

TITLE : DATA ANALYTICS USING MICROSOFT POWER BI

Group Leader: Muhammad Ameerul Hadzim bin Muhammad Habib A19EE0080
Group Members: 1) Puteri Nur Alisa binti Ismail A19ET0362
2) Muhammad Afiq Azmi bin Suhaizi A21EC0063

TRENDS OF DATA ANALYTICS IN DIFFERENT SECTORS

- RETAIL
- SPORTS
- HEALTHCARE
- HOSPITALITY
- ENTERTAINMENT, COMMUNICATIONS AND THE MEDIA

REFLECTION

It has been a widely acknowledged fact that big data has become a big game changer in most of the modern industries over the last few years. As big data continues to permeate our day-to-day lives the number of different industries that are adopting big data continues to increase. It is well said that when new technologies become cheaper and easier to use, they have the potential to transform industries.

DATA VISUALIZATION USING MICROSOFT POWER BI

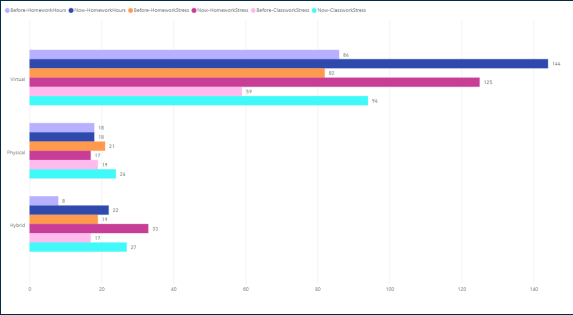
Narrative of data analytics

Introduction

Since the world has been hit by a global pandemic that has been going on since 2019, most educational institutions have been temporarily closed owing to ongoing health issues. Students all over the world have been having their classes virtually through online learning to substitute their physical classes. The dataset we have chosen for our data analytic is a survey on the impact of covid-19 on students' educational stress. Our goal is to analyze the data and create data visualization in which we will be using Microsoft Power BI to study how the changes of learning method after Covid-19 pandemic affects students' stress.

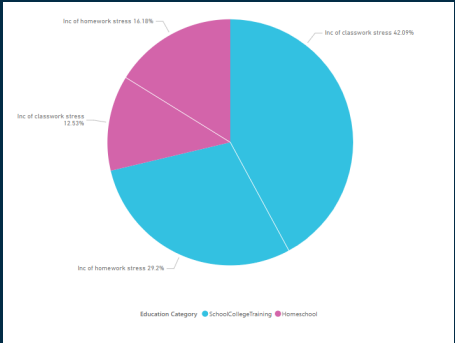
1. Does the global pandemic affect the students mental health in terms of education?
2. Do the students that are being homeschooled rather than normal school experience lower stress levels?
3. Does having the teaching and learning session virtually increase the homework hours of the students?
4. Does the global pandemic that leads to the virtual learning process have any impact on student's friendships?
5. Does the global pandemic that leads to the virtual learning process have any impact on student's family relationships?

Analytic output & output intpretation



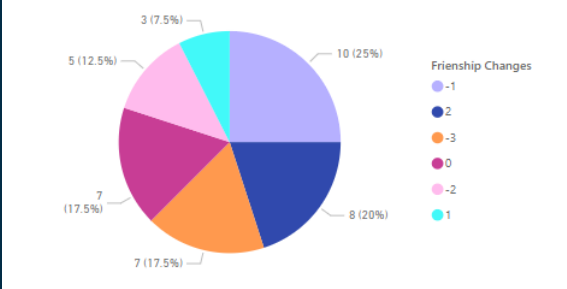
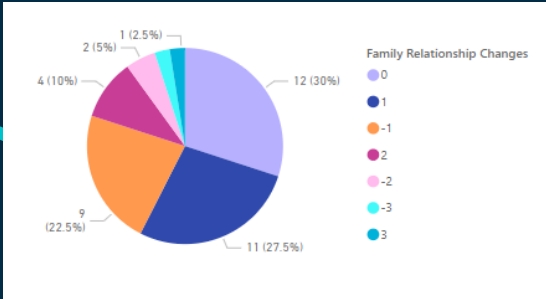
- The data shows the relationship between the 3 after covid-19 students' learning method(virtual, physical and hybrid) with before homework hours, now homework hours, before stress level, now stress level, before classwork stress and now classwork stress.
- After covid-19 happened(Now-), virtual learning students have the highest total of homework hours of 144 hours, highest homework stress with 125 hours & highest classwork stress with 94 hours.
- From the data, we can agree that this global pandemic affected students' mental health greatly as the homework hours, homework stress and classwork stress of the students increased because of virtual classes. Students are not used to virtual classes as the shifting from physical to virtual class happened very quickly, they have yet to adjust the new learning method. As a result the students' stress levels worsened and affected their mental health.

- -Based on the graph of the relationship between after covid 19 learning methods with before homework hours and now homework hours, it is clearly shown that the total number of now homework hours for virtual learning methods have increased from 88 to 144 hours. The total homework hours for the physical learning method remain the same for before covid-19 and after covid-19 happened. The total homework hours for hybrids has increased from 8 hours to 27 hours.
- -Students' homework hours are substantially increased by having the teaching and learning sessions virtually.
- The increase in homeworks during global pandemic is far too great and this will result in worsening student's mental health. This issue might be caused by the reason that the teachers want to ensure that the students understand lessons that are being taught. Therefore, they were provided with more homework since they cannot consult the teachers face-to-face if they have a problem in their studies.



- Among the 2 education categories of School/College/Training and Homeschool, students that are homeschooled have lower increment of classwork stress of only 12.53% compared to student that goes to normal school with increment of classwork stress of 42.09%. Students that are homeschooled have lower increment of homework stress of 16.18% compared to student that goes to normal school with increment of homework stress of 29.2%.
- It can be concluded from the data analytics that the students that are homeschooled have lower stress levels compared to students that go to normal school.
- Interpretation: From the data, we can agree that students that go to normal school need some time adjustment for their studies especially during Covid-19 pandemic break. This adjustment period increases the stress level of normal school students in terms of classwork and homework. However, homeschooling students have lower stress levels as they have normalized the environment of studying at home. This make their studies before and after pandemic the same as they have know how to tolerate the process of virtual studies.

- The pie chart shows the relationship between the count of after Covid-19 learning method with family relationship changes.
- Based on the total number of students, it is shown that the highest change of family relationship between the students is 0 in which it means that there are no changes in their family relationship for 12 students (30%) .
- There are 11 students with 1 change in their family relationship (27.5%), 9 students with -1 changes (22.5%), 4 students with 2 changes (10%), 2 students with -2 changes(5%), 1 student with 3 change (2.5%) and 1 student with -3 change(2.5%).
- Interpretation of Analytic : From the analytic, we can see that the family relationship between the students are not affected negatively for the majority. Majority of the students' family relationships stay the same or increase. This may be because since the classes are held virtually where the students can take their classes from home, students get to spend more time with their family, therefore increasing the family bond. As a result, they become closer with their family and increase their family relationships.



- The pie chart shows the relationship between the count of after Covid-19 learning method with friendship changes.
- Based on the total number of students, it is shown that the highest change of friendship between the students is -1 for 10 students (25%) in which it means they lose one friend.
- There are 8 students with 2 friendship changes(20%), 7 students with -3 friendship change (17.5%), 7 students with 0 change (17.5%), 5 students with -2 changes (12.5%), 3 students with 1 changes in their friendship (7.5%%)
- Interpretation: From the result, we can see that the majority of students have negative friendship changes after the covid-19 pandemic. Most of the students lose either one or more friends after having their classes online. This may be because students become more disconnected with their peers as a result of virtual lessons in which they were unable to interact with their peers as much compared to physical classes where they can see their peers everyday. As a result, their friendship falls apart and they lose friends.

Conclusion

In a nutshell, the global pandemic does have an impact on students' mental health in terms of educational stress. Due to virtual classes, students are under more stress in terms of classwork and assignments. Students also spend more time completing homework now than they did before the pandemic. This is because by having online classes, there are no limits on students' schedules where students are given homework and classwork at any time. Students are assumed to have more free time when their classes are held remotely. However, some of the students also have other responsibilities.. For instance, if a student takes their class from home, they are expected to assist their parents with housework. As a result, they get more stressed, and they even have only a little time for themselves which brings a negative impact to their mental health. However, from the analytic, we can see that students that are being homeschooled experience lower stress levels than students who attend normal schools. This possibly a result of the students that are being homeschooled are used to the environment. Therefore, having to change their learning method after the covid-19 outbreak does not affect them as much. Based on the outputs, we can also conclude that the students' homework hours are greatly increased by having their classes remotely. The students also have some changes in their family relationships and friendship since having virtual classes. Majority of the students have either 0 or increased family relationships as they get to spend more time with their family. However, the students have a negative change in their friendships as they could not spend time with their friends as before. It has been observed that students' mental health has worsened as a result of taking online classes. Not to mention, there is educational stress from academic burnout. On that account, in this new norm, students are advised to take good care of their mental health as it is important. They must make certain that their schedule is in order and have time for themselves to take care of their health.