

CHAPTER 1

INTRODUCTION

1.1. Background

Learning is a necessity for everyone, from children to adults. In general, learning habits start from oneself when you are young. The learning process is not only about theory and practice, but also personal formation in each child. Parents also play a major role in the development of their children's learning. Therefore, all parents always want their children to learn, not only at home but also outside the home. Learning outside the home is generally carried out in schools. Every parent wants their child to go to a good and good school so that the child becomes a good person when he grows up. But there are certain types of children who have certain conditions and types, such as certain medical conditions, the type of children who want a free and self-exploring method of learning. So that children who fall into this group are not suitable for schools in conventional schools. Therefore, the "Homeschooling" method was created, which is an educational method that aims to provide more flexibility to children in the teaching and learning process. However, the Homeschooling method is still the pros and cons among the community. Some people think that the Homeschooling method has a positive impact and some people think that the Homeschooling method has a negative impact. An example of the positive impact of the Homeschooling method is that it can give freedom to children, both in terms of emotional and learning aspects. And an example of a negative impact is that the scope, socialization, and facilities for children's learning are also limited.

To find out the public's response to the pros and cons of the Homeschooling method, the responses can be seen through several social media on the internet. Social media is a suitable place to see the conditions that exist in society. The community itself creates conditions for certain topics on social media. One of the social media that is often used to express responses is Twitter. Besides being useful as a medium for sharing information, Twitter is also often used to express the public opinion or sentiment on a topic being discussed, not only positive opinions but also negative ones. To find out the sentiment or opinion on the Homeschooling method, this study uses the Sentiment Analysis method. Sentiment Analysis is a method used to find out the opinions of users on social media platforms. Sentiment Analysis can consist of positive opinions

and negative opinions, so with Sentiment Analysis, we can find out the community's response to the Homeschooling method in social media. Sentiment Analysis can be classified well using several models such as Deep Learning and Supervised Learning. The Deep Learning model that will be used in this case is the Long Short Term Memory method, and the Supervised Learning model that will be used in this case is the Support Vector Machine method. LSTM is one type of Recurrent Neural Network (RNN) where modifications are made to the RNN by adding a memory cell that can store information for a long time (Manaswi, 2018). LSTM has a gate structure that is useful for studying data that is important to store and data that is not important to be discarded. So that important data can be processed to produce good predictions. While SVM is one of the methods in Supervised Learning which is commonly used for classification. SVM is a technique to find a hyperplane that can separate two datasets from two different classes. SVM has advantages including in determining the distance using a support vector so that the computational process becomes fast (Vapnik, 1992).

Several studies on Sentiment Analysis, some use Machine Learning to Deep Learning models with fairly good accuracy. So the Sentiment Analysis research this time will use the Long Short Term Memory and Support Vector Machine methods, using data taken from Twitter with the topic of Homeschooling to get the results of an accuracy comparison between the Long Short Term Memory method and the Support Vector Machine.

1.2. Problem Formulation

1. How does Long Short Term Memory work in classifying Homeschooling sentiments on Twitter social media ?
2. How does the Support Vector Machine work in classifying Homeschooling sentiments on Twitter social media ?
3. How is the comparison of accuracy between Long Short Term Memory and Support Vector Machine in Homeschooling sentiment on Twitter social media ?

1.3. Scope

1. The data taken comes from social media Twitter.
2. The data taken and processed is only English text data.
3. Sentiment used only positive sentiment class and negative sentiment.

1.4. Objective

1. Get optimal results from the Long Short Term Memory model to classify Homeschooling sentiments on Twitter social media.
2. Get optimal results from the Support Vector Machine model to classify Homeschooling sentiments on Twitter social media.
3. Get the results of the comparison of accuracy from the Long Short Term Memory and Support Vector Machine methods.

