

**THE EFFECTS OF TASK COMPLEXITY ON
THE COMPLEXITY OF LANGUAGE
PRODUCTION AND TASK MOTIVATION IN
ASYNCHRONOUS COMPUTER-MEDIATED
COMMUNICATION (ACMC) ENVIRONMENT**

UMI KALSOM MASROM

**DOCTOR OF PHILOSOPHY
UNIVERSITI MALAYSIA PAHANG**

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UMI KALSOM MASROM

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I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of Doctor of Philosophy.

Signature:

Name of Supervisor: **Dr. Nik Aloesnita Nik Mohd Alwi**

Position:

Date:

STUDENT'S DECLARATION

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Name : **Umi Kalsom Masrom**

ID Number : PBS 12002

Date :

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LIST OF ABBREVIATIONS

ACMC	Asynchronous computer-mediated communication
CALL	Computer-assisted language learning
CH	Cognition Hypothesis
CMC	Computer-mediated communication
ESL	English as a Second language
EFL	English as a Foreign language
ID	Individual difference
L1	First language
L2	Second language
SCMC	Synchronous computer-mediated communication
SLA	Second language acquisition
TBLT	Task-based language learning and teaching

ABSTRACT

This study investigates the effects of manipulating the cognitive demands of task complexity, on the complexity of learner language production using task-based instruction during asynchronous computer-mediated communication (ACMC) writing tasks. The study also intends to examine the effects of manipulating task complexity on learners' task motivation. Finally, the current study seeks to explore the relationship between the complexity of language production and task motivation when task complexity was manipulated. This study draws on the construct of cognitive complexity from Robinson's Cognition Hypothesis (Robinson 2001a, 2003a, 2003b, 2005, 2007a, 2007b) which predicts that more cognitively complex tasks along resource-directing dimension and simpler tasks on resource-dispersing dimension will lead to a greater complexity of language production. However, research on the effects of manipulating task complexity along both resource-directing and resource-dispersing dimensions is so far inconclusive. The current study sought to fill this gap based on Cognition Hypothesis, by looking at the synergistic effects of increases and decreases task complexity on written language production and task motivation.

The participants were 88 engineering learners at a technical university in Malaysia who enrolled in English for Professional Communication course. The participants were placed in four separate groups that were categorized as follows; i) with causal reasoning demand (+CRD), ii) without causal reasoning demand (-CRD), iii) with task structure (+TS), and iv) without task structure (-TS). Each learner engaged in a one-hour session of a writing task for which they had to write an essay on Wiki on miscommunication issues at the workplace. After the participants completed the writing tasks, they were asked to complete a questionnaire to gauge their motivation towards the tasks and several participants from each group were interviewed. The statistics from the essay writing and input from the questionnaire served as the data in the current study. The essay writings were saved and analysed to determine the role of these task implementation features on the complexity of language production. The complexity of the language was analysed using two measures: syntactic complexity (i.e. T-unit complexity ratio, sentence complexity ratio, dependent clause ratio and dependent clause per T-unit) and lexical complexity (i.e. word type ratio, Guiraud Index and lexical sophistication).

Results showed that the two implementation features (+/- CRD and +/- TS) influenced the complexity of the language production. The findings on the effect of task complexity on task motivation demonstrated that neither the reasoning demand nor the task structure affected learners' motivation towards the task. The findings on the relationship between task complexity and task motivation revealed a significant correlation between manipulating the cognitive demand of a task and the lexical production of the language. However, no correlation was found between task complexity and syntactic complexity of language production.

To summarize, the current study lends empirical support to the Cognition Hypothesis in that increasing task complexity along the resource-directing dimension and decreasing task complexity along resource-dispersing dimension increased the production of lexical complexity of the language. The study, therefore, provides evidence as it attempts to bridge the gap between current research by identifying the synergistic effects of language production when manipulating task complexity and at the same time focusing on the roles of task motivation in mediating the acquisition of language. This study offers evidence for the Cognition Hypothesis and explains the dynamics of the motivation process. By certain manipulation of task complexity, learners may be more likely to be motivated and to produce more complex language simultaneously when completing the task. This study also offers further understandings into the use of pedagogic tasks within task-based CMC teaching and learning environment.

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