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Differences in Social Sensitivity Between Male and Female Students in IPAS Learning Using the Moral Dilemma Model Assisted by Interactive Animation and Expository Learning

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Abstract

This study aims to analyze the differences in social sensitivity of elementary school students who learn using the interactive animation-assisted Moral Dilemma model and the expository model, analyze the differences in social sensitivity based on gender, and examine the differences in social sensitivity between male and female students in each learning model. The study uses an experimental method with a 2x2 treatment by level design. The research sample consists of fourth-grade elementary school students divided into an experimental group and a control group. Data were collected using a social sensitivity questionnaire instrument that has met the requirements of validity and reliability. Data analysis was carried out using two-way ANOVA and continued with the Tukey post hoc test. The results of the study show that students who learn using the interactive animation-assisted Moral Dilemma model have higher social sensitivity compared to students who learn using the expository model. In addition, there is a difference in social sensitivity between female students and male students. In the group that learns using the interactive animation-assisted Moral Dilemma model, a difference in social sensitivity was found between female and male students. Likewise, in the group that learns using the expository model, there is a difference in social sensitivity between female and male students. The conclusion of the study shows that the interactive animation-assisted Moral Dilemma model is an effective learning alternative to develop the social sensitivity of elementary school students. Teachers are advised to integrate

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moral dilemma-based learning and interactive media in IPAS learning to support the strengthening of students' social competencies.

Keywords: Interactive Animation, Gender, Social Sensitivity, Moral Dilemma, IPAS Learning.

INTRODUCTION

Social sensitivity is one of the important competencies that elementary school students must possess as a provision for interacting and participating positively in their social environment. Social sensitivity is not only related to the ability to understand the feelings and needs of others, but also includes the willingness to respond and act prosocially towards various problems that occur in the surrounding environment. According to Goleman (1996), social sensitivity is part of social awareness which is characterized by the ability to understand the perspectives of others, show empathy, and build positive social relationships.

The urgency of developing social sensitivity is increasing in the current digital era. Generation Alpha grows up in an environment full of technology so that social interactions no longer take place directly, but also through digital spaces. This condition presents its own challenges in the formation of empathy, social concern, and prosocial behavior of students. Various phenomena such as bullying, apathetic attitudes towards the environment, low concern for friends who are experiencing difficulties, and conflicts between students are indications that the development of social sensitivity still faces various challenges in the educational environment.

Empirical data shows that social problems among children are still quite high. The Indonesian Child Protection Commission (KPAI) reports in 2023 and 2024 show that cases of bullying in the educational environment remain one of the most widely reported cases. Initial research findings at SDN Petamburan 07 also show the existence of mutual mocking behavior, bullying, fights between students, and negative provocations between groups of students. These conditions indicate that the learning that takes place has not fully succeeded in developing students' social sensitivity optimally.

One of the factors suspected of influencing students' low social sensitivity is the use of learning models that are still teacher-centered. Expository learning which dominantly uses the lecture method tends to make students passive recipients of information and lack the opportunity to develop moral thinking skills, empathy, and social reflection. In fact, IPAS learning has characteristics that are very close to the students' social lives, thus requiring an approach capable

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of presenting meaningful and contextual learning experiences. The constructivistic approach can be one solution; this approach, which is interpreted as a philosophy and learning theory that believes students do not receive knowledge passively, can increase active student participation in learning, support in-depth understanding of concepts, and encourage the development of critical thinking skills A. Dulyapit (2025).

The interactive animation-assisted Moral Dilemma model is seen as a potential alternative to overcome these problems. This model invites students to analyze various moral conflicts, consider multiple points of view, and determine decisions based on ethical considerations. The integration of interactive animation allows students to gain learning experiences that are more concrete, interesting, and closer to everyday life so as to increase students' emotional and cognitive involvement in understanding various social issues. Dulyapit and Ulfa (2024) The effectiveness of education in fostering integrity, empathy, and social responsibility with an interactive and integrative approach can raise moral standards.

In addition to the learning model factor, gender is also a factor that influences the development of students' social sensitivity. The Ethics of Care theory proposed by Gilligan explains that females tend to have a moral orientation based on care and interpersonal relationships, whereas males more often use an orientation of justice and rules in viewing a social issue. These differences in characteristics allow for differences in the level of social sensitivity between male and female students in various learning contexts.

Several previous studies show that learning models oriented toward social problem solving have the potential to increase students' social sensitivity. Wahyuningsih and Oktavia (2022) found that the Sukuraga puppet-assisted conflict resolution model is effective in increasing student empathy in social studies learning. This study has similarities in efforts to develop students' social-affective aspects, but has not utilized interactive digital media and has not considered gender factors.

Suma and Ardana (2025) showed that the Problem Based Learning model is more effective than conventional learning in increasing students' social sensitivity. The similarity of this research lies in the use of innovative learning models to develop students' social aspects. The difference is that this study uses the Moral Dilemma model which specifically focuses on moral decision making and is supported by interactive animation.

Khofid (2024) reported that the Contextual Teaching and Learning approach is capable of developing students' social sensitivity through contextual learning experiences. However, that study used a descriptive approach, so it has not been able to strongly explain causal relationships

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like the experimental research used in this study.

Based on the results of these previous studies, it can be concluded that there is still room for research related to the use of the interactive animation-assisted Moral Dilemma model as well as studies on differences in social sensitivity based on gender. Therefore, this research offers novelty through the integration of the Moral Dilemma model, interactive animation, and gender analysis in IPAS learning in elementary schools.

The material object in this study is the social sensitivity of elementary school students in IPAS learning. Social sensitivity is understood as an individual's ability to understand the perspectives of others, feel the emotional conditions experienced by others, and show prosocial behavior in response to social needs in the surrounding environment. In the context of basic education, Nurhasanah (2017) social sensitivity becomes one of the important competencies that support the formation of character, ability to interact, and community life of students.

To examine this material object, this study uses the social sensitivity theories developed by Daniel Goleman, Martin Hoffman, Eisenberg, and Sarwono. Goleman (1996) views social sensitivity as part of emotional intelligence which includes the ability to understand the feelings, needs, and perspectives of others. Hoffman (2001) places empathy as the main foundation of moral development and social sensitivity, which consists of affective and cognitive components. Meanwhile, Eisenberg emphasizes that social sensitivity plays an important role in encouraging a person's prosocial behavior. Based on the synthesis of these various theories, Sarwono (2018) formulated that social sensitivity consists of three main dimensions, namely cognitive empathy (perspective taking), affective empathy (sympathy), and prosocial behavior.

The theory of social sensitivity was chosen because it is relevant to the research objectives which focus on developing students' abilities to understand, feel, and respond to various social issues. In this study, the theory is used to explain changes in the level of students' social sensitivity after participating in learning using the interactive animation-assisted Moral Dilemma model as well as the expository model.

In addition to the theory of social sensitivity, this study also uses Lawrence Kohlberg's theory of moral development as a foundation to explain the mechanism of action of the Moral Dilemma model. Kohlberg's theory of moral development departs from the idea that individuals develop through increasingly complex stages of moral reasoning. One strategy used by Kohlberg to develop moral capabilities is the presentation of moral dilemma situations that require individuals to consider various values, viewpoints, and consequences of a decision. In the context of this study, the Moral Dilemma model is used to facilitate students in analyzing various social

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conflicts that are close to their lives so as to be able to increase empathy, perspective taking, and prosocial behavior.

The application of Kohlberg's theory in this study has been adapted to the characteristics of elementary school students who are still at the concrete operational stage. Quality character must be educated from an early age, especially for elementary students, standards and virtues such as social community behavior N Nurhasanah et al. (2022). Therefore, the presentation of moral dilemmas is not only done through verbal discussions, but is also supported by interactive animations capable of visualizing social conflicts more realistically and easily understood by students. Thus, the theory of moral development is not applied completely as in older learners, but is reduced and adapted to the cognitive development needs of elementary school students. The implementation of character education in schools can be completed in learning exercises in the classroom, the creation of school culture, and daily exercises at home or the local environment (Nurhasanah and Yarmi, n.d.).

This study also considers the Ethics of Care theory developed by Gilligan to explain differences in social sensitivity based on gender. Gilligan (1993) explains that females tend to use a care-based moral orientation (care orientation), while males more often use a justice-based orientation (justice orientation). This theory is used to understand the possible emergence of differences in the level of social sensitivity between female and male students, both in the group learning using the interactive animation-assisted Moral Dilemma model and in the group learning using the expository model.

Based on this description, the theory of social sensitivity, Kohlberg's theory of moral development, and Gilligan's Ethics of Care theory are deemed relevant to explain the relationship between learning models, gender, and the social sensitivity of elementary school students. These three theories complement each other in explaining the process of forming social sensitivity, both from the moral, emotional aspects, and gender characteristics of learners.

Based on this description, there is a research gap that needs to be examined further, namely that there is not much research specifically integrating the Moral Dilemma model, interactive animation, and gender factors in an effort to improve the social sensitivity of elementary school students. Therefore, this research is important to conduct to obtain empirical evidence regarding the effectiveness of the interactive animation-assisted Moral Dilemma model and the differences in social sensitivity based on gender in IPAS learning.

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RESEARCH HYPOTHESIS

H_1 : There is a difference in social sensitivity between students who learn using the interactive animation-assisted Moral Dilemma model and students who learn using the expository model.

H_2 : There is a difference in social sensitivity between female students and male students.

H_3 : There is a difference in social sensitivity between female and male students who learn using the interactive animation-assisted Moral Dilemma model.

H_4 : There is a difference in social sensitivity between female and male students who learn using the expository model.

RESEARCH METHODOLOGY

This research uses a quantitative approach with an experimental method because the main objective of the research is to test the effect of a certain treatment on students' social sensitivity and compare the differences that arise based on gender. The quantitative approach was chosen because it allows for objective measurement of the level of social sensitivity through numerical data that can be analyzed using inferential statistical techniques. Meanwhile, the experimental method is considered the most appropriate for answering research questions because it is able to identify causal relationships between the applied learning model and changes in students' social sensitivity.

The research design used is a 2 × 2 treatment by level design. This design allows researchers to analyze the effect of the learning model as an independent variable and gender differences as an attribute variable on students' social sensitivity. The use of this design is relevant to the research objectives, which do not only compare the effectiveness of the interactive animation-assisted Moral Dilemma model and the expository model, but also examine differences in social sensitivity based on gender in each learning group.

The research data is in the form of students' social sensitivity scores obtained through a questionnaire instrument. Social sensitivity is measured based on three main indicators, namely cognitive empathy, affective empathy, and prosocial behavior. The use of a questionnaire is considered appropriate because it is able to systematically reach all the indicators studied and provide quantitative data that can be analyzed statistically. Before being used in research, the instrument has gone through validity and reliability tests to ensure the accuracy and consistency of the measurement results.

The source of research data comes from fourth-grade elementary school students who are

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the subjects of the research. The selection of elementary school students as data sources is following the research objectives focusing on the development of social sensitivity in IPAS learning at the basic education level. The data obtained describes students' responses to the learning treatment given during the research process.

Data collection techniques were carried out by distributing social sensitivity questionnaires after the learning process was completed. This technique was chosen because it is capable of producing data according to the research variable indicators and allows objective comparisons between the experimental group and the control group.

Data analysis was performed using two-way Analysis of Variance (ANOVA). This technique was chosen because it is able to test the difference in the average social sensitivity based on learning models and gender simultaneously. Furthermore, to find out more specific differences between groups, the analysis was continued using the Tukey post hoc test. The combination of these two analysis techniques is considered appropriate because it is capable of providing more comprehensive information in answering all research questions.

The research was conducted on fourth-grade students of SDN Petamburan 07 and SDN Petamburan 05, Central Jakarta, in the even semester of the 2024/2025 Academic Year. The selection of the research location is based on the discovery of various social phenomena relevant to the research focus, such as low social concern, bullying behavior, and the students' lack of ability to understand others' perspectives. These conditions make the research location suitable for testing the effectiveness of the interactive animation-assisted Moral Dilemma model in increasing students' social sensitivity.

RESEARCH RESULTS

The results of the descriptive analysis indicate a difference in the mean social sensitivity in each research group. The group of students who studied using the interactive animation-assisted Moral Dilemma model had a higher mean social sensitivity compared to the group of students who studied using the expository model. In the Moral Dilemma experimental class group, the mean social sensitivity of female students reached 76.4, while male students amounted to 66.8. Meanwhile, in the expository control class group, the mean social sensitivity of female students was 71.8 and male students was 62.0.

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Table 1 Summary of Student Social Sensitivity Scores Descriptives

	GENDER	CLASS	N	Missing	Mean	Median	SD	Minimum	Maximum
SCORE	M	CONTROL	29	0	62.0	63	8.57	44	80
		EXPERIMENTAL	29	0	66.8	68	9.22	49	89
	F	CONTROL	33	0	71.8	74	9.17	53	87
		EXPERIMENTAL	34	0	76.4	76.0	7.37	62	90

In general, the group of students who received Moral Dilemma learning assisted by interactive animation showed a higher level of social sensitivity compared to the group that received expository learning. In addition, female students showed a higher mean social sensitivity than male students in both the experimental group and the control group.

Furthermore, the results of the two-way ANOVA test show that learning model and gender factors have a significant influence on students' social sensitivity. However, no significant interaction was found between learning models and gender on students' social sensitivity.

Hypothesis Testing

Table 2 2-Way ANOVA Statistical Test

	Sum of Squares	df	Mean Square	F	p	η^2
A	694.949	1	694.949	9.42631	0.003	0.055
B	2917.875	1	2917.875	39.57817	<.001	0.233
A ✻ B	0.556	1	0.556	0.00755	0.931	0.000
Residuals	8920.648	121	73.724			

Explanation:
A = Learning Model
B = Gender
A*B = Interaction of learning model and gender

Hypothesis 1

The first hypothesis states that there is a difference in social sensitivity between students who learn using the interactive animation-assisted Moral Dilemma model and students who learn using the expository model.

The two-way ANOVA results in table 2 show an F value = 9.426 with a significance value of

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0.003 ($p < 0.05$). Thus H_o is rejected and H_1 is accepted. This means that there is a significant difference in students' social sensitivity between the group that learns using the interactive animation-assisted Moral Dilemma model and the group that learns using the expository model.

Hypothesis 2

The second hypothesis states that there is a difference in social sensitivity between female students and male students.

The two-way ANOVA results referring to table 2 show an F value = 39.572 with a significance value of 0.000 ($p < 0.05$). Thus H_o is rejected and H_2 is accepted. This means that there is a significant difference in social sensitivity between female students and male students.

Hypothesis 3

Table 3 Tukey Post Hoc Test Results

Comparison					Mean Difference	SE	df	t	ptukey
A2	B2	-	A2	B1	-9.82	2.19	121	-4.49	<.001
		-	A1	B2	-4.86	2.25	121	-2.16	0.142
		-	A1	B1	-14.42	2.17	121	-6.64	<.001
	B1	-	A1	B2	4.96	2.19	121	2.27	0.111
		-	A1	B1	-4.59	2.10	121	-2.19	0.132
A1	B2	-	A1	B1	-9.55	2.17	121	-4.40	<.001

Note. Comparisons are based on estimated marginal means.

Explanation :

A1 : Interactive animation-assisted moral dilemma model

A2 : Expository model

B1 : Female Students

B2 : Male Students

The third hypothesis states that there is a difference in social sensitivity between female and male students who learn using the interactive animation-assisted Moral Dilemma model.

Table 3 shows a significance value of p = < .001; because $p < 0.05$, H0 is rejected and H1 is accepted. There is a significant difference between male and female students who learn using the interactive animation-assisted moral dilemma model. The interpretation of the following data is that even though they both use the interactive animation-assisted moral dilemma model, female

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students still have higher social sensitivity compared to male students.

Hypothesis 4

The fourth hypothesis states that there is a difference in social sensitivity between female and male students who learn using the expository model.

Referring to table 3 shows that p = < .001; because p < 0.05, H0 is rejected and H1 is accepted. There is a significant difference between male and female students in the group of students learning using the expository model. The interpretation of the following data explains that in expository learning, female students have much higher social sensitivity compared to male students. This means that even without innovative learning models, females still show higher empathy, better social care, and stronger social sensitivity.

DISCUSSION

Main Research Results

The main findings of the study indicate that the interactive animation-assisted Moral Dilemma model is more effective than the expository model in increasing the social sensitivity of elementary school students. These results indicate that learning that places students in moral conflict situations and encourages them to consider various social perspectives is able to develop empathy, care, and prosocial behavior more optimally compared to teacher-centered learning.

These findings align with Kohlberg's theory of moral development which asserts that discussions regarding moral dilemmas can stimulate the development of learners' moral reasoning. When students are faced with a social conflict through interactive animation, they do not only passively receive information, but are also involved in the thought process, considering the consequences of actions, and understanding the perspectives of others. It is this process that later contributes to the increase in students' social sensitivity.

The research results also show that there are differences in social sensitivity between female students and male students. Female students have a higher mean social sensitivity compared to male students. This finding supports the Ethics of Care theory proposed by Gilligan, that females tend to have a care-based moral orientation (care orientation), thus being more sensitive to the emotional conditions and social needs of others.

Interestingly, these gender differences still appear both in the group learning using the Moral Dilemma model and in the group learning using the expository model. This shows that gender characteristics remain one of the factors that influence the development of students'

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social sensitivity even though they receive different learning models.

The findings of this study share similarities with the research by Wahyuningsih and Oktavia, which found that social conflict-based learning can increase student empathy. The results of this study are also in line with the research of Suma and Ardana, which concluded that the use of active learning models is more effective in increasing social sensitivity compared to conventional learning. In addition, this study strengthens Khofid's findings that contextual learning experiences play an important role in shaping the social sensitivity of learners.

The difference is that previous studies generally only focused on the effectiveness of learning models without integrating interactive animation media and gender analysis simultaneously. This study shows that the use of interactive animation is able to strengthen students' moral reflection processes through visualization of social situations that are more concrete and closer to the daily lives of elementary school students.

Proposed Ideas

Based on the research results, the development of elementary school students' social sensitivity will be more effective if moral learning is not only conducted through verbal delivery of concepts, but also through learning experiences that present social conflicts realistically and contextually. Therefore, Moral Dilemma-based learning combined with interactive animation can be offered as an alternative approach in IPAS learning to develop empathy, perspective-taking skills, and prosocial behavior of students.

Novelty

The novelty of this study lies in the integration of the Moral Dilemma model with interactive animation in an effort to develop the social sensitivity of elementary school students and examining it based on gender differences. Unlike previous research that only examined the effectiveness of learning models or media separately, this study shows that the combination of moral dilemma discussions and interactive visualizations is able to create a learning experience that is more concrete, reflective, and meaningful for students in developing their social sensitivity.

Thus, this study provides a new contribution to the development of IPAS learning based on moral and character education at the elementary school level.

CONCLUSION

This study shows that the interactive animation-assisted Moral Dilemma model is more

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effective than the expository model in increasing the social sensitivity of elementary school students in IPAS learning. In addition, there is a difference in social sensitivity between female students and male students. In both learning models, female students showed a higher level of social sensitivity compared to male students. These findings confirm that the use of moral dilemma-based learning supported by interactive animation media is able to help students understand others' perspectives, develop empathy, and foster prosocial behavior more optimally.

Theoretically, the results of this study strengthen the theory of social sensitivity, Kohlberg's theory of moral development, and Gilligan's Ethics of Care theory which explain that moral reasoning processes and gender characteristics play a role in the formation of students' social sensitivity. Practically, this research provides implications that teachers need to develop learning that is more contextual, participatory, and oriented towards strengthening social character through the utilization of the interactive animation-assisted Moral Dilemma model in IPAS learning.

This study is still limited to one elementary school and only reviews the gender factor as an attribute variable. Therefore, further research needs to be conducted on a broader sample coverage by considering other factors that have the potential to influence social sensitivity, such as the family environment, school culture, and the emotional intelligence of students. Based on the research findings, teachers and schools are recommended to integrate moral dilemma-based learning and interactive technology as an effort to strengthen social sensitivity as well as character education of learners.

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