constitutes a report on the investigation. In the last parts of the article conclusions are drawn from the study, as well as possibilities for further research are suggested.

Keywords: ambiguity tolerance, reading comprehension, making predictions, skimming, scanning, success in foreign language learning

1. Introduction

Reading comprehension is an important skill influencing success in foreign language learning. It has emerged that a significant number of students have difficulty in dealing with various written texts, which very often require making predictions and accepting unknown words and grammatical structures. As Schramm (2008) states, success or failure in reading comprehension in a foreign language may be affected by many factors, for instance individual differences and the ability to read

in the first language. In addition to this, Day (1993) emphasises the decisive role of regular reading practice and the use of pre-reading activities in developing this receptive skill.

Tolerance of ambiguity as a cognitive and learning style appears to have a great impact on one's ultimate attainment in foreign language learning. As far as reading comprehension is concerned, neither too high nor too low ambiguity tolerance is the key to success in this skill (Brown 1991). However, Furnham and Ribchester (1995) state that the relationship between the level of ambiguity tolerance and the learner's final achievement in reading is an unexplored area which has not been the subject of a large amount of research. Therefore, there is a need to investigate this problem so as to check to what extent ambiguity tolerance contributes to success in reading comprehension in a foreign language.

The purpose of this article is to establish the relationship between ambiguity tolerance and one's attainment in reading on the basis of the results of research carried out on a group of fifteen-year-old students at pre-intermediate level. This study aims to examine which type of learners, ambiguity tolerant or intolerant, are more successful readers. The author of the article intends to explain the reasons for the extent of the influence of ambiguity tolerance on success in reading comprehension in a foreign language. Some clues for effective reading are given to both groups of individuals representing opposing cognitive styles.

2. Success in reading comprehension in a foreign language

Dakowska (2007: 193) defines reading comprehension as "the process of deriving the writer's intention from his or her detailed instructions in the form of a text." Dakowska (2007) understands reading as a form of interaction which requires real communication between the reader and the writer. Thus, the main aim of reading should be to interpret the author's intentions properly and react to them in the way the writer wished. Brown (2001) underlines the significance of both background knowledge and linguistic competence as being extremely helpful in grasping the meaning of the written utterance. He stresses that an efficient reader needs to understand not only the gist of the passage, but also detailed information found in the text.

In order to explain what success in reading comprehension in a foreign language means, two approaches to reading ought to be taken into account; namely reading as a product and reading as a process. When it comes to teaching reading as a product, the teacher is interested in the students' final scores in a reading test. This approach does not put an emphasis on the emotional side of the learner and the process of studying the text (Urquhart and Weir 1998). Success in reading as a product can be measured by a proper reading test, which should incorporate both skimming and scanning

activities (Council of Europe 2003). According to Brown (2001), skimming tasks check the understanding of the text as a whole, whereas scanning tasks examine the ability to grasp details included in the utterance. From this perspective, a successful reader is a person who achieves high reading test results.

By contrast, teaching reading as a process aims at facilitating actual reading practice. This approach necessitates the teacher's role in showing his or her learners reading comprehension strategies which are likely to make their reading process easier (Urquhart and Weir 1998). Day (1993) stresses that reading entails tackling a large number of unfamiliar expressions and even fragments of the passage which can only be understood due to the appropriate use of the strategies. As Harmer (1998) states, one's motivation, willingness to read and involvement in the text significantly influence his or her development in reading skill. According to Schramm (2008), success in reading comprehension in a foreign language concerns a situation in which the individual is able to make accurate guesses, deal with the utterance easily and sustain communication with the writer.

According to Brown (2001), there are two processes in reading, bottom-up and top-down processes, and they affect one's ultimate attainment in this receptive skill. Bottom-up processing is "data-driven," which means that the reader makes use of his or her knowledge of grammatical rules and vocabulary in order to interpret the gist of the passage and grasp the meaning of its particular fragments. By contrast, top-down processing is "conceptually driven" and is strictly connected with using background knowledge, which is extremely helpful in predicting the implication of the text. As Brown (2001) states, interactive reading takes place when both processes, bottom-up and top-down, are amalgamated. Reading as a form of interaction as described in this article and in agreement with Dakowska (2007) is the key to successful communication between the reader and the writer.

Taking all the above-mentioned points into consideration, proficiency in reading does not only refer to achieving high scores in a reading test, but is also connected with one's ability to grasp general and specific information found in the text. Both linguistic competence and background knowledge are needed for efficient reading. Nevertheless, as far as research is concerned, success in reading comprehension can be measured by means of using a reading test including both skimming and scanning activities.

3. Ambiguity tolerance

In compliance with Furnham and Ribchester (1995: 179), "ambiguity tolerance refers to the way an individual (or group) perceives and processes information about ambiguous situations or stimuli when confronted by an array of unfamiliar, complex, or incongruent clues." As Furnham and Ribchester (1995) state, tolerance of ambiguity is associated with different aspects of human life, such as the social, cultural,

personal and educational. The notion of ambiguity tolerance originated in the late 1940s, when Frenkel-Brunswik (1948) investigated Californians' views on ethnic prejudice. She was concerned with ambiguity tolerance as understood from a personal and social standpoint. The aim of her research was to examine to what extent the level of ambiguity tolerance influenced one's attitude to the disorganised and complicated situation in the state of California. Budner (1962) was another scholar who perceived tolerance of ambiguity as a personality variable. The Acculturation Model offered by Schumann (1978) refers to ambiguity tolerance as a factor affecting cultural aspects of human life. In accordance with Gass and Selinker (2008), the Acculturation Theory concerned those people who emigrated to a foreign country. The probability of succeeding in acquiring the target language increases when the learner can adapt to the new community. Beyond a shadow of doubt, the ability to accept the target culture requires tolerance of many ambiguities which the immigrant encounters abroad. Norton (1975) and Naiman et al. (1978) belong to the group of those scholars who started perceiving ambiguity tolerance as a cognitive variable which is immensely helpful in solving various problems. As Furnham and Ribchester (1995) state, a large amount of research on ambiguity tolerance as a learning style has been done since the late 1980s. One may observe that contemporary studies on ambiguity tolerance focus on its role in language education.

In agreement with Brown (1991), tolerance of ambiguity seems to be a predictor of success in foreign language learning. As far as the level of ambiguity tolerance is concerned, two groups of learners can be distinguished: those who are ambiguity tolerant and those who are ambiguity intolerant. General ambiguity tolerance and ambiguity tolerance to a foreign language may differ in an individual. When it comes to foreign language learning, ambiguity tolerant students take unknown words and grammatical structures found in either a written or oral utterance for granted, are eager to make predictions and have no fear of making a mistake while producing the language in communication. By contrast, ambiguity intolerant learners tend to pay meticulous attention to the detailed information appearing in the text and get bothered when they encounter unfamiliar elements of language, which they cannot accept. What is more, these students have difficulty in getting the message across as a result of being afraid of using incorrect sentences. It emerges that a significant number of research findings have confirmed a strong relationship between ambiguity tolerance and other individual differences. Therefore, ambiguity tolerance correlates with thin ego boundaries (Ehrman 1999), field independence, a high level of risk taking, low language anxiety (Larsen-Freeman and Long 1991), impulsivity (Brown 1991), random style (Ehrman and Leaver 2003) and flexibility (Ellis 2008). Ambiguity tolerant and intolerant learners differ from each other in their preference for deductive/inductive instruction (Ellis 2008), their choice of language learning strategies (Oxford 1990) and their use of first language and second language in the classroom (Dakowska 2007). In addition to this, the results of

research done by Skiba (2005) have shown the connection between high ambiguity tolerance and students' high level of autonomy.

Taking all the points into account, it seems that ambiguity tolerant learners are more successful in foreign language learning than ambiguity intolerant individuals. However, this cognitive and learning style is only one of many factors influencing students' ultimate attainments in language education. As Brown (1991) states, moderate ambiguity tolerance is the key to success in foreign language learning. Indeed, too high tolerance to unknown linguistic elements can have a detrimental effect on grammatical correctness and language accuracy.

4. The research

The purpose of the investigation was to establish the relationship between the level of ambiguity tolerance and success in reading comprehension in a foreign language. This section of the article presents the research procedure with a primary focus on the interpretation of the research results.

4.1. Research questions and hypotheses

The study aimed at answering three research questions:

- 1) Is there any relationship between ambiguity tolerance and success in reading comprehension in a foreign language?
- 2) Is there any relationship between high ambiguity tolerance and high reading test scores, and between low ambiguity tolerance and low reading test scores?
- 3) Which learners, ambiguity tolerant or intolerant, achieve better results in a reading test?

On the basis of the research questions presented above, the author of this article put forward the following research hypotheses:

- 1) H_0 — Null hypothesis: There is no relationship between ambiguity tolerance and success in reading comprehension in a foreign language.
- 2) H_1 — Non-directional hypothesis: There is some relationship between ambiguity tolerance and success in reading comprehension.
- 3) H_2 — Directional hypothesis 1: Ambiguity tolerant learners are more successful in reading comprehension than ambiguity intolerant learners.
- 4) H_3 — Directional hypothesis 2: Ambiguity intolerant learners are more successful in reading comprehension than ambiguity tolerant learners.

4.2. Research description

The research was conducted on a group of 46 learners aged 15 who attended Lower Secondary School number 4 in Jelenia Góra and who were at pre-intermediate level

in English. Ambiguity tolerance/intolerance as measured by an ambiguity tolerance test (Brown 1991) constituted the independent variable. Students' results in a closed reading test based on two coursebooks written by Evans and Dooley, "Access 1" (2007) and "Access 2" (2008) were the dependent variable. All kinds of visual impairments, age different than 15 and level different than pre-intermediate constituted the control variable, which means that those individuals who shared these features were excluded from the investigation. In order to establish the relationship between ambiguity tolerance and success in reading comprehension in a foreign language, the researcher decided to carry out quantitative research. The research method constituted a focused description whose aim was to check the status quo which is the connection between the level of ambiguity tolerance and the final scores in a reading test.

As far as research design is concerned, two research instruments, the ambiguity tolerance test and the reading test, were used in the study. The ambiguity tolerance test (Brown 1991) comprises two parts. Part A incorporates 18 items which examine the level of general ambiguity tolerance, whereas part B includes 7 items which check whether a person is tolerant or intolerant to the ambiguities of the foreign language. Both parts of the test are biased towards ambiguity tolerance, which means that the higher score a student achieves, the higher his or her level of ambiguity tolerance is. A Likert scale ranging from 1 to 5 points is used so as to mark each item in both parts, where 1 indicates the lowest tolerance, and 5 — the highest tolerance. Thus, in part A an individual can score between 18 and 90 points, and in part B — between 7 and 35 points. Although the test divides learners into four groups, quite ambiguity tolerant, moderately tolerant, moderately intolerant and quite intolerant, the researcher reduced them to two, ambiguity tolerant and intolerant, in order to not confuse the calculations. Additionally, the results in both parts were added to each other so that the level of ambiguity tolerance could be measured. The total scores that could be attained by the students ranged from 25 to 125, where 71–125 points indicated ambiguity tolerance, and 25–70 points — ambiguity intolerance. The ambiguity tolerance test was administered to the participants of the research at the beginning of the study. The author of this article translated all the items from English into Polish so as to ensure that they would be understood by the students. The translated version of the test appears in Appendix 1. Based on the test results, the learners were divided into ambiguity tolerant and intolerant. After a week, the reading test was distributed to the individuals. It consisted of three tasks: matching titles to paragraphs, true/false sentences and a multiple choice task. The activities examined the students' ability to either skim or scan the text. The highest score that could be achieved in the reading test was 15 points. On the basis of the results obtained from both research instruments, all the necessary calculations were done.

4.3. Research results and data analysis

As the scores on the ambiguity tolerance test showed, 24 ambiguity tolerant and 22 intolerant learners participated in the research. The table of raw scores appears in

Appendix 2. Two statistical measures, the Pearson product-moment correlation coefficient and the t test, were used in order to establish the relationship between ambiguity tolerance and success in reading comprehension in a foreign language. The correlation counted in both groups of individuals checked to what extent high ambiguity tolerance is compatible with high reading test results, and low ambiguity tolerance — with low reading test results. The purpose of counting the t test was to examine which students, ambiguity tolerant or intolerant, are better at reading comprehension.

As far as calculating the correlation is concerned, the researcher used the following formula found in Wilczyńska and Michońska-Stadnik (2010: 217):

in which:

r_{Pearson} — Pearson product-moment correlation coefficient

Σ — the sum

$$r_{\text{Pearson}} = \frac{\Sigma (x-\bar{x})(y-\bar{y})}{N SD_x SD_y}$$

x — students' scores on the ambiguity tolerance test

\bar{x} — the mean of the ambiguity tolerance test

y — students' scores on the reading test

\bar{y} — the mean of the reading test

N — number of scores

SD_x — standard deviation of the ambiguity tolerance test

SD_y — standard deviation of the reading test.

The values of the correlation in both groups of individuals were as follows:

the ambiguity tolerant learners: $r_{\text{Pearson}} = -0.06$ (the critical value is 0.33)

the ambiguity intolerant learners: $r_{\text{Pearson}} = 0.05$ (the critical value is 0.35).

In accordance with the table of critical values of the Pearson product-moment correlation coefficient included in Brown (1993: 140), both values are statistically insignificant and they indicate the lack of correlation between the level of ambiguity tolerance and the scores on the reading test.

When it comes to counting the t test, the following formula, found in Brown and Rodgers (2002: 209), as used:

$$t = \frac{\bar{x} - \bar{y}}{\sqrt{\left[\frac{(N_x - 1) SD_x^2 + (N_y - 1) SD_y^2}{N_x + N_y - 2} \right] \left[\frac{1}{N_x} + \frac{1}{N_y} \right]}}$$

where (in this research),

t — t test for two groups of unequal size

\bar{x} — the mean of the reading test achieved by the group of ambiguity tolerant learners

\bar{y} — the mean of the reading test achieved by the group of ambiguity intolerant learners

SDx — standard deviation of the ambiguity tolerant learners

SDy — standard deviation of the ambiguity intolerant learners

Nx — number of ambiguity tolerant learners

Ny — number of ambiguity intolerant learners.

The value of the t test totaled $t = 0.25$, which indicates that the difference between the means achieved by both groups of students in the reading test was statistically insignificant. The average score in the group of ambiguity tolerant learners x equaled 8.75, and the average mark in the group of ambiguity intolerant individuals y was 8. In order to check the significance of the value 0.25, the table of critical values of the t test, which appears in Brown (1993: 168), was analysed (the critical value equals 1.32). Thus, neither ambiguity tolerant nor intolerant students are more successful readers.

4.4. Data interpretation

The results that were obtained from this research indicate that there is no relationship between ambiguity tolerance and success in reading comprehension in a foreign language, which is the answer to research question 1. The null hypothesis, which assumes that the level of ambiguity tolerance has no effect on one's ultimate attainment in reading, has been confirmed. On the basis of the tables of critical values of correlation and the t test found in Brown (1993: 140, 168), the researcher rejected the two directional hypotheses because they presume that cognitive style has a great impact on students' scores in a reading test. The non-directional hypothesis, which assumes that there is some relationship between ambiguity tolerance and success in reading comprehension, also had to be rejected because no tendency that the level of ambiguity tolerance influenced the individuals' results in the reading test could be observed, which constitutes the answer to research question 2. Although the ambiguity tolerant learners achieved slightly higher scores than the opposing group of students (Appendix 2), the difference between both means is statistically insignificant, which is indicated by the value of the t test and which is the answer to research question 3. Therefore, tolerance of ambiguity is not a determinant in successful reading comprehension.

5. Conclusions

Despite the fact that the research results have shown that the level of ambiguity tolerance does not affect students' outcomes when reading, this cognitive style appears to play a crucial role in reading comprehension. The table of raw scores

included in Appendix 2 may suggest that even quite ambiguity intolerant learners have a chance to become successful readers. On the other hand, some individuals with a high tolerance of ambiguity are unsuccessful in reading comprehension. The value of the t test, which is very low and which reveals that neither ambiguity tolerant nor intolerant students are better at reading, also argues for the claim that every learner can achieve success in this receptive skill, no matter how high his or her ambiguity tolerance is. It seems that all individuals need to adjust reading comprehension strategies to their cognitive styles. Indeed, the way of approaching the written text should be compatible with one's level of tolerance of unfamiliar words and grammatical structures. Moderate tolerance of ambiguity is thought to be a predictor of success in all aspects of foreign language learning, including reading (Brown 1991). The optimal level of ambiguity tolerance ought to be attained by an average student so that he or she may tackle the text as efficiently as possible. Thus, ambiguity tolerant learners should pay more attention to details and be more careful while answering various questions included in the reading test, whereas ambiguity intolerant individuals need to accept more unknown elements of language and try to take risks when they are not sure whether a given answer is correct.

6. Possibilities of further research

Although the investigation was carried out under controlled conditions, some of its limitations can be observed and possibilities for further research may be suggested. Above all, the number of participants of the study was relatively small. If another piece of research conducted on a bigger group of individuals representing a range of ages and language levels confirmed no relationship between ambiguity tolerance and success in reading comprehension, its results would be much more convincing and reliable. In addition to this, the reading test, which is intended for pre-intermediate learners at lower secondary school, checks one's ability to cope with short texts and does not require understanding longer pieces of writing. One may notice that reading tests at intermediate or advanced level prepared for high school or university students constitute more sufficient tools for measuring success in reading comprehension. Moreover, the investigation aimed at checking the connection between only two variables. Without the slightest doubt, there are much more important factors than ambiguity tolerance which critically influence learners' ultimate attainments in reading. As Dörnyei (2005) states, motivation, language aptitude and type of intelligence are the individual differences which play the most decisive role in attaining foreign language proficiency. These factors are arguably determinants of successful reading comprehension. Of course, regular reading practice and the use of pre-reading activities are likely to contribute to achieving high scores in a reading test (Day 1993).

Appendix 1

The ambiguity tolerance test.

The Polish version adapted from Brown (1991)

Instrukcja: Zakreśl właściwą odpowiedź dotyczącą każdego punktu. „TAK!” oznacza „zdecydowanie się zgadzam”, „tak” — „zgadzam się”, „?” — „nie wiem”, „nie” — „nie zgadzam się”, a „NIE!” — „zdecydowanie się nie zgadzam”. Zaznacz pierwszą opcję, która przychodzi Ci do głowy, i przejrzyj szybko wszystkie 25 punktów.

Część A

1. Prawie każdy problem możemy w jakiś sposób rozwiązać.
TAK! tak ? nie NIE!
2. Lubię analizować nowe pomysły, nawet jeśli jest to zupełną stratą czasu.
TAK! tak ? nie NIE!
3. Nie uda nam się niczego zakończyć pomyślnie, jeśli nie będziemy się trzymać podstawowych reguł.
TAK! tak ? nie NIE!
4. Uważam, że w końcowym rozrachunku nie ma wyraźnej różnicy pomiędzy dobrem a złem.
TAK! tak ? nie NIE!
5. Przeważnie jest tak, że społeczeństwo, które ma jasno określone zasady, jest lepiej sytuowane.
TAK! tak ? nie NIE!
6. Osobiście uważam, że istnieją zawsze dwie drogi do zrobienia niemalże wszystkiego: właściwa i niewłaściwa.
TAK! tak ? nie NIE!
7. Wolę mieć pewność, że zawsze jestem w stanie się kontrolować.
TAK! tak ? nie NIE!
8. Nie lubię zaczynać nowego zadania, jeśli nie skończyłem poprzedniego.
TAK! tak ? nie NIE!
9. Przed rozpoczęciem ważnego zadania, muszę najpierw oszacować, ile czasu mi ono zajmie.
TAK! tak ? nie NIE!
10. Najlepszym sposobem na rozwiązanie danego problemu w grupie jest przeanalizowanie go z różnych punktów widzenia.
TAK! tak ? nie NIE!
11. Nie zainteresuje mnie taki problem, którego, według mnie, nie da się rozwiązać.
TAK! tak ? nie NIE!

12. Nie lubię brać udziału w projektach grupowych, jeśli nie mam pewności, że się one powiedą.

TAK! tak ? nie NIE!

13. W sytuacji, w której muszę podjąć decyzję, a nie posiadam wystarczającej wiedzy na dany temat, czuję się bardzo niekomfortowo.

TAK! tak ? nie NIE!

14. Nie lubię pracować nad danym problemem, jeśli nie można go jednoznacznie rozwiązać.

TAK! tak ? nie NIE!

15. Lubię borykać się z trudnym problemem tylko wtedy, gdy mam o nim ogólne pojęcie.

TAK! tak ? nie NIE!

16. Spotkanie grupowe funkcjonuje najlepiej, gdy ma ustalony porządek.

TAK! tak ? nie NIE!

17. Toleruję dwuznaczne sytuacje.

TAK! tak ? nie NIE!

18. Najprzyjemniejszym etapem układania puzzli jest dopasowywanie ostatniego elementu.

TAK! tak ? nie NIE!

Aby odpowiedzieć na ostatnie siedem pytań, skoncentruj się na języku obcym, którego obecnie się uczysz.

Część B

19. Martwię się, gdy nie rozumiem wszystkiego w języku obcym.

TAK! tak ? nie NIE!

20. Chcę znać szczegółowe zasady dotyczące wszystkich aspektów gramatyki.

TAK! tak ? nie NIE!

21. Jestem usatysfakcjonowany, gdy rozumiem jedynie ogólny sens rozmowy, w której uczestniczę.

TAK! tak ? nie NIE!

22. Niepokoją mnie złożone lub ukryte znaczenia w języku obcym.

TAK! tak ? nie NIE!

23. Unikam czytania tekstów obcojęzycznych, których nie rozumiem.

TAK! tak ? nie NIE!

24. Lubię, gdy lekcja języka obcego jest zorganizowana etapami, ponieważ wiem, co się będzie podczas niej działo.

TAK! tak ? nie NIE!

25. Rozpoczynanie nauki nowego języka obcego wywołuje u mnie obawę.

TAK! tak ? nie NIE!

Podliczanie punktów testowych

Podlicz punkty w taki sposób, że każda z pięciu możliwości odpowiedzi jest punktowana jak przedstawiono poniżej:

TAK!	tak	?	nie	NIE!
1	2	3	4	5

Punktacja w niektórych pytaniach (2, 4, 17, 21) jest odwrotnie proporcjonalna w stosunku do pozostałych punktów. A zatem przedstawia się ona następująco:

TAK!	tak	?	nie	NIE!
5	4	3	2	1

Przy każdym punkcie zaznacz liczbę zdobytych punktów (po prawej stronie). Następnie podlicz sumę uzyskanych punktów osobno z każdej z dwóch części testu (A i B).

Liczba zdobytych punktów z części A (pytania 1–18): _____

Liczba zdobytych punktów z części B (pytania 19–25): _____

Liczba zdobytych punktów z obu części (A i B): _____

Appendix 2

The table of raw scores achieved by the ambiguity tolerant and intolerant learners on The ambiguity tolerance test and the reading test

AT learners	AT test	Reading test
Learner 1	109	4
Learner 2	96	9
Learner 3	92	15
Learner 4	91	10
Learner 5	91	3
Learner 6	82	4
Learner 7	80	14
Learner 8	80	12
Learner 9	80	11

AIT learners	AT test	Reading test
Learner 25	69	9
Learner 26	69	6
Learner 27	68	13
Learner 28	68	12
Learner 29	68	5
Learner 30	67	5
Learner 31	66	13
Learner 32	66	12
Learner 33	66	8

Learner 10	79	4
Learner 11	78	15
Learner 12	77	13
Learner 13	77	6
Learner 14	76	14
Learner 15	76	6
Learner 16	75	11
Learner 17	74	14
Learner 18	74	9
Learner 19	74	6
Learner 20	73	12
Learner 21	73	4
Learner 22	72	2
Learner 23	71	7
Learner 24	71	5

Learner 34	66	4
Learner 35	64	11
Learner 36	64	5
Learner 37	64	4
Learner 38	60	10
Learner 39	60	5
Learner 40	59	9
Learner 41	58	7
Learner 42	56	5
Learner 43	52	6
Learner 44	50	10
Learner 45	42	13
Learner 46	41	4

The legend:

AT learners — Ambiguity tolerant learners

AIT learners — Ambiguity intolerant learners

AT test — The ambiguity tolerance test results

Reading test — The closed reading test results

Learner 1 — Learner with the highest ambiguity tolerance

Learner 46 — Learner with the lowest ambiguity tolerance

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