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FROM DECLARATIVE TO PROCEDURAL KNOWLEDGE: TOWARD A MORE EFFICIENT ARABIC TEACHING IN INDONESIA

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Abstract

Declarative and procedural knowledge are the two knowledge systems in the second language acquisition process. Declarative knowledge is more prevalent in Indonesia when it comes to the teaching and learning of Arabic. Thus, Arabic education in Indonesia focuses more on knowledge and memorization of grammar. Meanwhile, procedural knowledge is often overlooked. This research aims to present procedural knowledge system as the alternative to transform the Arabic learning in Indonesia. The method used in this research is the descriptive qualitative model. This research found that several language patterns need to be mastered to achieve optimal procedural knowledge. These patterns require appropriate learning strategies. Metacognition is the main key in conducting self-evaluation in preparing learning strategies. This article describes nine patterns in Arabic that should be mastered for activating the learner's procedural knowledge.

Keywords: *Declarative; Procedural; Learning Strategies; Metacognition; Language Pattern.*

Abstrak

Dalam proses pemerolehan bahasa kedua, terdapat dua sistem pengetahuan yang bisa dikatakan saling bersaing mendapat tempat. Kedua sistem itu adalah pengetahuan deklaratif dan pengetahuan prosedural. Di Indonesia, penulis melihat bahwa pendekatan pengetahuan deklaratif cenderung lebih mengakar dalam proses pempelajaran dan pengajaran bahasa Arab. Dengan demikian, pembelajaran bahasa Arab di Indonesia lebih banyak menitikberatkan pada pengetahuan dan hafalan tata bahasa seperti ilmu sharf. Penelitian ini bertujuan untuk mengajukan sistem pengetahuan procedural sebagai alternatif bagi pengembangan pembelajaran bahasa Arab di Indonesia. Metode yang digunakan dalam penelitian ini adalah model kualitatif deskriptif. Sementara itu, pendekatan pengetahuan prosedural seringkali dikesampingkan. Sejumlah pola bahasa perlu dikuasai terlebih dulu untuk mencapai pengetahuan prosedural yang optimal. Pola-pola tersebut dapat juga perlu didukung strategi pembelajaran yang baik. Metakognisi menjadi kunci utama dalam melakukan evaluasi diri dalam penyusunan strategi pembelajaran. Artikel ini memaparkan sembilan pola dalam Bahasa Arab yang perlu dikuasai untuk membantu proses pengaktifan pengetahuan prosedural pembelajar.

Kata Kunci: *Deklaratif; Prosedural; Strategi Pembelajaran; Metakognisi; Pola Bahasa.*

INTRODUCTION

Several applied language researchers consider that Indonesia requires more efficient Arabic education. As a native speaker of Arabic with a 30-year of experience in teaching Arabic in Indonesia, I have several judgments and conclusions of my own. Teaching experience at universities in Indonesia such as Universitas Gajah Mada, UIN Sunan Kalijaga Yogyakarta, Universitas Ahmad Dahlan Yogyakarta, UNISBA, and Universitas Islam Indonesia, as well as several Islamic boarding schools in Bandung such as the Pesantren PERSIS and

pesantren Al Quran Babussalam, have produced a lot of notes on how to teach Arabic in Indonesia. I notice advances and setbacks in teaching Arabic in Indonesia. However, the teacher planning of teaching Arabic in Indonesia and the lack of student motivation stand out among the various remarks as being the most noteworthy.

According to neurobiologists, grammar is built by explicit declarative knowledge and implicit procedural knowledge. Both pose difficulties for speakers in general as well as Indonesian students studying Arabic. The discussion of this paper will revolve around my experiences with this subject.

I have had a long experience teaching Arabic, especially in fields related to conversation or *muhadatsah*. I believe that the development of procedural knowledge in learning Arabic was far behind compared to the development of declarative knowledge. Most of the Arabic language learners in Indonesia are quite proficient in explicit knowledge of Arabic grammar. They were unable to integrate this understanding into spoken communication. Because of this, I will emphasize the concepts of declarative knowledge and procedural knowledge.

The terms declarative knowledge and procedural knowledge are not new concepts in linguistics, especially for applied linguistics researchers and foreign language teachers. Both terms are commonly applied in the language teaching process because they are related to the workings of long-term and short-term memory. In the learning process, declarative knowledge is a grammatical representation that is retained in the learner's long-term memory. Meanwhile, procedural knowledge is a representation of the automatic use of language.

I emphasize procedural knowledge since it relates to the use of real-time language (Park & Kim, 2018).

To paint a clearer picture, more explanations of both knowledge systems are required. Declarative memory, often known as memory in everyday language, refers to the capacity to consciously collect events and words. The collected materials are compared to other materials, so memories are created as encoded formulas based on the connections between the learning materials and real events (West, 2018).

All of these memory processes are inseparable from the functioning mechanism of the human brain in neurolinguistics where the human brain is divided into certain zones. Each zone has responsibility for a specific task. For example, the thalamus is responsible for sensory signals and motor signals, as well as regulating sleep and alertness. The hypothalamus is responsible for the automatic processes of metabolism and the nervous system. The hippocampus is responsible for learning processes, especially those related to long-term memory (Jones, 2008). Hippocampus has a close relationship with declarative and procedural knowledge.

Declarative memory or knowledge can be divided into semantic memory and episodical memory. Semantic memory is concerned with knowledge of facts about the world, concepts, and meanings. Meanwhile, episodical memory is related to memory that describes events, which relives an event in its original context from the past (West, 2018, p. 41).

The learner memorizes and understands grammar explicitly while speaking, but only in a tacit way. Meanwhile, procedural knowledge concerns the consolidation and the ability to use language automatically. It is responsible for motor skills (regarding the movements of the limbs and things that are

physical) and things related to cognitive (ability to think). This memory is also called working memory which is also called short-term memory, it is a storehouse of information processed by humans where real thoughts occur. These are the actions that we take both implicitly and unconsciously (Eggen & Kauchak, 2003).

Many researchers state that declarative knowledge is stored in long-term memory in the form of schemas, that organized networks of stored information (Eggen & Kauchak, 2003),), such as the ability to ride a bicycle, play a musical instrument, and language fluently (Eggen & Kauchak, 2003, p. 42).

This study offers an option to make Arabic a living language that is everyday life (Davies, 2007; Norman & Schmidt, 1992). The indicators that I focus on are whether the difficulties in using grammar are related to the sound of the language or the structure of the language. This question presents a research gap in identifying the difficulties encountered by Arabic language learners. The most prominent example that I observed during teaching Arabic is the naming associated with *ta'rif bil idhafah* such as the naming of a mosque, for example, مسجد التقوى to be المسجد التقوى by adding the redundancy of the unusual word *marifat* (ال).

I hope that by reading this paper, Arabic learners in Indonesia will be able to transform declarative knowledge into procedural knowledge. For this reason, to use Arabic effectively in conversation, a learner must first grasp some basic patterns. It is also hoped that this paper can serve as a guide for

instructors and teachers of Arabic in dealing with the problems to ensure effective learning activities.

METHOD

This study uses a qualitative approach to describe efforts in transforming Arabic learning more efficiently by changing the declarative pattern into a procedural pattern. Expert opinions are used to elaborate and describe the data. It is envisaged that this approach would enable this research to give thorough information about how learning Arabic changed from a declarative pattern to a procedural pattern.

This study describes two variables. The independent variable in this study is the declarative and procedural approach, while the dependent variable is Arabic learning. The data collection technique used in this research is library research, in which the author collects data from journals, books, literature, and my own experience.

The qualitative analysis pattern in the form of expert opinions deals with declarative learning and procedural learning concerning second language teaching, especially Arabic. These results are used to support the researcher's argument for a more effective method of teaching Arabic.

RESULTS AND DISCUSSION

An overview of the declarative and procedural knowledge concepts is required. It deals with an innate human memory that generates declarative and non-declarative patterns. More details can be seen in Figure 1 (Norman & Schmidt, 1992).

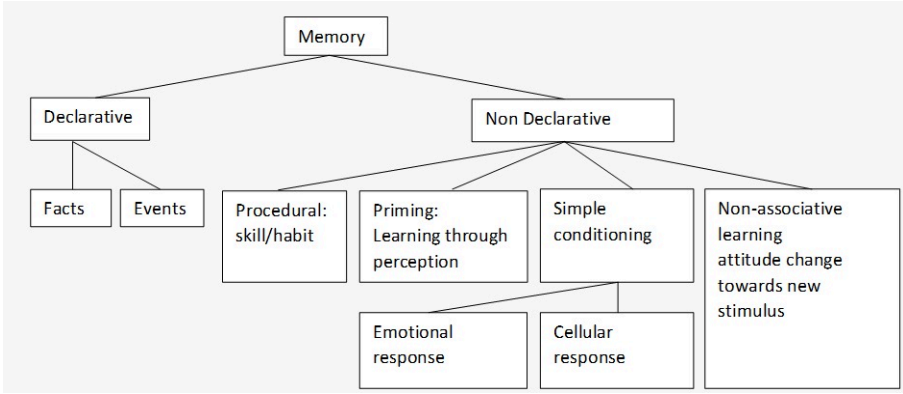

Figure 1. The Concept of Declarative and Procedural Knowledge

I differ from the two knowledge (Hickok & Small, 2016). Although each type of knowledge has its own characteristics in the process of acquiring a language, they are both interrelated. Declarative knowledge is composed of fixed and explicit representations located in long-term memory. For example, understanding and memorizing grammar rules. There is no guarantee that declarative knowledge can be transferred directly to procedural knowledge except through intensive practice to achieve automatic and tacit mastery of language. The application of grammatical rules that have been retained in declarative knowledge is made possible by tacit mastery (Hickok & Small, 2016).

Both of these skills must be possessed by a native speaker but may not always be possessed by a learner of a second language. The errors of language learners prove this hypothesis. A second language learner generally does not have full procedural knowledge, except through intensive practice. In other words, a learner can master declarative knowledge, but often fails to transform it into procedural knowledge. This can be observed when a speaker communicates using a second language.

When discussing vocabulary in a declarative sense, vocabulary mastery refers to the understanding of meaning, specifically the meaning of a word. Meanwhile, its use is in procedural knowledge. From a procedural perspective, vocabulary mastery becomes part of an individual's knowledge of how to negotiate the meaning of a word in a conversation. That is, rather than emphasizing declarative information, language teachers should concentrate on procedural knowledge.

By converting information into skills—specifically, a combination of declarative and procedural knowledge at a specific time of these processes may be understood. The issue is how to transform declarative knowledge into procedural knowledge, or how to move language knowledge from being explicit to being tacit, from competence to performance. These adjustments will improve communication skills in grammatical competence, sociolinguistic competence, discourse competence, and strategic competence (Schmitt, 2010).

Communication skills involve transferring language knowledge to language competence, or declarative knowledge to procedural knowledge. The goal is oriented to communicative competence. Performative procedural knowledge is just as important for effective communication as ideal declarative knowledge (Robinson, 1988). The most important part is how we transfer declarative knowledge to procedural knowledge through mastering the four communication skills.

The memory system studied by neurocognitive science has an important role in the learning process (Hickok & Small, 2016), especially the hippocampus. The human brain has three

important locations, namely the thalamus, hypothalamus, and hippocampus. All three are responsible for the ongoing learning process. This section is located in the temporal lobe which is important in the learning process in general (Hickok & Small, 2016, p. 954). The important part that needs to be emphasized in this discussion is the role of the hippocampus in the process of knowledge.

Explicit long-term memory exists in declarative knowledge. If declarative knowledge is acquired, the information contained therein can be generalized and utilized without difficulty in several contexts. Declarative knowledge will be more active when young and less active as you get older. Declarative knowledge is often more advantageous for women (Hickok & Small, 2015). Meanwhile, the procedural knowledge related to this memory is not widely known and is used inaccurately.

However, procedural knowledge has a close relationship with neurobiological systems that involve networks of interconnected brain structures (Hickok & Small, 2015). This process exemplifies implicit learning and can integrate a substantial portion of motor (limb movement) and cognitive (thought-related), tasks, functions, and predictions. Procedural knowledge involves practice, for instance, when someone wishes to know what will happen in a specific genealogy of events (intensive training) (Hickok & Small, 2015) as described in Table 1.

Table 1. Examples of declarative and procedural knowledge

No	Category	Nonnative speaker	Native speaker
1	Declarative	معرف بالإضافة	معرف بالإضافة
2	Procedural	المسجد التقوى	مسجد التقوى

Other implicit (nonconscious) factors affect procedural knowledge, including age. Unlike declarative knowledge, the function of procedural memory is formed from an early age. Since then, learning and consolidation have occurred unconsciously.

Interaction Between Declarative Knowledge and Procedural Knowledge

The two pieces of knowledge interact in some ways. Both make humans acquire talents with the same ability. Additionally, they serve as redundancies for a range of tasks and functions, such as sequential changes, changes in rules, and changes in categories. Declarative and procedural knowledge have different outcomes. Both, however, originate from the same source because humans acquire "sequences," "rules," and "categories" through both explicit memory and implicit memory.

Automatic language acquisition (automaticity) involves procedural knowledge of linguistic information on the target language through neural structures located in the human brain. This nerve is known as the basal ganglia (BG) (Jhon, 2004). Some supporters of Noam Chomsky's Universal Grammar (UG) state that the term automatic means a natural and innate process when a learner is placed in the target language environment.

However, Schumann held the opposite view that second language acquisition occurs not because of innate factors, but the learning process, such as the acquisition of motor skills (which are related to body movements in general), cognitive (motor abilities and thinking abilities), and the process of extracting other learner talents (Jhon, 2004). In this instance, we can see how crucial practice and training are in acquiring procedural knowledge.

Successful use of procedural knowledge lies in our understanding of language patterns. Because of this, if someone wants to utilize language effectively, he must create patterns and phrases that are easy to memorize (Willis, 2004, p. 53). Naturally, we don't acquire all of our language skills at once because they are divided into four categories: listening, speaking, reading, and writing. Hence, I focus on language as an oral communication system in everyday simple conversations to pave the way to more sophisticated stages of proficiency, such as literary language and scientific languages.

Language patterns will encourage us to consider the significance of the patterns. The word "pattern" is essentially used extensively, beginning with the study of architecture (Alexander, 1978), fashion design, and pattern languages. Understanding language-related patterns are similar to comprehending patterns in other disciplines. The terms "patterns" refer to these linguistic components. Each pattern describes a problem that occurs repeatedly in a certain environment, then describes the core solution of the problem. This allows for recurrent usage of the solutions (Alexander, 1978).

Language patterns provide certain forms of language that should be mastered and made into habits until they become tacit/patent. It can be utilized without being aware of or making reference to long-term (declarative) memory. The main key to mastering language patterns is practice. To become proficient in Arabic through procedural knowledge, a second language learner needs to train just like a musician or a driver needs to practice (Crossley & Ashby, 2015).

Patterns cannot be mastered without setting goals and strategies. There has been a lot of writing regarding goals and strategies as well as pedagogy and learning motivation. However, what we need to understand is setting goals and realizing them through strategy (Parr, 2009). In Paul Eggen and Don Kauchak's writing entitled *Educational Psychology*, they define targets by distinguishing learning targets and implementation targets.

The learning target is focused on mastering a task or job, improving it, and fully understanding it. Meanwhile, performance goals focus attention on competence and ability (Alexander, 1978). In this article, I refer to the second definition, which is the ability of a person to master a particular task.

A variety of target formation strategies are also described by Eggen and Kauchak, including how to create targets that are effective (feasible). Students frequently establish unrealistic goals, such as aiming to shed 10 kg in a week, which is undoubtedly ineffective. Targets should be monitored and evaluated for each implementation. We also need to pay attention to the strategy we will use. Strategy can simply be understood as the act of making plans to achieve goals.

Schumaker and Deshler (2006) define learning strategies as an individual's approach to a task. It includes how a person thinks and acts when he plans, implements, and evaluates the performance of a task and its results. Many ways of thinking about learning are carried out unconsciously. For example, most of us automatically slow down our reading rate when reading content that is hard to understand (Deshler & Schumaker, 1986). The term metacognition cannot be ignored. That's because our ability to formulate plans and strategies will be aided by metacognitive processes. Metacognition-based strategies involve things that regulate auditory processes. Metacognition-based strategies involve activities such as planning, monitoring, evaluating, and problem-solving (Hurd & Lewis, 2008; (Protheroe & Clarke, 2008).

Activities like planning, comprehending, and evaluating learning tasks are examples of subtle metacognition (Gibbons & Cummins, 2002).

Students with higher metacognition will be aware of their weaknesses and earning process. They have many unconscious strategies. Naturally, they would choose the most effective strategy. Through the use of learning strategies, a learner will choose activities that help organize and integrate his new knowledge (Willis, 2004, p. 30). This is because effective learning techniques enliven brain processes so they can be applied as effective learning tools. There are many different learning strategies, however the following ones will be briefly presented.

1. Barrier Game

This strategy can be used to describe the skills of speakers and listeners in sharing and collaborating. In this game, a

barrier separates the two players. They are not allowed to look at their assignment papers and sit close together. Barriers can be in the form of large books, small books, or cardboard. This strategy requires collaboration between two players, one speaker, and one listener. The speaker gives instructions to the listener. After the instructions, the listeners give a sign that they understand the instructions. After that, the barrier will be lifted and they corrected each other. This game will show the listener understanding of the meaning of a word.

2. Brainstorming

Brainstorming has some of strategic steps:

a. Choose topics, questions, statements, and issues and write them down on the blackboard.
b. Set up rules for brainstorming to share whatever comes to your mind. The more ideas, the better. No criticism. They also develop the ideas of other participants. Write ideas as they are; without paraphrasing. All answers must be recorded except for those that have been repeated. Set a time. If the time runs out, they must stop.
c. Students listen to the topic. They need to respond to the topic. They write them randomly on the blackboard or write responses from participants. They collect responses after brainstorming.
d. Ideas are read and explained. After that, the questions were collected. Similar and irrelevant ideas are discarded. The remaining ideas are discussed in the group. Students determine which information will be developed further.

These strategies are just some examples. The best strategy is selected by the learners themselves based on their metacognition. Some students might not benefit from a

particular strategy. There are further strategies like decision-making and circle talk. It should be noted, nevertheless, that the majority of research on learning strategies is used in settings where a teacher or instructor is available, such as classrooms. In other words, there aren't many learning strategies designed for individual study.

In independent learning, the learner is in charge of the language acquisition and learning process. Learning without a teacher will be self-directed which is usually found in distance learning (Hurd & Lewis, 2008). This is called Independent Language Learning (ILL) (Hurd & Lewis, 2008). In distance learning, there are many sources and teaching materials available on the internet, such as YouTube, Facebook, and other media channels. An adult learner will choose a suitable strategy. This is where the role of metacognition occurs.

Learning and teaching a second language is indeed a difficult and even puzzling process. Especially regarding theories of teaching and second language acquisition. To shorten the polemic about these theories, the writer recommends the use of Vygotsky and Bakhtin's theory which focuses on communication and dialogue. There are also other theories, namely the theory of behavioralism and cognitive theory. However, a lot has been written about these theories, even though this article's scope prevents it from addressing both of them. I provide an outline of Vygotsky and Bakhtin's theory which is different from the cognitive tradition that many realities can be interpreted differently by different individuals (White, 2003).

Vygotsky criticized the educational system for emphasizing actualization over potential. (White, 2003). This is

different from supporters of cognitivism, who state that socio-cultural factors occupy a central position in the highest mental functions of human development (White, 2003). Vygotsky's theory of language semiotics provides an explanation of culture and communication, the attitudes of individuals in the interpersonal plane, including psychological processes within the individual. Vygotsky prioritizes a sociocultural approach by describing a language as something that is obtained by involving individuals with a culture which focuses on exercises to adapt to societal norms, which in essence is pattern mastery.

Michail Bakhtin (1975) does not see language as an abstract system of linguistics such as morphology and syntax but as speech. An utterance is a unit of speech, and sentences are units of language (Brown, 2007). According to Bakhtin, utterances take on far too many forms. As a result, the diverse shapes, or heterogeneity, as he called it, may be seen in the form of the smallest units, or sentences.

Supporters of Bakhtin's and Vygotsky's theories about second language acquisition, state that the two theories, namely Social Cultural Theory (SCT) and Dialogical, give second language acquisition research cause for optimism. It can provide solutions to problems in the social environment and mental abilities (White, 2003). Bakhtin's theory is suitable for use to encourage individuals to acquire language through dialogue, which essentially is pattern mastery through interactions with the community.

Table 2 and Table 3provides examples of the patterns through several interactions in procedural knowledge. In the procedural stages of mastering Arabic, there are nine main patterns and two branch patterns to be explored. Other patterns

are no less important, but if a learner masters the nine patterns first, he will be able to master the other patterns easily.

Table 2. The Nine Patterns

No	نموذج
1	الفعل الماضي
2	الفعل المضارع
3	فعل الأمر
4	التعبير عن المستقبل
5	فعل وجواب الشرط
6	السؤال والجواب
7	الضمائر
8	استعمال المصدر
9	النفي

Tabel 3. Pattern Examples

No	Category	نموذج
1	التبديل الذي يؤدي إلى تغيير	حب الكتاب (الجديد) الكراسة أحب الكراسة (الجديدة) القلم أحب القلم الجديد الحقيبة
2	السؤال والجواب	– إلى أين أنت ذاهب – أنا ذاهب السوق

No	Category	نموذج
		– ماذا تريدأن تشتري ؟ – أريد أن أشتري بعض الأشياء
3	التبديل البسيط	أنا أحب البيت (الأخضر) المكتب أنا أحب المكتب الأخضر الكتاب أنا أحب الكتاب الأخضر
4	التبديل الذي يجب أن يتغير أو يغير	الكتاب (مفقود) الكتابان الكتابان (مفقودان) الكتب الكتب (مفقودة)
5	التبديل المتعدد	وصل أحمد (امس) غدًا (سيصل) أحمد (غدًا) قبل يومين (وصل) أحمد (قبل يومين
6	التحويل	اكتشف كولومبوس أمريكا في عام 1492 اكتشفت أمريكا بواسطة كولومبوس في عام 1492
7	تمارين المحادثة	و هي في شكل حوارات قصيرة و محكومة للتعود علي المحادثة:

No	Category	نموذج
		– بكم هذا القلم بعشرة قروش – وهذا الكتاب – بثلاثة جنيهات

CONCLUSION

As of present, most Indonesian institutions that deal with teaching Arabic tend to teach using declarative knowledge. I offer another procedural knowledge that is often overlooked. Arabic learners in Indonesia are particularly skilled at declarative knowledge—indeed, they memorize the grammar rules for Arabic and *Nahwu* as well as the science of *shorof*—which is useful. It deals with transferring declarative knowledge to procedural knowledge. Procedural knowledge enables a learner to use Arabic for communication, which enables the mastery of more complex stages such as literature, the language of journalism, and the language of the mass media. Therefore, students must be endowed with language abilities that allow them to talk, write, and properly negotiate in Arabic.

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