

The Parents' Role in Science Education During Covid-19 Pandemic Era

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Abstract. Teaching Learning during the Covid-19 pandemic era is carried out by online from home, so the parents' role is absolutely necessary. This study aims to analyze the parents' role in children's science education at home during the Covid-19 pandemic era. The related science learning is to explain and to communicate efforts of risk reduction and impact of natural disasters. This study uses a qualitative design with a phenomenological approach. The research was carried out on the guardians of students at SMP Negeri 1 Bandung for the 2020/2021 academic year. The guardians of the students as respondents were divided into three groups, namely group based on educational background, income level, and type of work. Collecting data using interview techniques, questionnaires, documentation, and observation. Data were analyzed by qualitative analysis. The findings of this study as follow. The parents' with higher education levels and the parents' with ASN/TNI Polri jobs is the best role plays as learner, partner, teacher, pioneer, role model and family nursing, but the income level of parents' has no effect on their position as a learner and family nursing. It is Recommended to do further research on children psychological family nursing during the covid-19 pandemic era.

Keywords: parents' role; science education; Covid 19 pandemic era.

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INTRODUCTION

The Corona virus disease (Covid-19) outbreak has caused all areas of life to feel its negative impact. The fields of health, tourism, economy, culture, religion and education are all experiencing a slump. In the field of education, the process of teaching and learning activities at schools, from kindergarten to university level is carried out through online distance learning (online distance learning) using computers, laptops, smartphones with various applications that offered by providers.

The implementation of online distance learning, received mixed responses from the public. Various complaints began to occur in the community. Several parents and students complained that the task load given by the teacher was too much and too heavy, especially complaints about the large internet quota budget swelling. Complaints about the implementation of online distance learning are also felt among the teaching staff. The function of the teacher as an educator who is required to instill character education for students cannot be realized. Not only Curriculum demands concerning with skill competency but also the tasks that should be collected by the students cannot be implemented optimally. All of these are obstacles in the implementation of online distance learning.

The presence of the government is absolutely needed to reduce the spread of Covid-19

pandemic era. The government has done a lot to suppress the spread of Covid-19 pandemic era, including the establishment of a Covid-19 pandemic era handling task force from central government to the neighborhood level, issuing the 5M rule (wearing masks, washing hands with soap in running water, maintaining distance, staying away from crowds, reducing mobility and interactions), increasing the budget for handling Covid-19 pandemic era, learning in schools using online modes and limiting community social activities. Especially in the field of education, the success of teaching learning during the pandemic era requires synergy between the government, schools, and students' parents. Parental support for the success of education in pandemic era period, cannot be separated from the background of the education level, income level and type of parental occupation. Therefore, a study was conducted that will discuss parental support in learning during the Covid-19 pandemic era.

LITERATURE REVIEW

During the Covid-19 pandemic era, technological advances have become the most efficient and effective means of communicating in various ways, including in the world of education. The learning process during the Covid-19 pandemic era utilizes e-learning (Kuntarto, 2017), for example using zoom, Google classrooms (Heggart & Yoo 2018; Yanti,

et al., 2020). Other online platforms used as e-learning media include Smart Classes, Quipper, Google Indonesia, Sekolahmu, Zenius, and Microsoft (Abidah, *et al.*, 2020). However, the factor of readiness of school infrastructure, the ability of teachers to teach online, the availability of smart phones sufficient to run online, learning applications, are obstacles in implementing online distance learning (Tedja, 2020).

On the other hand, the successful implementation of online distance learning must also have the support of parents and guardians of students. The efforts made by the school can be maximally successful if there is a cooperation between the school and parents (Patrikakou, 2017), but in practice the involvement of parents in online distance learning have still not effective yet. (Fauzi & Khusuma, 2020). This is also reinforced by the results of preliminary research which found that the level of parental participation in e-learning is still low. Parental involvement in learning is influenced by socioeconomic status (Schunk, 2012), education of (Cholifah, *et al.*, 2016), and type of parental occupation (Putra & Baharuddin, 2018.)

Research conducted by Davis-Kean, (2019) shows that social status, economy, education and parental income are indirectly related to children's academic achievement. The level of parental education has a positive influence on children's learning levels (Cholifah, *et al.*, 2016; Muñoz-Galiano, 2020). Meanwhile, Chevalier, *et al.*, (2013) said that parents' income and education had an impact on their children's desire to continue their education. Highly educated parents are more likely to direct and educate children not to do actions that can harm others (Akee, *et al.*, 2010). Research conducted by Es, *et al.*, (2019) shows that the level of parental education is related to experiments and children's science process skills.

Parents consider science experiments as science homework so that parents also feel as a learner (Es, *et al.*, 2019). Monitoring, support, mentoring, role models, and openness and awareness from parents are needed to find solutions to problems parents also still have to learn (Dudley & Marling, 2003). Brown, *et al.*, (2019) said that parents as partners for children to improve reading literacy and work together in solving a problem. As partners, parents can read books to their children at home, help their children to do homework, and take responsibility for their children's success in learning (Edie & McNelis, 2008). This is the Real action as a

learning partner according to Marshall & Swan (2010) parents in helping their children solve math problems.

Family is a place of holistic learning for children (Shelly, *et al.*, 2003). Parents are also help in the improvement program for mathematics subjects (National Literacy Trust, 2011). Parenting patterns at home provide a learning environment, giving motivation, discuss between parents and children, inculcate social values education, good behavior, giving appreciation to children are the implementation of parents as teachers at home (Desforjes & Abouchaar, 2003).

Parents choose to raise their children by exemplary (Spurgin, 2012). For the first time, parents (father and mother) are in the position of guides (teachers), teachers, educators, mentors and role models or the main role models for children (Jailani, 2014). Wiese & Freund (2015), adding that parents act as role model for children.

Parents are obliged to maintain and care for the family members health. Not only physically but also in maintaining and caring for the spiritual health needs of other family members, especially children (Tanyi, 2006). Families can collaborate with local health workers in increasing the understanding about maintaining family health and caring for sick family members (Bell, 2013; Kelen, *et al.*, 2016). Widagdo (2016) states that the duties of family health care include (a) recognizing family health problems, (b) deciding appropriate health actions for the family, (c) caring for families experiencing health problems, (d) modifying the family environment to ensure family health, (e) take advantage of the surrounding health service facilities for families.

Parents are also play a role in science activities by encouraging children to observe, to ask questions, to experiment, tinker, to seek and to understand natural phenomena independently (NSTA, 2009). Parents in grow the interest of science and careers related to science by giving appreciating and supporting continuously children's achievements in the field of science (Halim, *et al.*, 2018). Based on the literature review, the role of parents in science education during the Covid-19 pandemic era will be investigated as a learner (learner), partner (work partner), teacher (teacher), pioneer (idea opener/pioneer/pioneer), role model (role model). and family nursing (family health nurse) in explaining risk reduction actions before, during, and after the disaster in accordance with the threat of disaster, environmental pollution, food

additives and communicating efforts to reduce the risk and impact of natural disasters to children during the Covid-19 pandemic era.

METHOD

Research Goal

The purpose of this study is to analyze the role of parents as a learner (learner), partner (work partner), teacher (teacher), pioneer (idea/pioneer/pioneer), role model (role model) and family nursing (health nurse family) in science learning during the Covid-19 pandemic era.

Sample and Data Collection

The study was conducted on the parents of 7th, 8th and 9th graders of SMP Negeri 1 Bandungan for the 2020/2021 academic year with a total of 609 parents. Data collection techniques used questionnaires, interviews, observations, and document searches. The questionnaires instrument was an attitude scale test consisting of

five points, strongly agree, agree, neutral, disagree, strongly disagree. Questionnaires were given through a google form, to find out the parents' responses about science learning during the Covid-19 pandemic era, and the responses were analyzed. Interview techniques are used to find out what and how parents' attitudes or behavior related to science learning during the Covid-19 pandemic era. Documents are used to determine the educational background, income level and type of parental occupation.

Analyzing of Data

The data collected through questionnaires and interviews were combined, then analyzed using qualitative descriptive analysis and narrated.

RESULTS AND DISCUSSION

This research result to conduct the parents' role in science education during covid-19 pandemic era shown in Table 1.

Table 1. Questionnaire Score Avarege of Parents' Role in Science Education During Covid-19 Pandemic Era

No	Responden Background	Criteria	The Role Parents'					
			Learner	Partner	Teacher	Pioneer	Role Model	Family Nursing
1.	Education Level	Basic Education	4.48	4.32	4.25	4.48	4.39	4.37
		Advance	4.42	4.36	3.99	4.49	4.32	4.36
		Intermediete	4.75	4.64	4.55	4.51	4.67	4.47
2.	The Income Level	Low	4.49	4.32	4.22	4.46	4.37	4.39
		Medium	4.46	4.35	4.23	4.46	4.38	4.38
		High	4.39	4.40	4.30	4.73	4.41	4.37
3.	Kinf of Jobs	Porter	4.47	4.36	4.26	4.49	4.33	4.40
		Worker	4.45	4.33	4.28	4.47	4.34	4.34
		ASN/TNI/Polri	4.80	4.85	4.60	4.90	4.67	4.70

The educational background and type of parental occupation have a role in the position of parents as learners in science learning during the Covid-19 pandemic era, but the parents' income levels background does not have a convincing role in the position of parents as learners. Parents as learners have a role to implement the basic science competencies about explaining risk reduction actions before, during, and after disasters according to the threat of disasters in their area. The concrete actions that have been taken include learning how to find information, how to prevent the spread, and protect family members from Covid-19, and informing children at home. The group of parents with a higher education level has a better role as a learner than the group of parents with a basic education level and a secondary education level in science learning during the Covid-19 pandemic era. This

is in accordance with the opinion of Es, *et al.*, (2019) which says that the level of education is correlated with skills in the science process. The type of parental work as ASN/TNI Polri acts as a better learner than the parent group with private and labor jobs in science learning during the Covid-19 pandemic era. The income level of parents has no effect on their position as a learner in science learning during the Covid-19 pandemic era.

The educational background, income level and type of parental occupation play a role in the position of parents as partners in science learning during the Covid-19 pandemic era. The actions of parents as partners in science learning are related to explain and to communicate about risk reduction before, during, and after disasters according to the threat of disasters in their area. Concrete actions include being willing to

accompany children to learn science during the pandemic era, being a discussion partner for children in science learning, reminding children when they are doing science learning assignments, listening to children's complaints when they have difficulty learning science and being a place to find solutions to problems. Parents with higher education levels play a better role as partners than parents with primary and secondary education levels in science learning during the Covid-19 pandemic era. Parents with high income levels have a better role as partners than parents with moderate income levels and low income levels in science learning during the Covid-19 pandemic era. The type of parental work as ASN/TNI Polri acts as a better partner than the parent group with private and labor jobs in science learning during the Covid-19 pandemic era.

Educational background, income level and type of work have a role in the position of parents as teachers in science learning during the Covid-19 pandemic era. As teachers, parents implement pedagogical competencies as teachers, including: understanding children's characteristics, helping develop children, providing space and time for discussion in learning activities, motivating, and communicating actively with children. Regarding the role of parents in learning science at home, parents have communicated efforts to reduce the risk and impact of disasters in accordance with disasters in their area. The actions taken include informing about the importance of science in everyday life, guiding children to solve problems in science learning, motivating and appreciating achievements in learning science, appreciating children in science learning, asking and checking the completion of science learning tasks from school, and convey the problem of the relationship between covid-19 and science lessons. Parents at home provide a learning environment, provide motivation, discuss between parents and children, inculcate social values education, good behavior procedures, give appreciation to children are the implementation of parents becoming teachers at home (Desforges & Abouchaar, 2003). Groups of parents with higher education levels have a better role as teachers than groups of parents with primary and secondary education levels in science learning during the Covid-19 pandemic era. Parents with high income levels have a better role as teachers than parents with medium income levels and low income levels in science learning during the Covid-19 pandemic era. The type of work of

parents as ASN/TNI Polri plays a better role as teachers than parents with private jobs and laborers in science learning during the Covid-19 pandemic era.

The educational background, income level and type of work of parents have a role in the position of parents as pioneers in science learning during the Covid-19 pandemic era. Parents as pioneers play a role in implementing science basic competencies, namely communicating efforts to reduce the risk and impact of natural disasters in accordance with disasters in their area and applying spiritual and social competencies to students. Parents as pioneers in starting and ending activities with prayer, adopting a healthy lifestyle, being a family pioneer in implementing health protocols and maintaining environmental pollution and providing time to share something for the family. The group of parents with a higher education level has a better role as a pioneer than the group of parents with a basic education level and a secondary education level in science learning during the Covid-19 pandemic era. Parents with high income levels have a better role as pioneers than parents with moderate income levels and low income levels in science learning during the Covid-19 pandemic era. The type of parental work as ASN/TNI Polri acts as a pioneer better than parents with private and labor jobs in science learning during the Covid-19 pandemic era.

The level of education, income level and type of work of parents have a role in the position of parents as role models in science learning during the Covid-19 pandemic era. Parents as role models in science learning model the behavior of efforts to reduce the risk and impact of disasters in accordance with disasters in their area. Concrete actions include covering the mouth when sneezing and coughing to maintain health and reduce the spread of Covid-19, implementing a clean lifestyle by maintaining the home environment, and getting used to drinking warm water before eating and eating healthy foods every day to increase the body's immunity. Parents (father and mother) have the position as guides (teachers), teachers, educators, mentors and role models or the main role models obtained by children ((Jailani, 2014). In spiritual and social competence exemplified attitudes of sharing, caring for others, gratitude, and piety to God. Groups of parents with higher education levels have a better role as role models than groups of parents with primary and secondary education levels in science learning during the Covid-19

pandemic era. Parents with high income levels have a better role as role models. model compared to parents with medium income levels and low income levels in science learning during the Covid-19 pandemic era. The type of parental work as ASN/TNI Polri plays a better role as role models than parents with private jobs and laborers in science learning during the Covid-19 pandemic era.

On the other hand, parents also commit non-physical violence against family members, such as being angry with their children for not wanting to have breakfast, always have to wake them up for online learning, playing games for too long, not doing assignments and getting more and more difficult to control their emotions. Such emotional actions can cause psychological health problems for children.

CONCLUSION

Conclusion of this study is the parents' with higher education levels and the parents' with ASN/TNI Polri jobs is the best role plays to explain and to communicate efforts of risk reduction and impact of natural disasters as learner, partner, teacher, pioneer, role model and family nursing, but the income level of parents' has no effect on their position as a learner and family nursing to explain and to communicate efforts of risk reduction and impact of natural disasters. It is Recommended to do further research on children psychological family nursing during the covid-19 pandemic era.

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