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**METACOGNITIVE STRATEGY :  
OPTIMALIZATION GENERIC SKILLS THROUGH e-ACCOUNTING MATERIALS**

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**ABSTRACT :** Educational research and practice strongly supports the notion of general cognitive skills instruction. High quality instruction enables students of all ages to construct domain specific and domain-general strategies, metacognitive knowledge about themselves and their cognitive skills, and how to better regulate their cognition. The starting point in this endeavor is for teachers (or expert students) to ask themselves what skills and strategies are important within the specific domain they teach, how they constructed these skills within their own repertoire of cognitive skills, and what they can tell their students about using these skills intelligently. The purpose of this article is to offer a strategy that is able to integrate the value of generic skills through integrated teaching materials based metacognitive strategy, which is able to accommodate the needs of students in recognizing its accuracy in learning so that the learning process can be carried out effectively and efficiently. This article was written based on a review of the relevant literature. The article concludes that the value of generic skills can be developed through the use of teaching materials that allow learners to develop generic skills that are needed in the course of his life

**Keywords:** Generic skills, metacognitive strategies, teaching material

## 1. INTRODUCTION

Education is a studying and learning process in the attempt of improving knowledge and ability every individual needs. UU No.20 tahun 2003 mentions that:

*Education is a consciously planned attempt to realize learning circumstance and learning process to make the students develop their potentials actively in order to have spiritual power, religiosity, self-control, personality, intelligence, noble character, and skills required from them, society, nation and state.*

Considering the definition of education above, education can optimize religiosity power, noble character, personality, and intelligence so that can educate the nation life. It is in line with Sukmadinata (2012: 24) stating that "The objective of education focuses on the achievement of four targets: (1) developing personality aspects; (2) developing society ability; (3) developing ability of continuing study; and (4) developing competency and readiness to work". The objective of education will not be achieved

without harmonious involvement of education components including (1) students; (2) teacher; (3) learning objective; (4) learning instrument; and (5) learning environment (Djatun, Sutijan, and Sukirno, 2009: 44-123). Those components exist within learning to create the students' attitude positively.

In this globalization era, the demand for the more quick, effective, and efficient learning is inevitable. To deal with it, a technology is required to apply to learning. The technology applied to learning can be defined as hardware or software that can be used systematically in a learning process (Smaldino, Lowther & Russel, 2011:4) Learning technology as software in the form of systematical ways of solve the problem is getting more sophisticated and gets broad space in education realm (Suparman & Zuhairi, 2004: 345-346). So, learning technology has two main areas to study: (1) learning theory and other human behavior (software technology); and (2) applied technology applied to solving the learning

problems (hardware technology) (Suparman, 2012: 30).

Based on Rosario (2013) The existence of technology applied to learning makes the students not limited by classroom borders. The students can develop their knowledge not limited by learning hour at school. It is confirmed by Smaldino (2011: 6) stating that through a variety of software media and internet centers, world becomes classroom for every student. E-learning, therefore, is regarded as being a crucial material resource for effective teaching and learning. The term e-learning refers to the use of different types of electronic media and ICT in teaching and learning. Thus, it facilitates the relationships between instructors and learners through the use of electronic resources. It is now a recognised method for delivering educational material and has the benefit of enabling students to choose the time, place, and pace of study (Reynolds, Rice and Uddin, 2007). Rosario argue that some of the positive consequences of using virtual resources for teaching are : *first*, the relationship between instructors and learners becomes more individual, *second* distance problems are eliminated as virtual teaching permits learners to listen to the lectures, thereby removing the need to attend classes completely (Sawaan, 2006; Chattopadhyay and Sumrall, 2007), *third* : e-learning improves the flexibility of working hours for both students and teachers, as they are able to manage their time more effectively. They can decide how and when to carry out their activities and take greater control of their own learning outside class time (Potter and Johnston, 2006), *fourth* : learners assume a more active role, *finally* teaching costs can be reduced, as the reduction in the number of key lectures decreases the costs of electricity, maintenance and materials, among others.

Computer technology-assisted teaching material is intended to make the students learning independently without the need for face-to-face contact with the teacher in the classroom. Ansjar and Sembiring (2000: 22), independent learning is the one with own

initiative, responsibility, effort and evaluation on learning outcome. In independent learning, the learning process occurs inside the learners so that they can make necessary decision corresponding to the requirements. Mudjiman (2011) suggested that independent learning gives the students the opportunity to determine their learning objective, to plan their learning process, to use the learning sources they choose, to make academic decisions, and to do the activities they choose in order to achieve their objective learning. Independent learning gives the students the opportunity of not dependent on the lecturers' ongoing supervision and direction, but the college students also had their own creativity and initiative, and are capable of working themselves referring to the guiding they obtain. According to Wade, Abrami, and Sclater (2005), using hypermedia as a teaching materials connects to a student's ability to self-regulate their learning and improve their meaningful learning of essential skills. Self-regulated learners are individuals who metacognitively, motivationally, and behaviorally participate in their own learning (Zimmerman, 2000). Presumably, all these self-regulate improve learning by helping students correct their studying behavior and repair deficits in their understanding.

## 2. GENERIC SKILLS

Generic skills can be defined as the Skills or abilities pertaining to genes, Thus as a mater of Heredity are transfred through genes from one generation to another (Sumsion, 2007) In other words generic skills are skills that are needed in the workplace to complete the work. Of all the skills possessed by a person, generic skills are the main skills needed to enter the working world, because this is a portable skills generic skills of a person and ready to be used in the workplace (University of Cambridge, 2003. Smith, 2003; Gilbert; 2007 ), in the sense of these skills can be learned automatically when someone doing something. Therefore the study program must be able to accommodate the needs of students in order to optimize its capabilities.

Refer the research of Gay Crebert, et al “ a higher percentage (82.5%) of graduates

recognised the opportunities offered during work placement for skills development, with one commenting that it “provided a framework for developing skills needed to adapt to different work environments,” and another saying that “...work placement provided opportunities to utilise these skills and abilities I developed in a workplace situation. It provided valuable feedback from industry regarding the level of skill I had acquired through my university studies.” When their responses to a question which asked them to identify the ways in which they best developed particular generic skills during work placement were collated, working collaboratively with colleagues emerged as their preferred option for the development of problem solving, analysis, teamwork, leadership, assuming responsibility and making decisions and high ethical standards.

Written suggestions for improvement of skills development during work placement related to improving the quality of work placement and academic supervision, and increasing the opportunities to develop teamwork and project management skills. Some graduates would have preferred more interaction with a mentor during placement, and others more group/teamwork activities, and active participation in workplace meetings and decisions.

Sam Hambur and Deirdre Jackson (2000) describe components of generic skills are:

1. Communication/Structured Writing
2. Problem Solving/Applied Reasoning/Strategic Reasoning.
3. Interpersonal Skills/Teamwork/Leadership
4. Critical Thinking
5. Ethics/Citizenship/Social Responsibility/Empathy
6. Commitment to and capacity for Lifelong Learning
7. IT familiarity/Use of Technology/Information Literacy and Management

Some specific reasons for excluding certain components are:

1. Ethics/Citizenship/Social Responsibility/Empathy the cognitive elements may be subsumed by Critical Thinking and the affective elements may not be readily amenable to value free

testing, this also tends to be a specific topic in certain Philosophy courses.

2. Commitment to and capacity for Lifelong Learning this is broad, and the cognitive elements may be partly indicated by components such as Critical Thinking and Problem Solving, while the affective elements may not be readily amenable to testing in the given format.
3. IT familiarity/Use of Technology/Information Literacy and Management some underlying cognitive abilities may be picked up by Problem Solving, the area is taught specifically, it is difficult to define its generic elements, and the definition may change between entry and exit.
4. Communication, as a general concept people tend to define this in psychometrically divergent ways, including written, oral, quantitative and visual, the area is taught in specific courses, and some of the generic elements can be addressed in Interpersonal Understandings and Written Communication.

Benneth, Dunne dan Carre (1999) grouping generic skills/ key skills into management of self, management of others, management of information and management of task, that in each category has many indicators :

<b>Management of Self</b> <ul style="list-style-type: none"> <li>• Manage time effectively</li> <li>• Set objectives, priorities and standards</li> <li>• Take responsibility for own learning</li> <li>• Listen actively with purpose</li> <li>• Use a range of academic skills</li> <li>• Develop and adapt learning strategies</li> <li>• Show intellectual flexibility</li> <li>• Use learning in new or different situations</li> <li>• Plan/work towards long-term goals</li> <li>• Purposefully reflect on own learning</li> <li>• Clarify with criticism constructively</li> <li>• Cope with stress</li> </ul>	<b>Management of Others</b> <ul style="list-style-type: none"> <li>• Carry out agreed tasks</li> <li>• Respect the views and values of others</li> <li>• Work productively in a cooperative context</li> <li>• Adapt to the needs of the group</li> <li>• Defend/justify views and actions</li> <li>• Take initiative and lead others</li> <li>• Delegate and stand back</li> <li>• Negotiate</li> <li>• Offer constructive criticism</li> <li>• Take the role of chairperson</li> <li>• Learn in a collaborative context</li> <li>• Assist/support others in learning</li> </ul>
<b>Management of Information</b> <ul style="list-style-type: none"> <li>• Use appropriate sources of information</li> <li>• Use appropriate technologies</li> <li>• Use appropriate media</li> <li>• Handle large amounts of information</li> <li>• Use appropriate language and form</li> <li>• Interpret a variety of information forms</li> <li>• Present information competently</li> <li>• Respond to different purposes/contexts and audiences</li> <li>• Use information critically</li> <li>• Use information in innovative and creative ways</li> </ul>	<b>Management of Task</b> <ul style="list-style-type: none"> <li>• Identify key features</li> <li>• Conceptualise ideas</li> <li>• Set and maintain priorities</li> <li>• Identify strategic options</li> <li>• Plan/implement a course of action</li> <li>• Organise sub-tasks</li> <li>• Use and develop appropriate strategies</li> <li>• Assess outcomes</li> </ul>

Table 1: A framework for the development of key skills (Bennett, Dunne & Carre, 1999)

### 3. HOW TO OPTIMIZE GENERIC SKILLS

Gilbert (2007) explains that generic skills can be developed through quality learning, which consists of three stages of the learning process, namely: (1) the planning or design stage of learning, (2) the implementation phase of learning and (3) the measurement phase. Through the theory of the development of generic skills of students can be integrated in the sense that such skills can actually be transferred or can only be studied in the context of their use; The skills learned are automatically in the study program; 3) learning to focus on the skills in question; 4) students were motivated by the purpose or benefit of generic skills 5) develop some quality intrapersonal and interpersonal skills. Along with Gilbert, Gay Crebert (nd) said that the interactive group work and collaboration as the most effective ways to develop generic skills in the three different learning Contexts. Robley (2005) have an alternative to internalize the values of generic skills in each program carried out on a learning activity

### 4. METACOGNITIVE AND META-COGNITIVE ACTIVITY

Weinert and Kluwe (1987) states that metacognition is a second-order cognition that means thinking about thinking, knowledge of knowledge, or a reflection of the actions. Metacognition is necessary for an individual to be able to manage learning. This was disclosed by Gardner in Schraw (1998) that "metacognition is Necessary to understand how the task was performed". Understanding metacognition itself distinguished in knowledge of cognition and regulation of cognition. In the knowledge of cognition an individual will know about the way of thinking in general.

Woolfolk (1995) explains that there are at least two components contained in metacognition, which is declarative and procedural knowledge about the skills, strategies, and resources needed to perform a task. Knowing what to do, how to do it, knowing a prerequisite to ensure the completeness of the task, and knowing when to do it. Declarative knowledge is knowledge of a person as a student of the factors that will affect its performance, or in other words,

declarative knowledge is 'knowing about things'. In teaching metacognitive strategies, Thamraksa (2009) explains that metacognitive strategies can be taught through three approaches, namely direct instruction, teacher modeling, and application. *First*, the direct instruction teachers provide a detailed explanation of the strategies to be taught, why the strategy is important and when students can apply this strategy. *Secondly*, teacher modeling. At this stage the teacher can use the technique of "think out loud" for the "when and how" metacognitive strategies are used. It is important in this technique is the teacher demonstrate the thought process by saying out loud what was going on in his mind. Because this process is important, then the students should be given ample opportunity to demonstrate this technique under the guidance of teachers so that they can live and then they can do it automatically. *Third*, application. Application strategy serves as an independent practice in which students demonstrate the metacognitive strategies with feedback from the teacher. Recognize and demonstrate the metacognitive strategies will help the success of the students in solving various problems not only in a variety of subject matter but also the problems to be faced throughout his life.

In line with the purpose of writing this paper, which helps the students to use metacognitive strategies so that he became a successful learner. Therefore, teachers have a moral obligation to enable learning that engages students to reflect on learning activities that they do. Students should be encouraged to plan learning and clearly define the learning goals, selecting strategies according to the learning style of learning, monitoring and evaluating the results of the performance does. Thamraksa (2009) gives some examples of activities that can be used are: 1. Have a journal as a forum for reflection journal is a forum where students can explore a variety of ideas, noting the various processes of thinking, feeling, and reflection. Teachers should also encourage students to make notes voluntarily about "the lack of harmony and inconsistencies that happened", wrote his views about how they have successfully faced many difficulties in the learning process and evaluate themselves as learners. 2. Menjelaskan

about what is in mind. This activity requires students to dialogue with itself about the thought process that happened. He will be talking to him about metacognitive strategies chosen when he was involved in the process of learning tasks. For example, prior to starting the assignment read from his teacher, he would choose a variety of appropriate strategies to implement the reading task. Confirming yourself in this activity, students questioned himself by asking questions that can increase the variety of metacognitive strategies.

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