Helping Students Become Expert Learners

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Abstract: - The focus of classroom activities in all over the world is on the acquisition of knowledge by the students. However, skills that are necessary to help them in the acquisition of these knowledge is uncared for in many of these classroom. It is belief that many students are not equipped with the learning strategies that are necessary to help them to master the content they are supposed to learned. What make thing worst is many are not aware of the importance equipping students with these skills. The literatures suggested that students should be taught not only the content but also the learning strategies they need to master the content. In other words, students should be help to become expert learners so that they can learn efficiently in the learning process. This paper discusses how students can be help to become expert learners in the classroom. Data were collected from focus group interviews with teachers from secondary schools in Malaysia (N=24). They were asked the characteristic of expert learner and their roles to help students become expert learners. Data from the interviews and literature review will be used to develop the module. Three key elements in the instructional strategies were identified to be use in the module namely 1) meta-attention, 2) meta-comprehension and 3) metacognitive reflection. These elements were selected because they reflect the proposal from current studies that suggest the use of metacognitive strategies to improve students' learning. These metacognitive strategies are suggested to be infused in the teaching and learning activities in the classroom to help students become expert learners.

Key-Words: - Expert Learner, learning strategies, metacognitive strategies, meta-attention, meta-comprehension, learning how to learn

1 Introduction

Awareness about the learning process and the ability to identify which strategy is suitable and effective are important skills that determine the effectiveness of one's learning process. However these skills are not automatically acquired without proper planning and deliberate effort. Studies on study skills shows that students acquire 'learning how to learn skills' through trial and error without formal training or guidance. As a result, not all students can learn effectively in the classroom. Some students unable to identify what is the best way to approach a learning task, therefore they just follow whatever activities plan by teachers [1].

In the context of classroom learning, what makes the situation worst is the focus of the learning activities is on the acquisition of content or knowledge by students. Review of literature shows that "learning how to learn" is not an agenda in the classroom [2][3]. Although teachers tries to implement students centered learning but the main focus is on the delivery of content and no effort was taken to makes students aware of the learning process involve while they are trying to make meaning from the learning process.

This practice failed to help student develop the study skills to help them learn effectively in the classroom. The essential part in developing expert learners lies in the use of an approach that enables students to be aware of elements that affect the effectiveness of their learning process. One of the approach suggested by educational psychologists to help students become expert learners is metacognitive approach [4] [5] [6]. It is suggested that the development of general strategies to approach learning can be developed simultanouesly as they learn the content of subject matter [6].

This paper discusses the findings of part of a bigger project that aimed to develop a module that help teachers to develop expert learner in the classroom. The paper will also reveal the characteristic of expert learner in the classroom and the elements need to be considered in promoting the development of expert learners. In this section, the characteristic of expert learner and the metacognitives strategies in relation to the development of expert learner will be briefly explain to give the overview of the concepts.

1.1 Characteristics of Expert Learner

Generally expert learner refers to students who are able to learn effectively in their learning process. The term expert learner refers to students who are skillful in solving problems and challenges faced in the learning process. Ertmer & Newby describe expert learner as someone who display planfulness, control, and reflection which help them to be aware of the knowledge and skills they possess, or are lacking, and consequently, use appropriate strategies to actively implement or acquire them [7]. They define expert learner as a strategic, self-regulated, and reflective learner. They also suggested a model of expert learning which illustrates how learners' metacognitive knowledge of cognitive, motivational, and environmental strategies is translated into regulatory control of the learning process through ongoing reflective thinking. Woolfolk listed three characteristics of expert learner that showed how far students are actively engaged with the materials they learn namely: 1) they focus their attention on materials learned, 2) they give effort to process the information deeply, and 3) they take responsibility for their own learning [2]. These characteristics are not built automatically but are deliberately planned and monitored to achieve the learning objectives. This study used definition by Woolfolk as a framework to develop expert learner in the classroom. It is suggested that developing expert learner needs a deliberate effort geared towards creating awareness and procedural knowledge on how to implement and manage a learning activity [1].

1.2 Metacognition and Metacognitive strategies

Metacognition has been research for more than three decades starting from Flavell who first coined the term metacognition in 1970s [8]. Generally, metacognition is defined as 'thinking about thinking' or 'cognition about cognition'. Flavel's define metacognition as individuals' awareness about their own thinking processes which enables them to monitor and regulate their thinking activity [9]. As a whole, metacognition is usually related to learners' knowledge, awareness and control of their learning process [10] [11]. In a learning context, metacognition refers to student's knowledge about their own learning process. This knowledge is used to monitor and regulate their cognitive process during learning or thinking activity.

Metacognitive strategies involves three processes that help students control their learning process. They are: 1) planning, 2) monitoring and 3) evaluating. These three processes are not necessarily in a sequential order but operating interactively depending on the objective of the activity at any given point. These three steps can control the learning process through a series of questions that requires students to make self assessments about the learning task they are trying to solve.

Students using metacognitive strategies will consciously controlling their own learning from the process of planning, choosing the right strategies, monitoring the progress and correcting errors, evaluating the effectiveness of the strategies used and changing the alternative strategies [12] [13]. Beyer suggested the use of metacognitive reflection technique to teach thinking explicitly [14]. This technique can be adopted to encourage students to reflect on the learning process thus allowing them to learn the "learning how to learn" aspects used in the learning activity.

2 Problem formulation

Students need some basic skills in order to learn effectively in the classroom. However one pertinent question regarding this is do they have the skills needed to makes them an efficient learner? This question is related to the importance of "learning how to learn" aspect which is being neglected in many classrooms [1] [2]. It is belief that many students are not equipped with the learning strategies that are necessary to help them to master the content they are supposed to learned. What make thing worst is many are not aware of the importance equipping students with these skills. The literatures suggested that students should be taught not only the content but also the learning strategies they need to master the content [2] [3]. In other words, students should be help to become expert learners so that they can learn efficiently in the learning process.

The use of metacognitive approach is recommended by educational psychologists to help students become expert learners [4] [5] [6]. It is also suggested that the development of general strategies to approach learning can be developed simultanouesly as they learn the content of subject matter [6]. Therefore, it is suggested that the intervention program to promote the development of expert learner should be infused in the teaching of subject matters in the classroom setting.

The main issue in this problem statement would be to equip the students with necessary skills to learn effectively in the classroom. This study aimed to develop a module that can use by teachers to help students become expert learners. Specifically, the aim was to identify appropriate metacognitive learning strategies in the classroom that can be used by teachers to help students become expert learners.

3 Problem solution

This paper report part of a bigger project aimed to develop module to help students become expert learners. Only data from focus group interviews with teachers in the second phase of the study will be reported. For this

paper, data were derived from sample which were selected from the teachers in Malaysian secondary school (four groups of 4 teachers (Science, Mathematics, Language and History teachers) from six school, N=24). Interview protocol was developed based on issues related to the development of expert learner. The focus of the interview was based on the characteristic of expert learner and strategies teachers can use to help students become expert learners. Data from these focus group interviews were transcribed and coded using NVivo 7. Three categories of data were analyzed from the focus group interviews: 1) what are the characteristic of expert learner, 2) what are the skills needed by students to learn effectively in the classroom, and 2) strategies teachers can use to help students acquire the skills. Findings were reduced into thematic categories representing the characteristics of expert learner; the skills needed by students and strategies teachers can use to help students acquire the skills.

3.1 The characteristic of expert learner

Data were analyzed in term of three key features in the characteristics of expert learner. First, the teachers were asked how to make students cognitively engage in the learning process. Secondly, the teachers were asked how they can encourage students to monitor their understanding. Finally, the teachers were also asked how to encourage the students to reflect on the learning process so that they can extract the "learning how to learn" aspect from the process.

As a whole, the data shows that the teachers agreed that most of the students need to be given opportunity to explicitly identify the objective of the lesson. This activity is important to provide a platform for the students understanding to focus their attention in the effort of trying to achieve their intended learning objective.

The data also shows that students seldom do deep processing on the materials learned in the classroom on their own. The finding shows that the teachers agreed to the use of scaffolding strategies to encourage students to monitor their own learning. The teachers also agreed that giving explicit metacognitive prompt is useful to encourage students to monitor their comprehension.

The teachers also recommended that activities that provide opportunity to student to be involved in deep processing activity should be embedded in the lesson activity and students should be make aware of the importance for them to be cognitively involve with the materials learned.

The data also support teachers acknowledgment to the importance of explicitly discuss with the students the intended learning outcome. In other words, the respondents agreed that the teachers play a key role in encouraging students to be aware of the key activities involve in the learning activity to help them develop and possesses the characteristics of expert learner.

3.2 The skills needed by students to learn effectively in the classroom

The teachers were also asked what are the skills needed to help students learn effectively in the classroom. The analysis revealed that there are two types of skills emerge from the data:

1) General skills and
2) Domain specific skills.

Generally, most of the respondents agreed that the students need information skills to help them processing the information learned in the class. They also agreed that the students also need information organization skills.

The general skills include reading skills, listening skills and note taking skills. The information processing skills may be general, which can be used across the discipline, but some may be specific to a certain subject.

Among the specific skills cited by Language teachers are: Making summary, to describe, to relate. Meanwhile the History teachers suggested finding and organizing information as important skills in History. The Science Teachers proposed many skills such as making hypothesis, making an inference, making observation during experiment, to compare and contrast, to predict and make conclusions. Meanwhile the Mathematic teachers mainly cited the important of problem solving skills [3].

3.3 Strategies can be used by teachers to help students acquire the skills

The strategies suggested by teachers were analysed using metacognitive framework, namely; the planning, monitoring, and evaluation. The teachers were also asked their opinion to the introduction of three key elements derive from the literature that is meta-attention, meta-comprehension and metacognitive reflection. These three elements were suggested to be infused in the teaching and learning process in the classroom to help students become expert learner.

a) Meta-attention

From the analysis, it could be concluded that most of the respondents agreed that negotiation with students are necessary to makes students aware of the learning goal thus helping students managing their attention to the learning activity.

b) Meta-comprehension

The study found that most of the respondents agreed that teachers need to guide students to monitor and evaluating their progress by explicitly model the thinking process involved. Prompts and cues can be used to encourage students to monitor their comprehension.

c) Metacognitive Reflection

The respondents also agreed that the students should also be encouraged to reflect on the process of learning so that they can transfer the skills for future use. The respondents agreed that students should be encouraged to reflect on the activities that help them understand the materials learned. These involve the information processing skills as well as organizing information skills involved in the learning activity. These procedures will help students acquire the study skills that can be use for future learning. In other words, the activities will provide platform for students to build as many repertoires on learning strategies be it in the form of what (declarative knowledge), how (procedural knowledge) as well as when to use it (conditional knowledge). These types of knowledge on learning strategies will help students to possess high metacognitive skills to enable them to plan, monitor and evaluate their own learning activity. In other words, the students build the ability to manage and monitor their own learning.

These findings supported the idea that the activities can be used by teachers to help students aware not only of the content but also the process involves in the learning process to help them acquire the "learning how to learn" skills. It shows that the use of scaffolding is needed to trained students to build the necessary metacognitive skills in order to make them become efficient learners. As the students become more aware, the scaffolding can be lifted gradually. Thus, it can be concluded that the use of metacognitive strategies would be appropriate to help them aware of the necessary skills so that they can learn how to take charge of their own learning in the classroom.

3.4 Implication of the Findings

Results of the study indicate that students need to be facilitated to involve in the activities that can help them become expert learners. It also provides support in the importance of identifying basic skills needed by students to help them become expert learner. Generally teachers are not aware of teaching strategies that can help students become expert learners. Therefore there is a need to develop a module to help teachers to implementing strategies to support this proposition.

Results of past study proposed that adopting metacognitive strategies will allow students to take charge, organize and control their own learning. However it is not clear how it can be implemented in the classroom. Three key elements in the instructional strategies were identified to be use in the module namely 1) meta-attention, 2) meta-comprehension and 3) metacognitive reflection. These elements were selected because they reflect the proposal from current studies that suggest the use of metacognitive strategies to improve students' learning.

Data from the findings of this study supported these three basic strategies that can be employed by teachers to promote the development of expert learner in the classroom:

a) Implementation of meta-attention
b) Implementation of meta-comprehension
c) Implementation of metacognitive reflection

These metacognitive strategies are suggested to be infused in the teaching and learning activities in the classroom to help students become expert learners.

The implementation of meta-attention aspect can be done at the beginning of the class when teachers try to negotiate with students about the intended outcome of the learning. This negotiation process will help students pelan strategies to achieve the objective thus help them stay focused to the learning activities that they themselves involve in the planning phase.

The meta-comprehension phase can be implemented in the second phase of the learning that is the monitoring of the comprehension process, these processes involve the deep processing of the materials and the evaluation of their understanding of the materials learned. This process involves metacognitive prompt that eventually will train students how to self monitor and self evaluate their learning process. These processes should be discussed explicitly to bring it process to the students' awareness level. Thus helping them to develop the skills and use it during their own learning.

The metacognitive reflection process is suggested to be implemented prior to the closure of the lesson. Teachers should encourage students to reflect upon the learning process involved during their learning activity focusing on the strength and weaknesses that can be considered for future used.

3.5 Development of Module to help students become expert learner

This study intends to develop a module to help teachers promote the development of expert learner in the classroom based on the data gathered from the study. It intends to prepare a set of materials comprising of teacher's guide and students' worksheet. The characteristic of expert learner provided the basic concept in designing and developing the module. Data from literature review were also used to guide the development of the module.

The general content of the module includes activities to help teachers:

a) Identify strategies to improve students meta-attention skills
b) Identify activities to help students mastered meta-comprehension skills

c) Identify metacogntive reflection process to help students learn the how to learn skills.

The intended module will provide guidelines to teachers how to implement the proposed activities in relation of helping students become expert learners. It intends to provide a set of activities to serve the objective of the module. Some of the materials provided include protocols to discuss the objective of learning, a checklist of question to be considered by students in each lesson as a monitoring process and procedure for metacognitive reflection activities as well format of student's journal for reflection activities.

4 Conclusion

Learning how to learn is a vital aspect in students learning process. It help students become expert learner who are able to take charge of their own learning. The use of metacognitive strategies is suggested to help students develop the characteristic of expert learner. Data from the focus group interview with teachers support the use of metacognitive strategies to help students become expert learner. Three metacognitive strategies namely meta-attention, meta-comprehension and metacognitive reflection were identified as a key instructional elements that need to be infused in the teaching and learning activities in the classroom. As a whole, the teachers agreed the need to explicitly teach learning strategies in the classroom. They agreed that the teachers need to play an important role to help students aware of the learning process, thus helping them become expert learners.

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