

Causal Relationship amongst Epistemic Beliefs, Motivations, and Strategies Use in Reading for EFL Students

Ive Emaliana

Graduate Program, Universitas Negeri Malang
Malang, Indonesia

&

English Language Education Program, Faculty of Cultural Study
Universitas Brawijaya, Malang, Indonesia

Utami Widiati

English Department, Universitas Negeri Malang
Malang, Indonesia

Mohammad Adnan Latief

English Department, Universitas Negeri Malang
Malang, Indonesi

Suharmanto

English Department, Universitas Negeri Malang,
Malang, Indonesia

Abstract

Motivated by the need for more empirical evidence on factors affecting English as a Foreign Language (EFL) reading enhancement, this paper aims at elucidating causal relationship between reading epistemic beliefs, reading motivations, and strategies use in reading. The present study provides an evaluative perspective with regard to the directions of influences among them. A model that reflects the hypothesis that epistemic beliefs affect strategies use in reading to read which are strengthened by reading motivation is constructed and tested. The structural equation modeling (SEM) confirms this hypothesis, which implies interdependences across the factors as promising resources that can be utilized in EFL reading context for comprehension development. A few important implications for EFL reading instruction and research can be drawn from the results.

Keywords: Epistemic beliefs, motivation, reading, reading strategies

Cite as: Emaliana, I., Widiati, U., Latief, a., & Suharmanto, S. (2017). Causal Relationship amongst Epistemic Beliefs, Motivations, and Strategies

Use in Reading for EFL Students. *Arab World English Journal*, 8 (2). DOI:
<https://dx.doi.org/10.24093/awej/vol8no2.27>

Introduction

It has been frequently mentioned that developing reading comprehension is one of the most important concern of teaching English as EFL reading courses are the medium to improve students' comprehension and thinking skills. Teachers' learning instructions have been identified as key elements in successful reading comprehension, yet teaching reading and helping students have a reading habit are not sufficiently successful (Naseri & Zaferanieh, 2012). Although most teachers agree that it is important to teach students to understand reading materials, there is not much agreement on how students' comprehension skill should be best achieved.

Teaching reading comprehension can commence from seeing factors affecting students' reading comprehension skill that later become a promising resource for comprehension development. In their study on 'Toward a Tripartite Model of the Second Language (L2) Reading Strategy Use, Motivations, and Learner Beliefs', Matsumoto et al. (2013) state that strategy training resulting strategy use can help L2 students become more motivated by making them notice the relationship between learning strategy use and students' beliefs. Based on the assumption, Matsumoto et al. (2013) investigated whether and how strategy use, motivations, and students' beliefs are associated in L2 reading context although relevant studies suggest potential associations among them.

Based on the pervious study, some information in relation to the teaching of reading has been elicited. In Matsumoto et al.'s (2013) study there were 360 first-year university students majoring in non-English at a university in Japan participated. They were enrolled in a required reading-based course the aim of which was for students to acquire the basic skills for English reading comprehension and to practice reading English passages with the strategic focus on identifying main ideas, summarizing, making inferences, and utilizing text organization. A self-report questionnaire on a 5-point Likert scale was distributed to the students. The results showed (1) reading strategies shape motivations and beliefs, and this information can be utilized in the L2 reading context for comprehension development; and (2) main idea strategy plays a vital role in the process of reading comprehension.

Inspired by the former conceptualization on factors affecting reading comprehension, the present study provides an evaluative perspective with regard to the directions of influences among them. Matsumoto et al. (2013) considered strategies use affected motivations, and motivations affected students' beliefs. On the other hand, the present study supports the opposite direction, suggesting that students' beliefs can help EFL students become more motivated to comprehend reading materials through a particular reading strategy. A few studies include the possibility of the interaction across students' beliefs, motivations, and strategy use. It is generally considered that beliefs would likely affect reading motivations (Bagherzadeh & Azizi, 2012), and that motivation is one of the most influential factors for the use of learning strategies (Guthrie, et al., 2007; Anmarkrud & Bråten, 2009; Bråten, et al., 2014). Besides, students' beliefs are reported to influence learning strategies (Zare-ee, 2010; Naseri & Zaferanieh, 2012).

The basic idea that forms students' beliefs is further elaborated. Broadly speaking, learning beliefs, investigated by Bagherzadeh & Azizi (2012), shows that more proficient EFL students hold stronger beliefs, so they have better learning motivations. Furthermore, on a theoretical model proposed by Zare-ee (2010), EFL students' beliefs about language learning

affect the deployment of different cognitive, meta-cognitive, social, and affective language learning strategies. In accordance with this view, Naseri & Zaferanieh (2012) brought the idea that there was a significant strong positive correlation between beliefs in reading and reading strategies use, namely cognitive, testing, meta-cognitive, and compensatory strategies. Investigating these three underlying theories, it is conceived that students' beliefs in learning can affect their learning motivations as well as learning strategies use. Accordingly, the present study proves empirically the relationship between students' beliefs and strategies use, especially research on areas relevant to EFL reading.

While the causal relationship among factors affecting reading comprehension development is examined by structural equation modeling (SEM) both in Matsumoto et al. (2013) and in this present study, it is worth investigating due to several disparities between them. Most importantly, the prior study that guided this present research did not consider students' belief particularly in reading comprehension. As stated in the limitation of the study, the general students' beliefs scale used to elicit data might not be sufficient to encompass a range of relevant beliefs. Therefore, in the present study, epistemic beliefs in EFL reading are used.

As previous studies have proposed several different methods for the creation of motivations in learning, among them is a remark to beliefs about knowledge and knowing, that is epistemic beliefs, have been linked to cognition and academic performance. Students' motivation is enhanced when teachers assist students in improving and growing up their beliefs by changing their simple primary beliefs to sophisticated one (Sosu & Gray, 2012). Students with more sophisticated epistemic beliefs have internal motivations, self efficacy, interests, self regulated learning, and goal orientation to reach high degree of academic achievement (Ulucinar, et al., 2012; Akbari & Karimi, 2013). It is also noteworthy that sophistication of epistemic beliefs can be achieved by facilitating students to deeper level of comprehension of multiple texts. In the context of reading multiple texts on a specific topic, Ferguson, et al., (2012) and Ferguson et al., (2013) mention that this is one way to increase students' sophisticated beliefs.

In other words, the expectation of the existence of causal relationship chain which occurs among epistemic beliefs, reading motivations, and reading strategies use can be elicited in the context of EFL reading, albeit mostly prior studies do not directly examine in the precise direction of influences among them starting from epistemic beliefs. There is a growing body of published research demonstrating possible linkages between them, in particular, epistemological beliefs influencing achievement indirectly through their effects on learning motivations (Kizilgunes, et al., 2009) and learning strategies (Mellat & Lavasan, 2011). It is generally considered that epistemic beliefs is the most influential factor to affect motivations and so reading strategies use becomes the gap to be filled in this present study.

Further, this present study differed from Matsumoto et al.'s (2013) research in the questionnaire used. The reading questionnaire in this present study is constructed and validated using exploratory factor analysis from several theories underlying epistemic beliefs in reading, reading motivations, and reading strategies use, including some dimensions from Matsumoto et al.'s (2013) study.

For the above mentioned reasons, the present study addresses two research questions: (1) Are epistemic beliefs, motivations, and strategies use associated in EFL reading contexts?, and (2) How are epistemic beliefs, motivations, and strategies use associated in EFL reading contexts?

On the basis of theoretical and empirical backdrop, the hypothesized model displayed in Figure 1 tested the fit of the model to data obtained from undergraduate students. Considering the present indications and the numerous theories from findings in studies about the study of probable relations between epistemic beliefs in reading, reading motivations, and reading strategies use, theoretical model of hypothesis on the causal relationship among them is set. The first hypothesis is that epistemic beliefs in reading have effect on reading motivations. The second hypothesis is that reading motivations have effect on reading strategies. Thus, an assumption is about the mediating role of reading motivations between epistemic beliefs in reading and reading strategies use. It means that epistemic beliefs affects reading strategies use indirectly through direct effect on reading motivations. Therefore the method used in the present study follow the correlation designs of this structural equation.

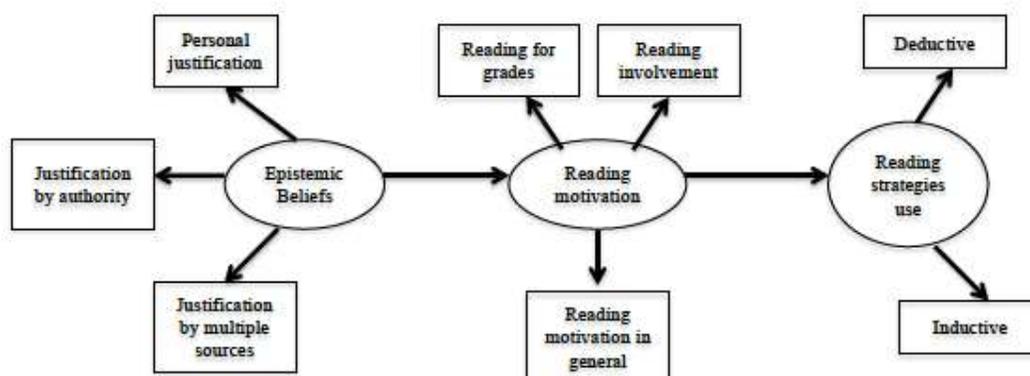


Figure 1. Hypothesized/ Tested Model

Accordingly, the results of the present study add to the understanding of ways in which students use their epistemic beliefs to affect their reading motivations that will determine their choice to use particular reading strategies in comprehending reading materials. More broadly, the results of the present study have implications in the teaching of reading.

Materials and Method

Participants

One hundred and fourteen (114) second year undergraduate students volunteered from four classes from a reputable university in East Java province in Indonesia. They enrolled in a required reading-based course in the even semester of the 2016/2017 academic year. The aim of this course was for students to practice reading English passages with the strategies like identifying main ideas, summarizing, making inferences, and utilizing text organization.

Instrument

The students expressed their views in 4-point Likert scales (4=strongly agree, 1=strongly disagree). The value of the structure of the EFL Reading questionnaire was examined and

confirmed by exploratory factor analysis. It is aimed at collecting each item in the questionnaire which has similar characteristics under the same dimension (Fushino, 2010). The questionnaire includes information on epistemic beliefs in reading, reading motivations, and reading strategies use. The estimation of coefficients was done by the maximum likelihood. The assessments of fitting Indexes in each questionnaire was relatively good among the confirmed models.

The revised Ferguson's (2012) questionnaire was used (13 items). The wording is revised so that each item would be relevant to the participants and the context in this study. Considering the presence of numerous variables in this research could be effective, exploratory factor analysis was implemented. The results of exploratory analysis were as follows: using Kaiser-Meyer-Olkin was .465; and using Bartlett's Test ($p = .246$). These results indicated that the new variables formed via exploratory factor analysis were not significant, so, the questionnaire was highly suggested to use the same dimensions as the underlying theory taken. In other words, the new questionnaire on epistemic beliefs in reading part held the original three dimensions, namely personal justification (2 items), justification by authority (6 items), and justification by multiple sources (5 items).

Further, through SPSS 19, validity and reliability of the questionnaire were measured. Each item showed that the coefficient obtained has the level of significance smaller than .05, so they were claimed valid. The internal consistency reliability coefficients of adopted epistemic beliefs in reading as determined by Cronbach's alpha (α) for the three dimensions were: personal justification ($\alpha = .380$), justification by authority ($\alpha = .514$), justification by multiple sources ($\alpha = .743$). The questionnaire, therefore, particularly in reading epistemic beliefs part is reliable.

To evaluate the level of reading motivations, a modified and shorter version of Motivation for Reading Questionnaire (MRQ) from Guthrie, et al. (2007) was developed (15 items). Originally, there were 11 dimensions, but the usage of the shorter questionnaires considering the presence of numerous variables in this research could be effective. The results of exploratory factor analysis demonstrated that the obtained value of Kaiser-Meyer-Olkin was .740, and Bartlett's Test ($p = .000$). The data, therefore, could be used to undergo the follow up test for exploratory factor analysis. The results of exploratory factor analysis shows 3 new dimensions, namely reading motivation in general (9 items), reading for grades (3 items), and reading involvement (3 items).

The validity and reliability of the questionnaire was measured using SPSS 19. The item which obtained coefficient smaller than .05 level of significance was valid, albeit some items which showed higher than .05 level of significance were not used to keep the validity of the questionnaire. Furthermore, to examine the internal consistency reliability coefficients of the adapted reading motivations dimensions, Cronbach's alpha coefficient (α) were computed for the three dimensions, namely reading motivation in general ($\alpha = .545$), reading for grades ($\alpha = .540$), and reading involvement ($\alpha = .379$). These statistical results are evidence of the reliability of the questionnaire in reading motivations.

To measure the students' reading strategies use, the questionnaire (12 items) was developed by analyzing previous students' reading strategies use. Following Matsumoto et al. (2013), there were four dimensions. Similar to the previous parts of the questionnaire, this part

also underwent exploratory analysis. The results of exploratory analysis were as follows: using Kaiser-Meyer-Olkin was .594; using Bartlett's Test ($p = .043$). After having exploratory factor analysis, two dimensions are obtained, namely deductive (identifying main ideas= 6 items) and inductive (including: summarizing, making inferences, and utilizing text organization= 6 items).

In addition, validity and reliability of the questionnaire were measured through SPSS 19. Each item showed that the coefficient obtained was smaller than .05 level of significance, so they were claimed valid. The internal consistency reliability coefficients of adopted epistemic beliefs in reading was determined by Cronbach's alpha (α) for the three dimensions as follows: deductive (identifying main ideas) ($\alpha = .516$), inductive (including: summarizing, making inferences, and utilizing text organization) ($\alpha = .487$). It means the questionnaire particularly in reading strategies use part is reliable.

Data Collection and Analysis

The participants were requested to answer the EFL reading questionnaire in English at the beginning and the end of the course: 83 students agreed to complete the questionnaire at the beginning of the course, while only 31 of the students completed the questionnaire by the end of the course.

As stated above the purpose of this study was to examine the causal relationship among factors affecting reading comprehension. SEM using the maximum likelihood estimation method was performed integrally with the three upper variables, namely epistemic beliefs in reading, reading motivations, and reading strategies use, and the connecting eight lower-level variables (including personal justification, justification by authority, justification by multiple sources, reading motivations in general, reading for grades, and reading involvement, deductive strategy, and inductive strategy).

The data analysis involved several steps. Firstly, a chi-square test of independence was performed to assume that the maximum likelihood function over the measured variables has been minimized. Under that assumption, the null hypothesis for the test is that the population covariance matrix over all of the measured variables is equal to the estimated covariance matrix over all of the measured variables written as a function of the free model parameters (Fushino, 2010). This was administered to check whether there were significant relationships of the tested model of epistemic beliefs in reading, reading motivations, and reading strategies use. Secondly, using Tetrad 4.3.9-18 version software, SEM analysis was utilized. In that respect, SEM is useful for investigating how well a theoretical model explains the interrelationships among a set of variables (Fushino, 2010). That is, by using SEM, we can determine and obtain information on how plausible the model is in terms of revealing the existence of causal relationships (Fushino, 2010). See Figure 1 for the modeling frame. Relationships among the upper constructs were explored as causal correlations because the direction of influences has been made explicit. Thirdly, after obtaining the correlation values, they were determined as high (range of values between 0.99-0.60), medium (range of values between 0.59-0.49), or low (range of values between 0.48-0.10) relationships. Knowing the obtained significant values is also necessary to know whether they are significant (0.05 or below) or not significant (exceed 0.05) (Butler, 1985).

Results and Discussion

Regarding the model fit analysis, after administering the chi square test the results are as follows.

Table 1. Chi Square Result

	CHI SQUARE	df	BIC SCORE	P Value
MODEL	649.418	506	-1747.098	0.0000

Table 1 displays that with the degree of freedom 506, the Chi square was 649.418 (p.0000). According to Kline (2005, as cited in Liu, 2012), the suggested χ^2/df value is < 3 . For this model, $\chi^2/df = 649.418/506 = 1.28 (<3)$, the value was adequate. It means that all other values related to model fit indices were favorable; the research model had a good fit. Besides, these correlations were significant at a $p= 0.0000$ level.

Based on SEM analysis, the results in Figure 2 indicate that epistemic beliefs in reading have low negative relationships with reading motivation (-.305), unlike reading motivations with reading strategies use (.595), which show moderate positive relationship. Through SEM, significant paths were obtained leading from epistemic beliefs to their hypothesized destination of reading strategies use. As an upper variable or latent variable, epistemic beliefs in reading are affected by and correlated positively with three constructs, namely communication personal justification (.894), justification by authority (.231), and justification by multiple sources (.759).

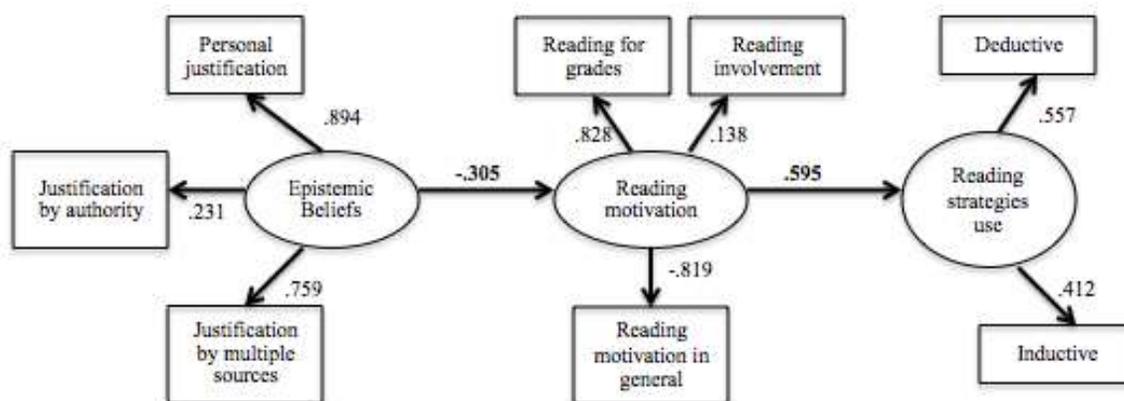


Figure 2 Causal Relationship Results

Reading motivation which comprises reading motivation in general, reading for grades, and reading involvement, have negative relationship with the first construct, but have positive relationship with the rest two constructs: reading motivation in general (-.819), reading for grades (.828), and reading involvement (.187). In addition to this, reading strategies are correlated positively with the two constructs, namely deductive (.557) and inductive (.412).

This study uniquely contributes to the literature on epistemic beliefs in reading, reading motivations, and reading strategies use in several ways. First, it examined a network of causal relationship among three factors affecting reading comprehension in EFL reading setting. In relation to that, the present study has different results to the theories and previous study by Matsumoto, et al. (2013) which show different direction of the correlation amongst contributing to reading comprehension. In the present study, the findings can be interpreted that if students'

epistemic beliefs are high, their reading motivations are low, but their reading strategies use are moderate.

Second, it went beyond only examining direct relations and testing effects among factor contributing to reading comprehension. It brings implications in the teaching of reading comprehension in EFL setting. As assumed, the relationship between epistemic beliefs in reading and reading motivations can be predicted. Students who have high degree of epistemic beliefs in reading can be predicted to have low reading motivations. This is not in line with Mellat & Lavasani's (2011) study that documents positive effects on students' epistemic beliefs to learning motivation.

Presumably, the better students possess reading epistemic beliefs the lower the reading motivations they have. The results reveal that epistemic beliefs in reading, particularly including justification beliefs framework (Ferguson et al, 2012, 2013), that its justification by authority, personal justification, and justification by multiple sources, may underlie the reading motivations negatively. This is in line with Bråten, et al. (2008) that high degree of epistemic beliefs in reading can cause students to be distracted from building of a high quality representation of author and the text meaning. They view the reading activities as complex reading tasks by trying to obtain better multiple-text understanding so that these reading activities may demotivate them to read more.

This present research finding also provides new insight into how different types of justification beliefs may have negative mediated contribution on reading motivations improvement. In other words, both simple beliefs (personal justification) and sophisticated beliefs (justification by authority and justification by multiple sources) cannot bring relatively positive correlation to reading motivations. This particular belief in reading comprehension has not been explored in the previous study by Matsumoto et al. (2013), more specifically, simple and sophisticated beliefs in reading. Simple beliefs in this research is closely related to reading texts written by a particular person, while sophisticated beliefs are related to reading texts written by experts, or reading more than one source. As shown in the result of justification by authority in this research, students have lack opportunity to explore more reading texts written by experts. Therefore, the current study puts forward important implication for EFL reading instruction, especially when teachers expose students with various texts and numerous sources, they need to guide students to understand the contents in a simple way. Various interesting reading activities should be used as the teaching techniques so these can help teachers to motivate students to read more.

Of note is also that reading motivations contribute positively to students' strategies use in reading. Nevertheless, different types of reading motivations may have positive and negative indirect contributions to reading strategies use. Reading motivation in general, which comprises reading efficacy, reading challenge, reading curiosity, importance of reading, reading work, competition in reading, recognition, social reasons and complacent, has negative relations indirectly on reading strategies use. On the contrary, reading involvement and especially reading for grades have positive correlation with reading strategies use. External motivation, especially reading for grades contribute higher effect on the correlation. This confirms information that students are encouraged to read due to external impulse (Chiu & Chow, 2010), unlike

Anmarkrud & Bråten's (2009) study which shows internal motivations especially reading task value that encourages the students to read. The current study results appear to have more or less similar findings with (Chiu & Chow (2010) under the possibility of sharing similar culture. This leads to another important research that can be conducted in the future to see how culture brings impacts towards reading motivations among countries sharing similar culture root.

In relation to implication in the teaching of reading, students need to be autonomous learners, that reading habits and willingness to read need to be cultivated among students. As more thoroughly discussed, the chance to promote students to read autonomously is possible, retrieving information of positive correlation shown by motivation under the reading involvement reasons. Although the correlation is weak, it still brings positive contribution towards reading motivations as the upper variable. Reading involvement shows reading motivations that comes from students' internal drive to read texts related mostly to their interest on the topics. Various topics related to students reading materials are encouraged to be implemented; if possible the topics should be based on students' preferences (Zhao & Zhu, 2012). Besides, intensive reading activities should go in line with more activities related to extensive reading (Guo, 2012). These are aimed at facilitating students to increase their reading motivations.

Another important finding in this study is the pivotal role of reading strategies use employed by students. The current research similarly to the former one (Matsumoto et al., 2013), highlights that main idea strategy in this research is named deductive strategy, shows stronger positive correlation to the upper variable, i.e. reading strategies use than that the other strategy. However, different from the previous study by Matsumoto et al. (2013), in the present study deductive strategy does not really dominate the positive correlation. The other strategy, precisely, inductive strategy, which includes adjusting, reasoning, and monitoring strategies, has relatively the same value of positive correlation as deductive strategy.

Several important implications for the teaching of reading can be focused on providing various reading strategies to students. As it can be seen from this research, not only particular reading strategy informs that teachers have introduced as well as engaged students with different kinds of reading strategies in order to comprehend reading texts. As suggested by Naseri & Zaferanieh (2012), future investigations in this area may profitably prove which strategy use is the most effective one to reading comprehension.

Conclusions

This study unveiled the causal connection amongst factors contributing to reading comprehension improvement, namely epistemic beliefs in reading, reading motivations, and reading strategies use in in EFL reading context. Presenting a simple but good-fitting structural model provides a basis for the development of more complex tested model. Due to its simplicity, this model can be generalized to the broader EFL context. This current research is reexamines the causal relationship among some factors contributing to the improvement of reading comprehension by Matsumoto et al. (2013). Although the differences outweigh the similarity between the findings yield between the former study and the present study, both attempt to provide important implications in the teaching of reading comprehension.

Pedagogically, the present study provides three important implications. First, its core finding tells that if the students own high epistemic beliefs in reading comprehension, teachers might boost, to some extent, students' motivations in reading by selecting particular reading strategies to improve their reading comprehension through interesting various reading activities. Second, finding a way to elevate reading comprehension directly is difficult; nonetheless, after getting to know that it is affected by epistemic beliefs, motivations, and strategies use, teachers can be more specific about how to raise students' reading comprehension. Third, reflecting on the direct causality of reading comprehension improvement, enhancing students' beliefs in reading more on multiple reading materials, improving their external motivation, and increasing reading texts comprehension by focusing on understanding the main ideas are the best ways to be implemented in EFL reading classes.

Among the limitations of the current study is that the causal relationship among factors contributing to reading comprehension enhancement should be correlated with reading comprehension achievement. Thus, a further study can fill in this gap. Besides, although the direct and indirect links that have been modeled made both theoretical and empirical sense, longitudinal studies where a model is tested over time or experimental studies where certain variables are manipulated to assess changes in other variables are needed to reveal more causal relationship among factors contributing to reading comprehension enhancement.

Bout the Authors:

Ive Emaliana is an English lecturer of Universitas Brawijaya who is currently a doctorate candidate in English Language Teaching in Universitas Negeri Malang.

Utami Widiati is a professor in English language teaching who has been teaching undergraduate and graduate students in English language teaching at Universitas Negeri Malang since 1990.

Mohammad Adnan Latief is a professor in English language teaching who has been teaching undergraduate and graduate students in English language teaching at Universitas Negeri Malang since 1979.

Suharmanto is a lecturer in English language teaching who has been teaching undergraduate and graduate students in English language teaching at Universitas Negeri Malang since 1983.

References

- Akbari, R. & Karimi, M.N. (2013). EFL Students' Proficiency Outcomes: What do Epistemological Beliefs Have to Offer? *The Asian EFL Journal Quarterly*, 15 (3).
- Anmarkrud, Ø., and Bråten, I. (2009). Motivation for Reading Comprehension. *Learning and Individual Differences*, 19: 252-256
- Bagherzadeh, H. & Azizi, Z. (2012). Learners' Beliefs about English Language Learning: Examining the Impact of English Proficiency Level on the Motivation of Students among Non-English Major EFL Students. *Theory and Practice in Language Studies*, 2(10): 2096-2102.

- Bråten, I., Ferguson, L.E., Anmarkrud, Ø., Strømsø H.I., Brandmo, C. (2014). Modeling Relations Between Students' Justification For Knowing Beliefs In Science, Motivation For Understanding What They Read In Science, And Science Achievement. *International Journal of Educational Research*, 66:1-12.
- Bråten, I., Strømsø, H.I., Samuelstuen, M.S. (2008). Are Sophisticated Students always Better? The Role of Topic-specific Personal Epistemology in the Understanding of Multiple Expository Texts. *Contemporary Educational Psychology* 33: 814-840.
- Butler, C. S. (1985). *Statistics in Linguistics*. Oxford: Basil Blackwell.
- Chiu, M.M. and Chow, B.W.Y. (2010). Culture, Motivation, and Reading Achievement: High School Students in 41 Countries. *Learning and Individual Differences*, 20: 579-592.
- Ferguson, L.E., Bråten, I., Strømsø H.I.. (2012). Epistemic Cognition when Students Read Multiple Documents Containing Conflicting Scientific Evidence: A Think-aloud Study. *Learning and Instruction*, 22: 103-120.
- Ferguson, L.E., Bråten, I., Strømsø H.I., Anmarkrud, Ø. (2013). Epistemic Beliefs and Comprehension in the Context of Reading Multiple Documents: Examining the Role of Conflict. *International Journal of Educational Research*. 62: 100-114.
- Förster, N., and Souvignier, E. (2014). Learning Progress Assessment and Goal Setting: Effects on Reading Achievement, Reading Motivation and Reading Self-concept. *Learning and Instruction*, 32:91-100.
- Fushino, K. (2010). Causal Relationship between Communication Confidence, Beliefs About Group Work, and Willingness to Communicate in Foreign Language Group Work. *TESOL Quarterly* 44 (4).
- Guo, S. (2012). Using Authentic Materials for Extensive Reading to Promote English Proficiency. *English Language Teaching*, 5 (8): 1967-206.
- Guthrie, J.T., Hoa, A.L.W., Wigfield, A., Tonks, S.M. Humenick, N.N., Littles, E. (2007). Reading Motivation and Reading Comprehension Growth in the Later Elementary Years. *Contemporary Educational Psychology*, 32: 282-313.
- Kizilgunes, B., Tekkaya, C., Sungur, S. (2009). Modeling the Relations Among Students' Epistemological Beliefs, Motivation, Learning Approach, and Achievement. *The Journal of Educational Research*, 102(4):243-255.
- Liu, S. (2012). A Multivariate Model of Factors Influencing Technology Use by Preservice Teachers during Practice Teaching. *Journal of Educational Technology & Society, Advanced Learning Technologies*. 15 (4): 137-149.
- Matsumoto, H., Hiromori, T., Nakayama, A. (2013). Toward a Tripartite Model of L2 Reading Strategy Use, Motivations, and Learner Beliefs. *System*, 41: 38-49.
- Mellat, N. and Lavasani, M.G. (2011). The Role of Epistemological Beliefs, Motivational Constructs and Information Processing Strategies in Regulation of Learning. *Procedia - Social and Behavioral Sciences*, 30: 1761-176.
- Naseri, M., and Zaferanieh, E. (2012). The Relationship between Reading Self-efficacy Beliefs, Reading Strategy Use and Reading Comprehension Level of Iranian EFL Learners. *World Journal of Education*, 2 (2) :64-75.
- Sosu, E.M. and Gray, D.S. (2012). Investigating Change in Epistemic Beliefs: An Evaluation of the Impact of Students Teacher Beliefs on Instructional Preference and Teaching Competence. *International Journal of Educational Research* 5: 80-92.

- Ulucinar, U., Akar, C., Demir, M., Demirhan, G. (2012). An Investigation on Epistemological Beliefs of University Students. *Procedia-Social and Behavioral Science*, 46: 5133-5137.
- Zare-ee, A. (2010). Associations between University Students' Beliefs And Their Learning Strategy Use. *Procedia - Social and Behavioral Sciences*, 5: 882-886.
- Zhao. X. and Zhu, L. (2012). Schema Theory and College English Reading Teaching. *English Language Teaching*, 5(11): 111-117.

APPENDIX

EFL Reading Questionnaire

1. I make use of what I know about the text type and organization (RS-F2-Main Idea)
2. I translate difficult parts into *bahasa Indonesia*. (RS- F1-Adjusting)
3. I predict what is going on in the text. (RS-F1-reasoning)
4. Just one source is never enough to decide what is right in reading materials (EB-F3-justification by multiple sources)
5. I search for a topic sentence representing the main idea in each paragraph. (RS-F2-Main Idea)
6. I check my overall understanding of the text. (RS-F1-monitoring)
7. I take an overall view of the text type and organization to understand the text. (RS-F2-Main Idea)
8. I can never be sure about a claim in a reading text until I have checked it with at least one other source (EB-F3-justification by multiple sources)
9. To decide whether something I read is correct, I have to check whether it is related to other things I have read in the same topic(EB-F3-justification by multiple sources)
10. I read to improve my grades (RM-F2-Reading Grades)
11. I believe that everything I read in reading texts is correct (EB-F2-Justification by authority)
12. I read to learn new information about topics that interest me (RM-F1- reading curiosity)
13. I take an overall view of the text content to see what it is all about. (RS-F2-Main Idea)
14. I check to see if my understanding of the text is correct after reading e.g by discussing it with friends (RS-F1-monitoring)
15. I learn more from reading than most students in the class (RM-F1-reading efficacy)
16. I guess the meaning of unfamiliar words (RS-F1-reasoning)
17. Things that are written in reading class module is correct (EB-F2-Justification by authority)
18. When I read reading materials that is based on scientific investigations, then I believe that it is correct (EB-F2-Justification by authority)
19. I believe in claims that are based on scientific research (EB-F2-Justification by authority)
20. If an expert writes that something is a fact, then I believe it (EB-F2-Justification by authority)
21. To detect incorrect claims in reading materials, it is important to check several information sources (EB-F3-justification by multiple sources)
22. If the project is interesting, I can read difficult material (RM-F1- reading challenge)
23. It is very important to me to be a good reader (RM-F1-importance of reading)
24. To be able to trust knowledge claims in reading materials, I have to check various knowledge sources (EB-F3-justification by multiple sources)
25. I look forward to finding out my reading grades (RM-F2-Reading Grades)

26. I go back and forth in the text searching for necessary information (RS-F1-Adjusting)
27. Complicated stories are NOT fun to read (RM-F1- reading work)
28. I am willing to work hard to read better than my friends (RM-F1- competition in reading)
29. My friends sometimes tell me I am a good reader(RM-F1- recognition)
30. I sometimes read to my parents (RM-F1- social reasons)
31. I read because I have to(RM-F1- complace)
32. Grades are a good way to see how well you are doing in reading (RM-F2-Reading Grades)
33. I feel like I make friends with people in good books (RM-F3-Reading Involvement)
34. I read a lot of adventure stories (RM-F3-Reading Involvement)
35. I enjoy a long, involved story or fiction book (RM-F3-Reading Involvement)
36. I pay attention to the text type and organization of the text I read. (RS-F2-Main Idea)
37. I pay attention to the connections of key words to understand the main idea (RS-F2-Main Idea)
38. What is a fact in reading materials depends on one's personal views (EB-F1-Personal Justification)
39. Every student can have different opinions about content in reading materials because no completely correct answers exist (EB-F1-Personal Justification)
40. If the reading instructor says something is correct, then I believe it (EB-F2-Justification by authority)

The abbreviations for classification of questionnaire dimensions and factors were not included in the administration but added in this paper.

F1= factor 1, F2 = factor 2, F3 =factor 3, EB = Epistemic Beliefs in reading, RM = reading motivation, RS = reading strategies use