Original Article

A Discussion of Teaching Methods in Moral Instruction and a Lesson Practice to Educate Students in Information Ethics

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The cooperation with the parents is indispensable to promote the education of information ethics. The long term goal is to develop the blended moral instruction model which consists of the morality class at school and learning at the home using the tablet PC. I assumed that ambivalence exists behind the three types of knowledge, which is the state of contradictory feeling or emotion. I considered that ambivalence influences inappropriate judgment concerning information ethics. Therefore, I established the new judgment model of information ethics. A teaching method should be utilized to overcome ambivalence in moral instruction. I investigated what kind of teaching method is useful to educate students in information ethics. There are several kinds of teaching methods in moral instruction, the ordinary instruction using textbooks, the moral dilemma approach, and the structural method. I collected six sets of teaching materials and lesson practices, and analyzed from the perspective of overcoming ambivalence. Therefore, one of the purposes of this study was to discuss which teaching method was the most appropriate. As a result, it was suggested that the structural method was the most useful to educate students in information ethics based on the new judgment model of information ethics. The other objective was to clarify the effectiveness of the structural method through the practice in the moral lesson. Therefore I tested whether the lesson using the structural method could overcome the ambivalence. As a result the lesson using the structural method hadn't overcome ambivalence completely. However, I was sure that the lesson was useful to educate the students about morality through the practice of the lesson.

Key Words: Moral instruction, Information ethics, Moral dilemma, Structural method

Introduction

Information technology in society has been progressing rapidly, for example, internet, mobile phone, social network service and so on. However, the negative effects of the information technology, such as bullying and slander on the social media of the internet became social problems past more than ten years. In order to cope with these problems, the education of information ethics has been introduced to the school. Nevertheless the problems have never been solved. The MEXT (Ministry of Education, Culture, Sports, Science and Technology)-commissioner project (2006), the support project for education of information ethics, defined that the education of information ethics was consisted of "educating an ability to make a right judgment and a desirable manner in the information society (domain to refine one's mind)" and "educating the understanding of the method for crisis prevention to live safely and the knowledge and technology of security, consciousness

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of health (domain to raise one's wisdom)" [1]. A lot of teaching materials to raise their wisdom were developed and supplied such as "How to walk the networking society" by Japan Association for Promotion of Educational Technology (2005) and "Learning Net Moral from Examples" by Hiroshima Kyohan (2005). However the materials to raise their mind were short in those days. Sasaki et al. (2005) created 20 pieces of teaching materials package for information ethics consisting of a reading material, a scene painting and a lesson plan [4]. The package was supposed to help teachers to teach students how to deal with those problems and educate students in information ethics. Although the teachers could teach students how to cope with those problems, they couldn't reach up to the development of information ethics. At that time, the guidance on information ethics was introduced to the moral instruction under national curriculum standards of elementary and junior high schools in 2008. This required us to develop a teaching method to educate students in information ethics.

As MEXT described in the guideline for the education of information ethics, the cooperation with the parents is indispensable to promote the education of information ethics [5]. I considered what was available to cooperate with parents. The tablet PC has been introduced to the class these days. Therefore, I tried to develop the blended moral instruction model which consisted of the morality class at school and learning at the home using the tablet PC. In other words, firstly the students study the content about information ethics in the moral instruction at school, secondly they talk about the content installed to the tablet PC at home and thirdly they study the content again at school. Through repeating the practices, I am going to improve the blended moral instruction model. Thus far, the long-term objective of their study was to discuss the effectiveness of the blended moral instruction model that is practiced at school and at home.

Then, there are several kinds of teaching methods in moral instruction, for example, ordinary instruction using textbooks, the moral dilemma approach and the structural method. There are a large number of reading materials, lesson practices and lesson plans in books and on websites. Which is the most appropriate to install to the tablet PC ?

In this study, I investigated what kind of teaching method was the most appropriate to educate the students in information ethics and chose the best method. And furthermore I really tested the method in the lesson. Therefore, one of the purposes of this study is to discuss which teaching method was the most appropriate and the other is to clarify whether the lesson using the teaching method was effective through the practice in the moral lesson.

New judgment model of information ethics

Tamada et al. (2004) proposed the instructional method using the three types of knowledge [6]. This approach teaches students how to make appropriate judgments using ethical code knowledge, knowledge of information & communication technology (ICT), and knowledge of rational judgment (area surrounded by dotted line in Fig. 1). In addition to that, Sasaki et al. (2015) assumed that ambivalence exists behind this knowledge, which is the state of contradictory feeling or emotion [7]. For example most people know that it is not good to speak ill of others on the internet. However, some of them sometimes fall into the trap of speaking ill of others if they remain anonymous. I assumed that not only a lack of the three types of knowledge results in inappropriate judgment but that ambivalence also has an effect. Therefore, I added ambivalence behind the three types of knowledge and established new judgment model of information ethics (Fig.1). The moral instruction lesson will be needed to overcome the ambivalence.
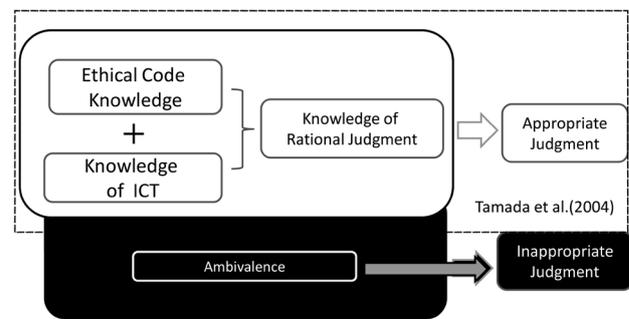

Fig. 1   New Judgment Model of Information Ethics

The Most Appropriate Teaching Method

As I described there are several kinds of teaching methods in moral instruction. When teachers make a plan of moral instruction, they can choose it from a large number of reading materials, lesson practices and lesson plans in books and on websites. MEXT decided to change "moral instruction" to "moral instruction as a special subject" in elementary and junior high schools in 2015. The handbook of moral instruction as a special subject says the instruction that focuses on the values about legal compliance is important in information ethics [8]. Therefore, I investigated a lot of reading materials and lesson practices concerning information ethics. I selected six sets of reading materials and lesson practices relating to legal compliance. I selected two sets each from three kinds of areas, textbooks, the moral dilemma approach, and the structural method. I read the reading materials and lesson practices carefully, and analyzed from the perspective of consistency with the new judgment model of information ethics. In particular, whether the reading material is consistent with the three kinds of knowledge, whether the reading material has ambivalence, and whether the lesson practice has guidance to overcome the ambivalence. I chose one analyzing example from each kind of areas, and showed an abstract of the reading material, an abstract of the lesson practice, the consistency with the three kinds of knowledge, the presence of ambivalence, and the presence of guidance. The teaching method which is relevant out of three is the most appropriate. Thus far I choose the most appropriate teaching method out of three.

Textbooks of moral instruction

Several textbook companies publish textbooks including reading materials of moral instruction and also teachers guide books including lesson plans in Japan. I selected two sets of reading materials and lesson practices concerning information ethics. I show one example below.

• Abstract of the reading material

Title: Bulletin Board of the Forest
Target: Second grade students in elementary school
Value: Compliance
    Saruta's parents promised to present a bicycle on his birthday. He made a post about it on a message board with joy. The information spread out to the forest in a twinkling. His mother was surprised to hear from a habitant of the forest about the present. In the evening, his parents said that he should not have made a post on a bulletin board because it was a place to write important things for all of the forest. He decided to erase it with his parents.

Bunkeido (2015) [9]

• Abstract of the lesson practice

In the introduction of the lesson, the teacher explained about function of bulletin board. After reading the material, the teacher expected the students to empathize with Saruta's feeling when he made a post on the bulletin board with joy. Then, the teacher allowed them to think his mother's feeling when she heard about Saruta's birthday present from the residence in the forest, and to be aware that his action is contrary to public morality. Then the teacher let the students recognize public morality through the scene where his parents talked Saruta about the role of the bulletin board. Finally the students reflected their thinking and behavior.

• Consistency with the three kinds of knowledge

Ethical code knowledge corresponds to the compliance knowledge, knowledge of ICT corresponds to knowledge of the function of the bulletin board, and knowledge of rational judgment of information technology corresponds to knowledge to follow a public morality. Based on this knowledge, the appropriate judgment of information ethics was made so that he goes to erase the post with his parents in the reading material. Therefore, I evaluated that this reading material is consistent with the three kinds of knowledge of information ethics.

• Presence of ambivalence

Saruta made a post with joy. He didn't know his action was contrary to public morality. Therefore his ignorance caused inappropriate judgment of information ethics. Therefore, I evaluated that this reading material doesn't have ambivalence.

• Presence of guidance

There is not guidance in this reading material because this material doesn't have

ambivalence.

The moral dilemma approach

In the lesson with moral dilemma, learners encounter the value conflict situation that the learner's moral cognition becomes imbalance at first. And then, they change their consideration to adjust the status of this disharmony and intend to improve the morality level higher [10]. A lot of books including reading materials and lesson practices using the moral dilemma approach were published. I selected two sets of reading materials and lesson practices concerning information ethics. I show one example below.

• Abstract of the reading material

Title: Dance
Target: Higher grade students in elementary school
Value: Friendship, Compliance
　　Minako is a elementary school student. She has a best friend Ai. Ai will move tomorrow. Minako wants have a good by party and sing her favorite song. Minako's sister has the CD which has the song. Her sister also uses the CD tomorrow. Her sister recommends Minako to copy the CD. However Minako learns that copying the CD is illegal. She falls into dilemma between whether she should copy the CD for the best friend, or she should not copy the CD because the illegal copy is wrong.
　　　　　　　　　　　　　　　　Nakada (2005) [11]

• Abstract of the lesson practice

The reading material has a dilemma between friendship that Minako wants to success the good by party for a best friend Ai and compliance that she has to obey copyright law. Moral dilemma lesson usually consisted with two lessons. In the first lesson, after reading the material, the teacher allowed the students to think Minako's feeling when her sister recommended Minako to copy the CD. Then the teacher enquired whether she should copy or she should not, and asked to make a note of reason (reasoning1). In the second lesson, the students discussed between both sides, and the teacher enquired whether again and asked to make a note of reason (reasoning2). Moral dilemma lesson is usually open ended.

• Consistency with the three kinds of knowledge

Ethical code knowledge corresponds to the compliance and friendship knowledge, knowledge of ICT corresponds to knowledge of copyright law, and knowledge of rational judgment of information technology corresponds to knowledge to compliance. Based on this knowledge, the appropriate judgment of information ethics is that Minako should not copy the CD. However, illegal copying is accepted in this lesson because the lesson was open ended. Therefore, I evaluated that this reading material is not consistent with the three kinds of knowledge of information ethics.

• Presence of ambivalence

It is difficult to make a judgment whether Minako's feeling which she wants to copy the CD for her best friend correspond to ambivalence. Araki (2015) said that a moral dilemma doesn't include a dilemma between strength and weakness of human mind or a dilemma between good and bad of human mind [12]. Therefore, Makiko's feeling doesn't correspond to ambivalence as a matter of convenience. Consequently, I evaluated that this reading material doesn't have ambivalence.

• Presence of guidance

There is not guidance in this reading material because this material doesn't have ambivalence.

The structural method

Kanai (2000) proposed the structural method [13]. Its feature is to structural values of morality and put emphasis on internal conflict. He arranged the relationships between the values and human nature into five categories, for example awareness of values concerning the aspect of human weakness and ugliness, awareness of values concerning the aspect of human dignity, and so on. He said that learners can overcome human weakness by being aware of human dignity in the structural method. Ambivalence in the model corresponds to the aspect of human weakness. Therefore, I assumed that learners could overcome ambivalence by being aware of human dignity if I used the structural method in the context of information ethics. A lot of lessons using the structural method were practiced and introduced in the books. I selected two sets of reading materials and lesson practices concerning information ethics. I show one example below.

• Abstract of the reading material

Title: A Class Mascot
Target: Fifth grade students in elementary school
Value: Honesty
　　A fifth grader, Mika was designated one of designers of a class mascot at an athletic meeting.

She was in a hurry but she couldn't think of an idea. She knew that it is not good to copy other's design from the internet, however, she fell into the trap of copying the mascot design since she thought people around her wouldn't notice.

The following day, she proposed her idea and it was chosen as the class mascot. The classmates drew the mascot on the class flag to use at the athletic meeting, but Mika couldn't look it, and her body became gradually hot. The next day, Mika attended school early in the morning and tore up the class flag. The homeroom teacher asked her why she did that, and she told the truth to her teacher.

Sasaki et al. (2016) [14]

• Abstract of the lesson practice

After reading the material, the teacher expected the students to empathize with Mika's feeling when she fell into the trap of copying the mascot design from the internet. Then, the teacher allowed them to contrast Mika's feeling when she could not look at the mascot on the class flag with that of when she told the truth to her homeroom teacher, and to make them be aware of the guilt and relief that Mika felt. Finally the teacher asked them the reason why Mika told honestly, and expects them be aware of human dignity.

• Consistency with the three kinds of knowledge

Ethical code knowledge corresponds to the law observance knowledge, knowledge of ICT corresponds to knowledge of copyright law, and knowledge of rational judgment of information technology corresponds to knowledge to follow a rule and to obey copyright law. Based on this knowledge, the appropriate judgment of information ethics was made so that she should not copy the mascot design in the reading material.

Therefore, I evaluated that this reading material is consistent with the three kinds of knowledge of information ethics.

• Presence of ambivalence

Mika fell into the trap of copying the mascot design. The aspect of human weakness caused the copy. Therefore, I evaluated that this reading material has ambivalence.

• Presence of guidance

The teacher let the students be aware of human dignity in order to overcome ambivalence. Therefore, there is guidance in this reading material.

Discussion

I selected six sets of reading materials and lesson practices relating to legal compliance. I show the results of analyzing them in Table 1. In "Three Kinds of Knowledge" column, I checked where the reading material was consistent with the three kinds of knowledge of information ethics. In "Ambivalence" column, I checked where the material had ambivalence. In "Guidance to Overcome" column, I checked where the material had guidance to overcome ambivalence. There are checks in "Textbooks" field. There are no checks in all fields of the moral dilemma approach. There are checks in all fields of the structural method.

Firstly, there are checks in all fields of "The Structural Method". This suggested that the structural method was consistent with the new judgment model of information ethics. Therefore, I can conclude that the structural method is the most appropriate to educate the students in information ethics based on the new judgment model of information ethics. Secondly, there are no checks in all fields of "The Moral Dilemma Approach". This suggested that the moral dilemma approach was not consistent

Table 1   Result of analyzing teaching methods

Teaching Method	Title	Target Grade	Three Kinds of Knowledge	Ambivalence	Guidence to Overcome
Textbooks	Bulletin Board of a Forest	2nd	✓		
	Picture of a Japanese Sweets Shopkeeper [11]	4th	✓	✓	
The Moral Dilemma Approach	Dance	5th, 6th			
	Do You Like My Poem ? [16]	5th, 6th			
The Structural Method	Class Mascot	5th	✓	✓	✓
	The Replaced Poem [17]	5th	✓	✓	✓

with the new judgment model of information ethics. Therefore, I can conclude that the moral dilemma approach is not so appropriate. Thirdly, there are checks in some fields of "Textbooks". I can't conclude easily that the teaching method of textbooks was not consistent with the new judgment model of information ethics. Because teachers could change how to develop the lesson and introduce the guidance to overcome ambivalence if there was ambivalence in the reading material.

Therefore I chose the structural method and went to the practice in the lesson to clarify the effectiveness of the method.

Practice of the Structural Method

Lesson Plan

I chose "Class Mascot" as the reading material of the structural method. After reading the material, the teacher expects the students to empathize with Mika's feeling when she fell into the trap of copying the mascot design from the internet. Then, the teacher allows them to contrast Mika's feeling when she could not look at the mascot on the class flag with that of when she told the truth to her homeroom teacher, and to make them be aware of the guilt and relief that Mika felt. Finally the teacher asks them the reason why Mika told honestly, and expects them be aware of human dignity.

Practice of the lesson

- Purpose: Examining whether the lesson using the structural method is useful to overcome ambivalence.
- Target: Thirty three 5th grade students in elementary school.
- Date of the lesson: May 8th, 2016
- Practice of the lesson: The lesson was generally developed along with the lesson plan. The teacher put pictures of the scene and the characters on the blackboard to encourage the students to imagine. Almost all students positively raised their hands and spoke their thoughts and ideas.

Results

The teacher questioned the students, "How do you feel if you couldn't think of an idea as well as Mika ? " and allowed them write on the worksheets. The number of the students who I evaluated that he/she

empathized with Mika's feeling was 30 (90.9 %). Some notes are shown below.

> I am in a hurry like Mika. I think I also copied the design.
> If I couldn't think of a good idea for the class mascot, I would have relied on the internet.

The teacher questioned the students, "How did Mika feel when she told the truth to her homeroom teacher honestly. The number of the students who I evaluated that he/she was aware of Mika's feeling was 22 (66.7 %). Some notes are shown below.

The teacher questioned the students, "Why did Mika tell the truth to her homeroom teacher ? " The number of the students who I evaluated that he/she was aware of human dignity was 3 (9.1 %). Some notes are shown below.

> She felt relaxed when she told the truth to the homeroom teacher.
> She became cheerful since she was honest.

As a result, it was found that the lesson hadn't overcome ambivalence completely since the number of the students who were aware of human dignity was small. However, more than two thirds of the students were aware of Mika's feeling. I speculated that this meant they were about to overcome ambivalence. I was sure that they could overcome by devising the questions in the lessons.

Conclusion

One of the purposes of this study was to discuss which teaching method was the most appropriate. I discussed which method was the most appropriate method and chose the structural method. The other objective was to clarify the effectiveness of the teaching method through the practice in the moral lesson. I indicated that the instruction to overcome the ambivalence was so important in the new judgment model. Therefore I tested whether the lesson using the structural method could overcome the ambivalence. As a result the lesson using the structural method hadn't overcome ambivalence completely. However, I was sure that the lesson was useful to educate the students about morality through the practice of the lesson.

Notes

This work was additionally modified and written from Sasaki (2016) [18] and Sasaki & Miyaji (2016) [19].

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