

Meta-Behavioural Skill: Students without Problem Behaviour vs. Students with Problem Behaviour

Abstract

This study aimed to identify the levels of meta-behavioural skills among students from the categories of students without problem behaviour (SWOPB) and students with problem behaviour (SWPB). The sample of the study comprised 803 respondents, 398 students from the SWOPB category and 405 from the SWPB category. Meta-Behavioural Self-Evaluation questionnaire was used to measure meta-behavioural skills of the respondents. Research findings show that the meta-behavioural skills of students from the SWOPB category were better compared to SWPB. The findings also show that both groups lack conditional knowledge which is an important aspect of effective behaviour regulation, but the score for the SWPB group is very low (mean=1.55) as compared to the SWOPB group (mean =2.34). It can be hypothesized that conditional knowledge is one of the factors that should be promoted to help decrease problematic behaviour in schools.

Keywords: *metacognitive skills, meta-behavioural skills, self-regulation, students with problem behaviour, students without problem behaviour.*

Introduction

In the 21st century educators face a lot of challenges in their efforts of developing the national human resource: students. Many studies have been conducted on the seriousness of behaviour problems among students nowadays, such as the research by Emmerova (2011), Antono Suryoputro et al. (2006), the National Board of Residents and Family Development (2004), and Abdullah al-Hadi et al. (2001).

The research conducted by Abdullah al-Hadi et al. (2001) on 8035 secondary school students found that 37.5% of them showed truant behaviour; truancy is the most frequently committed disciplinary offence in both urban and non-urban areas. This is followed by other behaviours, namely inappropriate behaviour (16.1%) such as smoking, using inappropriate language, disrespecting teachers, and causing disturbance during the teaching and learning process; tardy behaviour (11.8%); and criminal behaviour (11.0%).

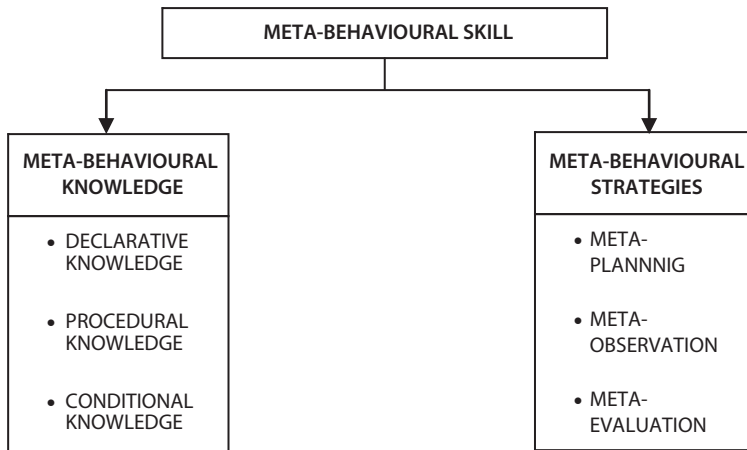
Researchers have taken heed of the increasing seriousness of problem behaviour among students by analysing the causes that instigate such behaviour. Past studies related to the construct of behaviour are divided into two main trends: 10 years before the millennium trend (from 1990 to 1999), and 10 years after the millennium (from 2000 to 2009). The result analysis shows that the main factors that cause negative behaviour among students in the two ten-year periods mentioned above are not very different. Instead, a lot of similarities were detected including the factors of students, family, school, peers, teachers, demography, climate, environment, as well as religious and educational status. Analysis of the findings shows that researchers did not put much emphasis on the students' internal factor. For instance, Abdullah al-Hadi et al.'s (2001) study only reported the sub-factors of laziness, misunderstanding, boredom, lack of interest, annoyance, and intentionality as indicators of problems arising from the student's internal factor. Their research did not at all explain students' cognitive factor, known as the metacognition factor, even though it has been found to greatly affect behaviour. Metacognitive skills are important for effective learning because these skills allow an individual to plan, observe, and regulate their own cognitive performance as it is important to go through these mental processes before overt behaviour (Saemah et al., 2011). In this case, the metacognitive factor is a big gap in its field of study, thus it must be explored to help identify behavioural problems among students. The presented study aims to fill this gap by focusing on the metacognitive aspects related to mental activities one goes through before they are translated into a particular behaviour, which is called meta-behavioural skills.

Meta-behavioral skill

The term 'meta-behavioural skill' was coined by the authors based on the synthesis of theoretical definitions of metacognitive skills and metacognitive models (i.e., the Flavell model, 1979; Schraw & Dennison model, 1994; and Schraw model, 1998) and these theoretical definitions and models were related

to Sigmund Freud’s psychoanalysis theory and Kohlberg’s moral development theory. The combination of metacognition and behavioural skill concepts formed the concept of meta-behavioural skill. In the current study, the meta-behavioural skill is divided into two main components, namely a meta-behavioural knowledge skill and a meta-behavioural strategy skill. There are three subcomponents in both the meta-behavioural knowledge skill and meta-behavioural strategy skill. The three subcomponents of the meta-behavioural knowledge skill are declarative knowledge, procedural knowledge, and conditional knowledge, while the three subcomponents of the meta-behavioural strategy skill are meta-planning, meta-observation, and meta-evaluation. In this study, the word ‘meta’ is used in front of the words planning, observation, and evaluation skills to illustrate that all these skills involve mental activities or active processes in the mind. We are proposing a model of the meta-behavioural skill as summarised in Figure 1.

Figure 1. The components of meta-behavioural skill



A detailed definition of the meta-behavioural concept together with its main components and subcomponents are as follows:

1. *Meta-behavioural skill* is defined as the mind’s executive power in regulating all types of knowledge, beliefs, or behavioural activities. The goals of these behavioural activities are at the metacognition level, where the activity of thinking about one’s thoughts involves the processes of planning, observing, and evaluating behaviour before it becomes overt behaviour, i.e., one that can be perceived and evaluated by other people. There are two main components

of the meta-behavioural skill, namely a meta-behavioural knowledge skill and a meta-behavioural strategy skill.

2. *Meta-behavioural knowledge skill* is a component of the meta-behavioural skill that includes one's knowledge of concepts, facts, or ideas about bad or good behaviour or knowledge about "what" aspect of behaviour (*declarative knowledge*); knowledge about the "how" or the way of acting out a particular behaviour (*procedural knowledge*), and knowledge about the "when" and "why" and the suitability of certain environments for particular behaviours (*conditional knowledge*).
3. *Meta-behavioural strategy skill* is a component of the meta-behavioural skill that comprises three other subcomponents, namely:
 - a. *Meta-planning skill*, which is used to establish the goal of a particular behaviour, determine the sources that influence the behaviour, and determine a suitable strategy that should be taken before an individual shows a behaviour.
 - b. *Meta-observation skill*, which is used to check, examine, and evaluate any use of strategy and performance of the behaviour that is being thought of.
 - c. *Meta-evaluation skill*, which is used to analyse and evaluate the product or performance and effectiveness of a projected behaviour.

The research on the metacognition aspect is very much related to the aspect of academic achievement. Based on a review of past research, this aspect is able to (i) make learning more effective, and (ii) improve confidence, motivation, academic achievement, and encourage good learning habits among students (Susser & McCabe, 2013; Schwonke et al., 2013; and Mazumder, 2012). Only a small number of past research findings shows an opposite trend, e.g., the study by Meijer et al. (2012), which reported that metacognitive activity did not relate to students' performance in History or Physics. The presented study is focusing on the influence of metacognition on student behaviour. Based on the positive effect of past research on metacognition, the aspect of the metacognitive skill (in the context of the presented study, it refers to the meta-behavioural skill) is expected to positively affect the control of behaviour, especially when actively taught to students. It is suggested that the better meta-behavioural skill, the more positive student behaviour.

This paper suggested that the factor of the metacognitive skill related to the aspect of student behaviour was a vast body of knowledge that needs to be explored because we believe that it largely influences the student before he displays a particular behaviour. According to Sigmund Freud (1856–1939), who developed the psychoanalysis theory, people attempt very hard to resolve the conflicts that hap-

pen inside them because human instinct is inclined towards the seeking of pleasure and avoiding any form of pain (Santrock, 2005; and Corsini & Wedding, 2005). In another vein, Erik Homburger Erikson (1902–1994) created the psychosocial development theory that stresses the eight unique levels of development that one goes through in one's lifetime (Santrock, 2005). At every development level, the individual will face crises and the more the crises that can be solved, the healthier the individual. Based on these two theories, it can be understood that there is a probability that students with problematic behaviour are inclined towards seeking pleasure in a negative way and fail to solve conflicts and crises they face. This is because they do not possess meta-behavioural skills, i.e., the mind or mental acuity to plan, observe, and evaluate all forms of behaviour before they are translated into observable behaviour. Hence, the presented research hypothesis is that students who have a good meta-behavioural skill will display good and acceptable behaviour as compared to students who do not have a good meta-behavioural skill.

The study sought to identify the influence of the metacognitive factors on student behaviour at the school level by comparing the level of the meta-behavioural skill (meta-behavioural knowledge and meta-behavioural strategies) between students with problem behaviour and students without problem behaviour.

Methodology

Sample

The research sample consisted of 803 people, comprising 398 students from the SWOPB category and 405 students from the SWPB category. The respondents were chosen randomly from six schools in one of the states in Malaysia. The students from the SWOPB category had never been charged with any form of disciplinary offences within the school area including light, medium, or heavy disciplinary offences, or had never been given disciplinary action be it oral reprimands, written reprimands, caning, suspension, or expulsion. The students from the SWPB category were taken randomly from a sample of students who had been involved in any form or type of disciplinary problems, whether light, medium or heavy offences.

Instrument

A meta-behavioural Self-evaluation (MBSE) questionnaire was administered to the research respondents. They took between 20 to 35 minutes to complete all the items in the questionnaire. The reliability of the questionnaire was high, based

on the calculation of its Cronbach alpha value. The Cronbach alpha value for the meta-behavioural knowledge skill was .701 and the Cronbach alpha value for the meta-behavioural strategy skill was .937.

The MBSE questionnaire is divided into two parts, namely the meta-behavioural knowledge skills and the meta-behavioural strategy skills. The meta-behavioural skill part consists of nine question items related to three moral dilemma situations which asked the respondent to answer what they would do in a given situation; three items are related to declarative knowledge, three with procedural knowledge, and three with conditional knowledge. The meta-behavioural strategy skill part consists of 34 question items, which are divided into meta-planning skills (12 items), meta-observation skills (11 items), and meta-evaluation skills (11 items). This section uses a five-point Likert scale which asks the respondents to rate their perceptions on their practice related to their meta-planning skills, meta-observation skills and meta-evaluation skills. After the data cleaning process, data from only 789 respondents were used in the final analysis (394 for the SWOPB group and 395 for the SWPB group)

Data Analysis

Descriptive statistics was used to explicate the mean and standard deviation of the variables under study. Independent group sample t-test was also used to make a comparison between the meta-behavioural skills of the SWOPB and the SWPB.

Research results

Figure 2 displays the levels of meta-behavioural skills among the students according to the SWOPB and SWPB categories. Research findings show that the trends of the score for all the components and subcomponents of meta-behavioural skills are almost the same for both groups, but the scores for the SWOPB are better than those for the SWPB. The lowest score for both groups is the sub-component of meta-behavioural knowledge, i.e., conditional knowledge (CK), whereas the highest score is the meta-evaluation skill for the SWOPB group, but for the SWPB, the highest score is another sub-component of meta-behavioural knowledge, i.e., declarative knowledge (DK).

The scores for all the components and sub-component of meta-behavioural skills are shown in Table 1. As a whole, the meta-behavioural skills of the SWOPB were very good (mean MBS = 3.94, s.d = .46) while those of the SWPB were at the good level (mean MBS = 3.33, s.d = .62). The results of the analysis show that the meta-behavioural knowledge of the SWOPB is at a very good level (mean MK = 3.46, s.d = .53) compared to that of the SWPB, which is only at a good level (mean

MK = 2.90, s.d = .55). The analysis also shows that the meta-behavioural strategy component of the SWOPB is at a very good level (mean MBS = 4.06, s.d = .55) compared to that of the SWPB, which is only at a good level (mean MBS = 3.45, s.d = .75). However, both groups show low scores in the conditional knowledge subcomponent, where the score for the SWOPB's group is only at a medium level (mean CK = 2.34, s.d = 1.04) while that of the SWPB is at a weak level (mean CK = 1.55, s.d = .76). These results show that both groups lack skills to identify when and where certain behaviour is appropriate or suitable.

Figure 2. Meta-behavioural skill levels according to student category

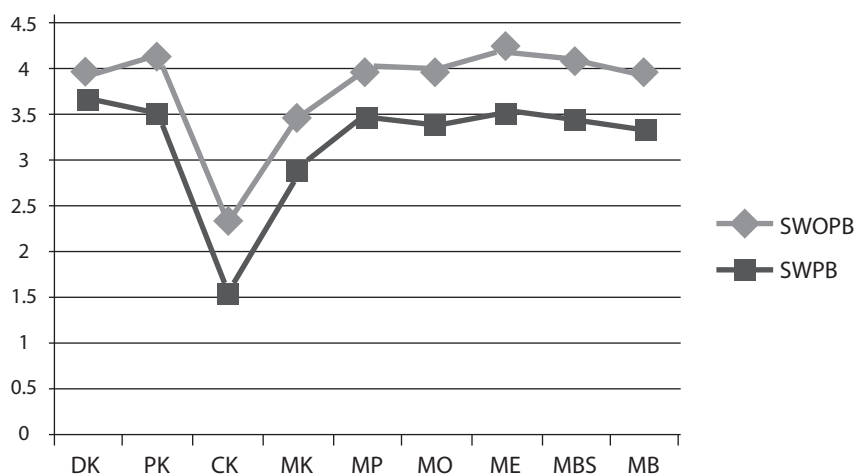


Table 1. Level of meta-behavioural skills according to student category.

Variables	SWOPB		SWPB	
	Mean	Sd	Mean	Sd
Declarative Knowledge (DK)	3.91	.74	3.65	.74
Procedural Knowledge (PK)	4.14	.50	3.50	.90
Conditional Knowledge (CK)	2.34	1.04	1.55	.76
Meta-Knowledge (MK)	3.46	.53	2.90	.55
Meta-planning (MP)	3.99	.61	3.44	.79
Meta-observation (MO)	4.01	.68	3.38	.85
Meta-evaluation (ME)	4.19	.61	3.52	.86
Meta-behavioural Strategy (MBS)	4.06	.55	3.45	.75
Meta-behavioural (MB)	3.94	.46	3.33	.62

Table 2 shows the results of independent group sample t-test to compare the meta-behavioural skill scores for the SWOPB and SWPB categories. To avoid an increase in the rate of I-Type error, alpha Bonferroni was used, i.e., $0.05/2 = 0.025$. The results of the t-test showed that there was a significant difference between the scores of the students in the SWOPB category ($t = 15.88, p = .000$) and the students in the SWPB category, who scored higher (mean = 3.95) as compared to the students in the SWPB category (mean = 3.37)

Table 2. Results of the independent group sample t-test analysis for meta-behavioural skills according to student category.

		N	Mean	Sd	t	dk	Sig
Student category	SWOPB	394	3.95	.44	1.88	734.80	.000**
	SWPB	395	3.37	.57			

Significance level at $p < 0.05$

Discussion

This research started with the assumption that the students in the SWOPB category possessed a better meta-behavioural skill level compared to the students in the SWPB category. This is because the students in the SWOPB category were randomly selected from a sample of students who had never committed disciplinary offences in the school area and therefore could be considered as capable of handling conflicts and crises faced in their everyday lives. The study shows that there are differences in the meta-behavioural skill between the groups, with the result more favourable to the SWOPB group. This study also found that there was a weakness in the level of meta-behavioural skill in both categories of students for the subcomponent of conditional knowledge skill, whose scores were the lowest among other components. It is important to point out that the score for the SWPB group is very low for this component.

According to Borkowski & Krause (1985), only someone who possesses a number of strategies and knows the potential of these strategies can choose to use them wisely. Clearly, knowledge of something is an important aspect in determining the success of a strategy that is to be used. In terms of the meta-behavioural skill, the knowledge aspect is included under the meta-knowledge component and is divided into three parts, namely declarative knowledge, procedural knowledge, and conditional knowledge. All the three knowledge categories must be present

in a balanced state to produce students who are excellent in terms of their meta-behavioural strategy skill. This is especially true for conditional knowledge, which is essential in determining the suitability of a situation before an action is taken or behaviour performed.

For instance, consider what happens when a particular student knows what is good and what is bad (declarative knowledge) and also knows how to perform a good behaviour (procedural knowledge), but lacks the knowledge on when and where the behaviour is appropriate (conditional knowledge). Could he/she achieve the best result for his/her action? In this case, even if someone uses a good meta-behavioural strategy (good at meta-planning, meta-monitoring and meta-evaluation), the phenomenon of doing things right, but at the wrong time still could happen. As Schwonke et al. (2013) stated, the deficiency in conditional metacognitive knowledge may cause students to experience difficulty in performing the right action or behaviour. It is clear that the lack of conditional knowledge will jeopardize the ability to plan, monitor and evaluate the individual's behaviour effectively.

In this study, it was found that SWOPB only used conditional knowledge at an average level while SWPB used it at a weak level. The level of the use of this knowledge in both categories of students is unsatisfactory; and this could cause them to unsuccessfully plan, monitor and evaluate their own behaviour. Previous studies suggested that the effectiveness of metacognitive skills could be enhanced if they were actively taught to students (Bathgate et al. (2012), unfortunately, teachers do not put enough emphasis on them during the teaching and learning process in the classroom (Saemah et al., 2011). Therefore, it is suggested that this knowledge and skills be promoted among students. The student behaviour in the SWOPB category can potentially be strengthened and the problem of disciplinary offences can be solved if their meta-behavioural skills are nurtured just as effectively as in the enhancement of their learning and academic performance (Susser & McCabe, 2013; Schwonke et al., 2013; Mazumder, 2012). The same can be said of the students from the SWPB category; their behaviour and personality can be enhanced and offensive behaviour can be decreased if these skills are taught and nurtured (Bathgate et al., 2012; Saemah et al., 2011).

Conclusions

Metacognitive skills, or in this research context, meta-behavioural skills, are very important skills that should be promoted among students. Based on this research finding, it can be said that students still lack conditional knowledge, which is one

of the important sub-components in the meta-behavioural skill. Knowing what (declarative knowledge) and how (procedural knowledge) is not enough if one does not know when and why it should be applied (conditional knowledge). All the three components of metacognitive knowledge should be emphasized so that students can plan, monitor and evaluate their behaviour effectively. Effort should be geared towards the development of students' meta-behavioural skills so that they can self-regulate their behaviour, thus decreasing problematic behaviour among students.

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