

# URGENCY LITERACY STATISTICS IN POLITICAL EDUCATION FOR BEGINNER VOTERS

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## ABSTRACT

*One of the objectives of mathematics education and the established curriculum standards related to statistical education in schools either referring to the KTSP 2006 as well as the Curriculum 2013, is for students to be statistically literate. The purpose of this study is to provide an overview of what is statistical literacy and its urgency in political education for beginner voters, especially the beginner voters still in school. Based on the results of the study can be concluded that statistical literacy is a person's ability to understand, interpret, and represent a data, either in the form of tables or graphs. Statistical literacy is important for beginner voters because it will be confronted with its role as a data consumer in political advertising. As data consumers, beginner voters are not only required to be able to read and understand the intentions contained in the data, but also analyze the causes of different results such as in survey results and Quick count..*

**Keywords: statistical literacy, beginner voters, political education**

## INTRODUCTION

2019 is the political year for the Indonesia. Beginner voters will need information about elections, political parties and legislative candidates, before exercising the right to vote. The number of beginner voters in Indonesia from the election to the election continues to grow. Based on the records of the General Elections Commission (KPU), the number of beginner voters in the 2014 Election reached 11 percent of a total of 186 million voters. This number increased compared to the previous two elections. In 2004, the number of beginner voters was 27 million from 147 million voters

(18.4 percent). While in the 2009 elections, there were about 36 million voters from 171 million voters (21 percent) (Kompas, 2014). This beginner voters are who on polling day fulfilled aged 17 years or more or who for the first time will participate in the election. Their status is students or young workers. Beginner voters are part of a group that has the right to vote in elections. They need sufficient political education to channel their aspirations in elections. According to Law no. 8 of 2012 Article 19 paragraph 1 explains that a beginner voter is a citizen who polled a day fulfilled 17 years or older or has

married has the right to vote. Remembered that the importance of one vote in the general election, political education is indispensable for citizens especially for beginner voters.

Batawi (2013: 30) states that political education is the process of conveying the nation's political culture, encompassing political ideals as well as operational norms of a political organization system based on Pancasila values. While the purpose of political education by Rusadi Kantaprawira (2004: 55) is to increase the knowledge of the people in order to participate optimally in the political system. In this millenia era, political education is not enough just to raise awareness for beginner voters to want to channel their voting rights so that the number abstain lower. But it is also expected to equip citizens, especially for beginner voters to understand and digest political information in the media so that the right votes are really based on awareness and sufficient knowledge. This is also reinforced by Kartono (2009, 64) as an intentional and systematic educative effort to form politically conscious individuals, and able to become politically responsible actors ethically or morally in achieving political goals. In addition, political education is not adequately taught through the subjects of civic education alone, but involves various fields of science such as statistics in order to respond to data wars that occur in the political world.

In the general election, political advertising has a very big role. For beginner voters, political advertising plays an important role as a socialization medium for the introduction of political parties as well as legislative candidates in the election. Political advertising can be one of the

political references for them. Most political parties use ads to persuade voters in elections. Therefore, party advertising focuses on how to create a good brand image for the image of political parties and presidential candidates by making a political marketing approach. One of the phenomena that is often found in Indonesia is the difference of survey results from the survey institute. One example is what happened in the survey results at the 2017 Jakarta Governor election recently. Residents of DKI were confused by the survey institute which announced the results of different surveys. In addition to elektabilitas survey results, citizens are often confused by the difference of the results of the quick count of the vote count. Survey results and quick count is one of the statistical applications that are being used in Indonesia especially in the election. Quick count, which is the process of recording the results of votes in thousands of polling stations (TPS) selected at random. Quick count and poll public opinion surveys are part of research activities undertaken with regard to operational standards, ethical standards of research, and scientific ethics. Quick count fully uses the principles of statistics. Quick counts are used in many countries in transition to democracy, including in some countries in Eastern Europe and some Latin American countries. (ulpah, 2009: 3) Thus, the implementation and development of the quick count method and the public opinion polling survey are part of the political education effort to uphold democracy by encouraging fair and fair elections. To respond to the development of political information, literacy statistics are needed by citizens, especially for beginner voters. The government in this case the educational institution is responsible in giving and cultivate the ability of statistic literacy as a form of political education especially for

beginner voters through statistical learning to respond to the growing political phenomenon today. In this research, we will discuss the urgency of statistical literacy in political education for beginner voters. The purpose of this research is to cultivate the awareness of the civitas of mathematics education in responding to the development of an increasingly complex era, especially the development of statistics in the world of politics.

## METHOD

This research is a literature study. To achieve the objectives of the study, in the early stages of the researcher collects various journals and books related to statistical literacy. Based on the reference already obtained, the researcher then examines and analyzes the definition of statistical literacy and presents the urgency of statistical literacy for beginner voters as one form of statistical role in political education.

## DISCUSSION

Garfield, J. et. all (2003) states that statistical literacy includes basic and important skills that can be used in understanding information or statistical research results. These skills include the ability to organize data, compile and display tables, and work with different data representations. Statistical literacy also includes understanding of concepts, vocabulary, and symbols, and includes an understanding of probabilities as a measure of uncertainty.

Abdullah (2017, 4) The ability of statistical literacy will improve students' critical thinking skills in solving problems in everyday life. Especially for beginner voters, the ability of statistical literacy will assist students in reading the political information presented in the form

of statistical charts. Statistical literacy skills are vital for the informed use of statistics in decision-making and can be summarized in terms of four broad criteria, these are: (1) data awareness, (2) the ability to understand statistical concepts, (3) the ability to analyse, interpret and evaluate statistical information, and (4) the ability to communicate statistical information and understandings (Unece, 2012, p.27) . Watson (2003, p.1) state that several factors contribute to the importance of students developing statistical literacy skills at the school. First is the expectation for participation as citizens in an information and data driven age where decision-making is likely to be based on critical skills from the realms of statistical literacy. Out-of-school experiences, however, place basic statistical ideas in many and varied contexts. The traditional divisions of the school curriculum into different subjects, particularly at the secondary level, have worked against integrating the ideas of chance and data across the curriculum into subjects such as science, social science, or health. For example, sampling, graphing, data reduction and inference, form the foundation for building sophisticated thinking skills. Collectively these topics are the second factor contributing to the development of statistical literacy at school.

Gal, I. (2003) states that statistical literacy is a person's ability to interpret, critically evaluate, and provide relevant opinions on statistical information, or stochastic issues. Gal (2002) gives an illustration of how modern society needs statistical literacy capabilities, among others. Many newspapers present graphs or data on their front pages. It seems that the reader is expected to understand and appreciate the compacted information. Of course statistical information is not only reserved for educated readers only. Based on the results of

research, it has been shown that interpreting the information presented in the form of graphs is still something that is considered difficult for some circles. This is in line with the opinion of Ainley (2000) which states, The increasingly widespread use of graph in advertising and the news media for communication and persuasion seems to be based on a assumption widely contradicted by research evidence in mathematics and science education, that graphs are transparent in communicating their meaning. ( h.365). It can also mean that newspapers, through statistical information presentation, try to create a scientific impression so that it can be trusted news.

Forbes, S. et. al. (2011) states that statistical literacy demands the ability to create and communicate existing messages. To communicate the message, one can present it in the form of diagrams, graphs or words and numbers to support the delivery of messages effectively and efficiently. In addition, someone who is literate statistics is also required to have a sense of the data. One must be able to criticize and evaluate the data it has received. When analyzing the data, students need to know the context of the data and to explore and understand how the data is made. It is supported by Gould (2017, p.22) augment definition of statistical literacy that includes, at a minimum: (1) understanding who collects data about us, why they collect it, how they collect it; (2) knowing how to analyze and interpret data from random and non-random samples; (3) understanding issues of data privacy and ownership; (4) knowing how to create basic descriptive representations of data to answer questions about real-life processes; (5) understanding the importance of the provenance of data; (6) understanding how data are stored; (7) understanding how

representations in computers can vary and why data must sometimes be altered before analysis; (8) understanding some aspects of predictive modeling.

Dasari (2006, 4) states that the need for statistical competence in modern society is a necessity. Consequently if we want our society to have sufficient statistical literacy skills, we need to teach students statistical analysis of data as early as possible, as in the Netherlands students are introduced to descriptive statistics at about 13 years of age. It is clear to grow statistical literacy based on empirical data from several countries ranging from 10 to 14 years of age. This is in line with Ardiyaningrum (2013, 53) which states that the learning of mathematics in each level of educational unit is expected to equip learners with the skills and abilities to face various problems of math and daily life.

Hafiyusholeh (2015, 5) states that to build statistical literacy skills students relatively require a long time in order to develop. It can not be honed only through high school level only. The surest way to help students achieve the necessary level of literacy is to start the process of statistical education at the primary school level and continue to strengthen and expand the statistical literacy skills of these students through middle and high school. High school graduates with statistical literacy will know how to understand and interpret data in newspapers, and will ask appropriate questions about statistical claims. In other words, students will be able to think critically of the information or data it reads. François and Bendegem (2010) argues say that Today statistical educators are challenged to make students literate to understand basic information about themselves and the world surrounding them. statistical

literacy should enable them to do more than just to read the data but should allow them to criticize and propose alternative interpretations to a given set of data. Therefore, School systems have a crucial role in developing statistical literacy which enables them to understand why and how statistics is a way of describing the world. In line with the above statement, NCTM states that statistical knowledge is needed by students to become smart consumers who can make important decisions from an information

## CONCLUSION

Based on the description that has been described, it can be concluded that statistical literacy is needed by beginner voters in understanding political information in the form of statistical products critically and intelligently. Schools need to be as early as possible to develop statistical learning that responds to the needs of beginner voters in the current millenia era.

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