

## CHAPTER V

### CONCLUSIONS AND SUGGESTIONS

#### 5.1 Conclusions

Based on the results and discussions, the following conclusions are :

1. The level of student learning difficulty in the cognitive process aspects is very high category in the C2 aspect (understanding) of 53.70%, the C3 aspect (applying) is 52.94%, the C5 aspect (evaluating) is 52.78%, the C6 (creating) at 51.04%, C4 aspects (analyzing) by 45.29% and C1 aspects (remembering) by 42.13%. The results showed that the level of difficulty experienced by students categorized into the very high category of learning difficulties with virus material. Students can be categorized as not having the ability to understanding, applying, evaluating, and creating.
2. The level of learning difficulty in the aspect of learning indicators from the lowest to the highest is indicator 7 is communicating ways to avoid the dangers of viruses (26.39% ), indicator 4 is describe cases in life as negative impact, how viruses life, identify the harmful and disadvantages of virus, make a 3D model of the HIV and how to avoid virus infection (46.30%), indicator 3 is classifying virus and comparing the body structure of virus with another virus and other organisms (47.22%), indicator 2 is identify and describes the characteristics, structure and replication of virus (50.12%), indicator 6 is making project of healthy living to avoid virus infections and paper on the positive and negative impacts of virus in social and economic fields (54.63%), indicator 5 is explain the beneficial and harmful role of virus (61.94%), and indicator 1 is describes the history of virus discovery (64.93%),.

3. The results of this study indicate that there are two indicators of internal factors that categorized into the enough inhibiting category, namely physical factors (47.82%) and psychological factors (55.52%). In external factors, there are two indicators that are categorized in the inhibiting category, namely family (71.38%) and school (81.02%) and two indicators are categorized as enough inhibiting, namely teachers (58.23%) and learning material (57.98%).



## 5.2 Suggestions

1. For students in class X MIPA SMA Negeri 1 Berastagi to be more actively involved in learning and understanding virus material. Students are the main actors in the process of achieving learning goals in teaching and learning activities. Therefore, students are the key to successful learning itself, because no matter how strong the teacher's efforts are if students do not play an active role learning purpose will not be achieved and hopefully to reduce the use of social media, but use the existing of technology to increase knowledge about what is taught in school.
2. For biology teachers in class X MIPA SMA Negeri 1 Berastagi the results of this research can be used as evaluation material, to help overcome the problems of learning virus material and to identify appropriate learning methods that are varied, interesting, efficient and effective. Attractive models and methods can make students more active One model or method that can be used is the *Project Based Learning* model to produce a product about Virus material. Teachers can implement varied learning activities that don't only take place in the class, such as field trip activity.
3. For advanced researchers to be able to develop this research by examining student learning difficulties in psychomotor and affective aspects in studying virus learning material.