

PROVINCIAL GROUPING IN INDONESIA BASED ON A LEARNING QUALITY INDICATOR USING CLUSTER K- MEANS AND FUZZY C-MEANS METHOD

*(Case Study: Indicators of Quality Learning by Level of Education in Each
Province in Indonesia Academic Year 2017/2018)*

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ABSTRACT

Education is a conscious and well-planned effort to create an atmosphere of learning and learning process that learners actively develop their potential to have spiritual spiritual power, self-control, personality, intelligence, noble character, as well as skills needed by him, society, nation and state. Through education and learning, human beings can become more useful in society, but the equalization of the quality of learning in Indonesia is still categorized less in some sectors such as student ratio, graduate rate and good classroom ratios. Some provinces have already entered the same level as repeat rates and the dropout rate is very small, but in the ratio of students per teacher, there are still few provinces that have reached national standards for each level of education, because of the unequal between number of students and teachers. So to cluster the value used cluster analysis. The method used by k-means and fuzzy c-means, formed into 3 clusters, is obtained for k-means category either located in cluster 3 of 11 members, cluster 1 of 17 members and 6 members in low group in cluster 2. Meanwhile fuzzy c-means method is cluster 1 is included into low category with 12 members, then cluster 3 is categorized on both of 10 members and cluster 3 is categorized as 12 members. Differences in the algorithm affect the results of research using k-means and fuzzy c-means are calculated so that the effect on the end result, the value of the cluster, and the value of the standard deviation ratio used to determine the best clusters with better k-means results because the ratio is smaller than fuzzy c-means method.

Keywords: *Education, Ratio, K-Means, Fuzzy C-Means*

