# The Association between Levels of Metacognition and Language Learning in ESP Courses

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**Background**: Metacognitive strategies occur in the processes of planning, monitoring and evaluating, all of which are vital to language learning. The greater level of metacognition is associated with better comprehension skills[1]. However, the relationship between metacognitive awareness and learning gain is rarely explored. Since 1970s, there have been many attempts to develop mantaognitive inventories, and Scraw & Dennison's Metacognitive Awareness Inventory[2] is adapted for the present study since it was designed to measure adults' metacognitive awareness corresponding to the participants in the study, all of whom are undergraduate students.

**Objective**: The present study was aimed to investigate the relationship between levels of metacognition and target factors, namely, English proficiency, educational background, oversea experience, and gender.

**Method:** The participants in the present study were 343 undergraduate students enrolling the course "English for Science". The assessment form was adapted from Metacognitive Awareness Inventory thereof including 44 items and employed to measure 2 components of metacognition, namely knowledge of cognition and regulation of cognition, according to Flavell (1987)[3]. The simple random sampling was used since the study was conducted at where the researcher was working. Therefore, 500 sets of the assessment form were distributed to the teachers teaching this course. The students were asked to complete the form in the last class. 343 sets were returned. The statistics for data analysis was Spearman's rank correlation coefficients.

**Results:** there were relationship between levels of metacognition and 2 target factors as follows: 1) skilled language learners showed higher level of procedural knowledge, planning, information management, and debugging strategies 2) students living abroad longer showed higher level of declarative knowledge, debugging strategies, monitoring, and evaluation.

**Discussion:** students with higher English proficiency have ability to control their learning since they usually plan how to achieve a goal, manage information in a very organized way, find other ways to compensate for when a strategy fails, and also they use strategies for language learning. However, in the aspect of educational background, it turns out that metacognition is not derived from the types of school from where students graduate. It could be inferred that all schools in Thailand either supports or ignore metacognition to be a part of instruction in the same way. Likewise, gender is not associated with metacognition, but it is slightly different in data management. On the contrary, oversea experiences help the students find their learning styles as well as equip them with learning control over compensation for fail strategies, self-monitoring, and evaluation of learning. In short, to enhance language learning ability in ESP courses, language teachers should focus more on teaching metacognitive strategies explicitly, besides or along with cognitive development.

**Table: The Correlation between Levels of Metacognition and Target Factors**

| Target Factors | Levels of Metacognition (scale: 5) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Knowledge of Cognition | | | Regulation of Cognition | | | | |
| | DK | PK | CK | P | IMS | DS | M | E |
| **English Proficiency** | | | | | | | | |
| Skilled language learner | 3.68 (0.39) | 3.63 (0.50) | 3.87 (0.49) | 3.60 (0.47) | 3.70 (0.50) | 3.88 (0.51) | 3.65 (0.51) | 3.49 (0.54) |
| Unskilled language learner | 3.61 (0.40) | 3.47 (0.53) | 3.79 (0.52) | 3.69 (0.49) | 3.57 (0.50) | 3.70 (0.51) | 3.69 (0.50) | 3.49 (0.50) |
| Rho | 0.0613 | 0.1199 | 0.0630 | -0.0980 | 0.1060 | 0.1471 | -0.0487 | -0.0144 |
| P-Value | 0.0836 | 0.0007* | 0.0753 | 0.0056* | 0.0027* | 0.0001* | 0.1692 | 0.6849 |
| **Educational Background** | | | | | | | | |
| Provincial school | 3.65 (0.40) | 3.53 (0.55) | 3.81 (0.52) | 3.67 (0.50) | 3.60 (0.51) | 3.74 (0.50) | 3.69 (0.48) | 3.52 (0.51) |
| English program class | 3.71 (0.58) | 3.75 (0.58) | 4.11 (0.52) | 3.67 (0.64) | 3.55 (0.73) | 4.06 (0.67) | 3.65 (0.72) | 3.58 (0.79) |
| City school | 3.62 (0.39) | 3.49 (0.51) | 3.81 (0.51) | 3.70 (0.48) | 3.63 (0.48) | 3.78 (0.51) | 3.68 (0.53) | 3.48 (0.49) |
| District school | 3.57 (0.39) | 3.49 (0.49) | 3.78 (0.51) | 3.58 (0.46) | 3.56 (0.51) | 3.66 (0.52) | 3.64 (0.50) | 3.41 (0.49) |
| Rho | -0.0484 | -0.0297 | 0.0053 | -0.0259 | -0.0044 | 0.0080 | -0.0330 | -0.0456 |
| P-Value | 0.1724 | 0.4024 | 0.8812 | 0.4657 | 0.9005 | 0.8218 | 0.3519 | 0.1982 |
| **Period of time living abroad** | | | | | | | | |
| > 1 year | 3.68 (0.48) | 3.55 (0.64) | 3.78 (0.57) | 3.72 (0.47) | 3.58 (.487) | 3.83 (0.44) | 3.83 (0.45) | 3.64 (0.53) |
| > 6 months < 1 year | 3.67 (0.41) | 3.58 (0.47) | 3.88 (0.59) | 3.75 (0.59 | 3.68 (0.61) | 4 (0.51) | 3.74 (0.68) | 3.53 (0.62) |
| < 6 months | 3.71 (0.38) | 3.65 (0.57) | 3.94 (0.49) | 3.72 (0.49) | 3.75 (0.55) | 3.92 (0.56) | 3.74 (0.49) | 3.51 (0.44) |
| never | 3.62 (0.40) | 3.50 (0.52) | 3.81 (0.51) | 3.65 (0.49) | 3.59 (0.50) | 3.72 (0.51) | 3.66 (0.50) | 3.48 (0.51) |
| Rho | 0.0710 | 0.0494 | 0.0452 | 0.0442 | 0.0483 | 0.1039 | 0.0732 | 0.0657 |
| P-Value | 0.0449* | 0.1635 | 0.2019 | 0.2120 | 0.1731 | 0.0033* | 0.0388* | 0.0638 |
| **Gender** | | | | | | | | |
| Male | 3.66 (0.40) | 3.55 (0.53) | 3.81 (0.55) | 3.64 (0.50) | 3.64 (0.50) | 3.71 (0.52) | 3.68 (0.49) | 3.47 (0.51) |
| Female | 3.62 (0.40) | 3.50 (0.53) | 3.81 (0.50) | 3.67 (0.48) | 3.59 (0.51) | 3.76 (0.51) | 3.68 (0.51) | 3.50 (0.51) |
| Rho | 0.0290 | 0.0471 | 0.0065 | -0.0334 | 0.0636 | -0.0559 | 0.0069 | -0.0233 |
| P-Value | 0.4140 | 0.1840 | 0.8553 | 0.3457 | 0.0726 | 0.1146 | 0.8452 | 0.5106 |

Note: the 8 subcategories are as follows: (1) Declarative Knowledge (2) Procedural Knowledge (3) Conditional Knowledge (4) planning (5) information management strategies (6) monitoring (7) debugging strategies (evaluation of learning.

**References:**

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