Impact of COVID-19 on College Students' Non-intellectual Factors and Corresponding Countermeasures[*]

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The outbreak of COVID-19 in December 2019 has exerted a wide and everlasting impact on the world, which has also influenced education enormously. The adjustment of objective learning environment during the COVID-19 pandemic makes the influence of non-intellectual factors on college students worthy of investigation, research and analysis. Based on this, we have launched a questionnaire survey on 500 college students who have witnessed the pandemic, and referred to related literature, network documents, news reports, contrast and analysis of college students' non-intelligence factors before and after the outbreak of the different levels of change, summing up some new measures to promote the development of college students' non-intelligence factors under the COVID-19 outbreak for online learning and autonomous learning.

Keywords: COVID-19, college students' non-intellectual factors, impact, learning enlightenment

1. Definition and Significance of the Research of Non-intelligence Factors

Non-intelligent factors refer to psychological factors that are not directly involved in the cognitive process, including emotion, will, character, and interest. (Li & Yin, 1997, p. 423). Yan Guocai believes that "in the process of education, the cultivation of non-intelligence factors is as important as the cultivation of intelligence factors. Education should not only 'dispel doubts' but also 'teach something.' The focus should be on the cultivation of students' comprehensive quality, but not just on the level of their intelligence" (Yan, 1994, p. 40). Psychologists have found that the most significant difference between outstanding talents and mediocre people is not limited to the level of intelligence; it depends more on the level of non-intellectual factors. Therefore, non-intellectual factors are of great significance to a person's development.

The outbreak of COVID-19 threatens not only the physical health of individuals, but also their mental health. For college students, non-intelligence factors directly affect their physical and mental health, academic

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performance and overall development. Under the impact of the pandemic, college students have to accept "online classes" and "closed campus management," which has a great impact on college students' ideals, beliefs, psychological quality and self-control ability. In fact, this is the impact of the COVID-19 on college students' non intellectual factors. Therefore, the investigation of the changes of college students' non intellectual factors before the COVID-19 and under the normalization of epidemic prevention and control will help reduce the negative impact of the epidemic, promote the intelligence development of college students, advance their academic performance, help them establish correct values and cultivate good psychological quality. Moreover, in the related research on the impact of online learning on academic performance, previous researchers have mostly focused on students' learning efficiency, learning input and satisfaction with online learning. For example, a survey of 6,709 college students by Zhu Liancai and his colleagues have found that students' overall satisfaction with online learning is good (Zhu, et al., pp. 82-88); Rao Aijing and her groups have surveyed 4,841 college students and found that college students' online learning engagement is not high as a whole (Rao & Wang, 2020, pp. 31-38). It can be seen that researchers have done a lot of research on the impact of online learning on students' intelligence (and their results are even contradictory), but no researchers have focused on the impact of non-intellectual factors of students, which makes it all the more important to conduct this research.

Investigation and Cause Analysis of Non-intellectual Factors of College Students Before and After COVID-19

The university stage is an important period for individual life to breakthrough and develop, and also a high incidence stage of psychological and behavioral problems (Fang, et al., 2018, p. 111). The outbreak of the COVID-19 has undoubtedly exerted a certain impact on college students' mental health, including psychological factors that are not directly involved in the cognitive process, namely non-intelligent factors. In order to better understand the impact of non-intelligence factors on college students before and after the pandemic, from May to August 2022, members of the project conducted a survey of non-intelligence factors on 500 junior students nationwide in the way of questionnaires. The non-intelligence factors are divided into three categories: learning motivation (learning interest, sense of achievement), emotion (emotional stability, test anxiety, learning enthusiasm), self-control (learning objectives, self-discipline). Questionnaire are designed according to these three categories. The results show non-intellectual factors of college students had significant changes before and after the pandemic.

Changes in Learning Motivation

Before the pandemic, 77% of college students claim that their motivation for learning was to get further education or obtain employment. After the outbreak of the pandemic, the online teaching mode became the mainstream method, and college students began to take online classes at home. So some students' learning motivation changed to "reassure their parents." According to the results, more than 60% of college students claim that online learning has changed their learning motivation during the pandemic. In addition, more than 70% of college students believe that online learning has a negative impact on their learning interest. And more than 60% of college students believe that their sense of achievement in learning has weakened compared with that before the pandemic.
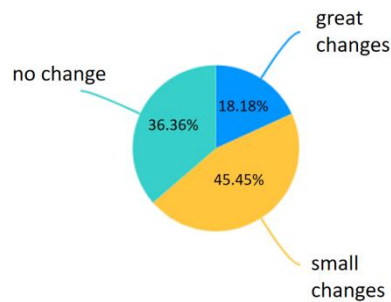
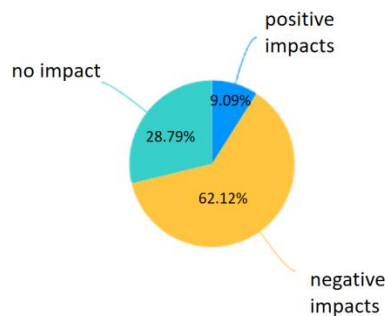*Figure 1*. Whether online learning has changed learning motivation.

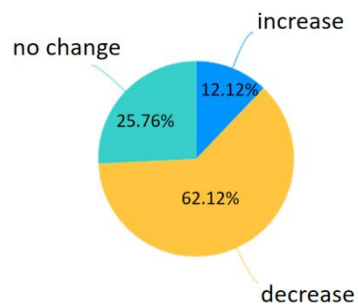*Figure 2*. Impacts of online learning on learning interest.

Figure 3. Whether the sense of achievement in learning has changed during the pandemic.

Changes in Mood

Although the survey shows that the frequency of emotional instability among college students increased during the COVID-19, 70% of them say they could remain optimistic when encountering setbacks. During the pandemic, 68% of college students were more likely to have exam anxiety than before. On the one hand, without the direct supervision of teachers and peer example effect, electronic products were more attractive in online learning, some students' concentration was reduced, and they were more prone to test anxiety. And even some students just hung up, which led to the decline of their academic performance. On the other hand, the level of test anxiety would also rise due to uncertain factors such as network problems and the maladaptation of teachers and students. In addition, about 60% of college students believe that their enthusiasm for learning has weakened compared with that before.
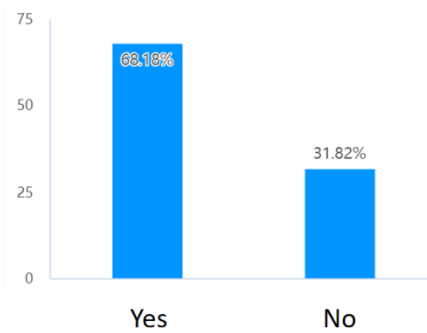
Figure 4. Whether test anxiety is more likely to occur during the pandemic than before.
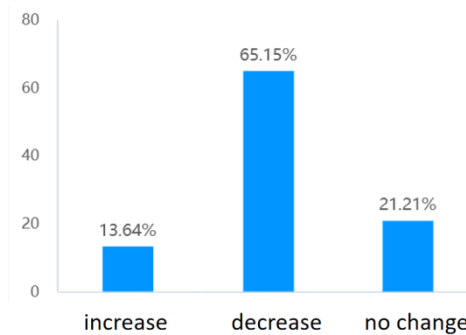

Figure 5. Change in learning enthusiasm during the epidemic.

Changes in Self-control

During the pandemic, more than 50% of college students say they lacked clear learning objectives. Due to the impact of the pandemic, many examinations (such as the National College English Test Band 4 and Band 6, and the Computer Rank Test) have been postponed or cancelled, making many students prepared for the exam lack motivation and learning goals. In addition, during the pandemic, 65% of college students say that their self-discipline was significantly weakened. In the context of regular epidemic prevention and control, some measures such as online classes at home and closed campus management have reduced the self-control of college students.
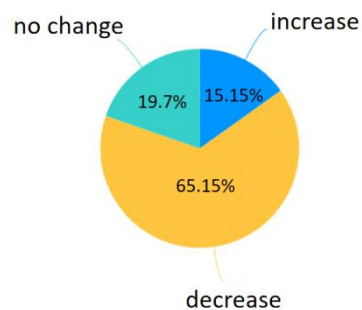

Figure 6. Changes in self-discipline during the epidemic.

Measures to Promote Non-intellectual Development of University Students in the Post-epidemic Time

According to the data from the questionnaire, university students' motivation, emotions and self-control have all declined to some degree as online education has become one of the more popular forms of education in universities today. The benefits of online education cannot be overstated, however, as the global perspective has seen the creation of global resource sharing platforms such as Mootools (MOOC) several years ago. In order to better promote the learning ability of university students and their ability in various fields, and to optimise the independent learning ability of university students and the quality of online education in the post-epidemic era, this part intends to analyse both students and teachers, and through the conclusions and insights drawn from the analysis of data, to discuss the relevant measures in depth in order to give some help to teachers and students.

Students Should Improve Their Independent Learning Skills and Make Reasonable Attributions for Diminished Motivation

In the post-epidemic era, in the face of the ever-emerging online education models, for students themselves, maintaining good motivation and improving self-control is a basic guarantee of good learning.

Motivation is the direct drive to learn, an intrinsic reason that can effectively motivate people to learn and achieve a certain purpose, as it can not only provide a trigger for learning, but also become an important source to promote students' continuous efforts to learn, causing a direct impact on students' final learning effect, strategies and time (Liu, 2022, p. 178). The data suggests that the postponement of exams due to the epidemic has led to a decrease in motivation (62% of students' enthusiasm for learning has decreased), mood swings (68% of students report being more prone to exam anxiety) and a decrease in self-discipline (65% of respondents) due to a lack of immediate goals.

We believe that as university students, we should be clear about our own long-term learning goals, and that what we are striving for is not simply to cope with a particular exam, but to realise the value of our lives. Therefore, in the face of a sudden epidemic, students should correct their attitude towards learning, gradually develop their independent learning skills, actively seek out learning materials, conduct independent inquiry studies, improve their confidence and motivation, and ultimately improve their overall academic level; at the same time, we should develop our own learning programmes and adapt our own learning strategies to motivate ourselves. We should make timely attributions, constantly reflect, adjust our mindset, start from ourselves to enhance our sense of self-efficacy, stimulate stronger motivation to learn, build a new understanding of ourselves in online encounters, re-examine our learning process and shape a clearer perception of our own learning structure.

Teachers Should Improve Their Skills of Using the Internet and Choose Strict and Rich Methods of Teaching.

Teachers, organisers and leaders of education, play a guiding role in the process of education. Teachers can start with themselves to improve the overall level of teaching and students' learning initiative and avoid the problems in the questionnaire. Higher education workers should educate and guide university students according to their cognitive characteristics, continuously improve their motivation level and learning efficiency, promote the overall development of university students' moral, intellectual, physical, aesthetic and social all-round

development, and encourage them to actively adapt to the needs of national economic and social development and the increasingly fierce international competition (Gao, 2020, pp. 43-47).

Online education will not only serve as an emergency initiative during epidemic prevention and control, but will also be a new form of higher education (Fan, 2021, p. 65). The level of teachers' internet usage is one of the foundations of online education, while proficiency in using various online platforms for online education can save time spent on adjusting equipment or network delays, for example, as well as avoiding students' lack of concentration during this time and ensuring the fluidity of the teaching process.

As university students' learning interests are diverse and they have many characteristics, it is particularly important for teachers to make full use of students' performance in different interest characteristics to establish targeted teaching work. They can make use of advanced network technology, integrate new Internet media into teaching, develop and expand teaching forms, improve teaching quality, and enable students to steadily improve their academic standards (Yang, 2021, p. 178).

To cultivate creative talents, we should not only pay attention to the cultivation of their creative thinking, but also to their creative personality. We should not simply talk about the endowment of creative thinking, but pay attention to the results of the acquired training. Creativity should not be limited to intellectual cultivation, but should run through the whole process of education (Lin, 2020, p. 9). Flexible and diverse teaching methods are not only limited to oral teaching online, the use of groups to complete tasks, or animated teaching cases such as graphic videos, to improve classroom activity and student participation. According to the data of the questionnaire, nearly 60% of the students say that they were more likely to feel anxious than before the pandemic as they sometimes just hung up while they were supposed to be studying online. Therefore, one of the strategies to solve this problem is to develop corresponding teaching strategies so that students can learn corresponding knowledge in normal times.

Conclusion

The epidemic control has had some negative impact on the learning motivation, emotion and self-control of college students. These non-intelligence factors play a vital role in the learning state of college students. Faced with the resurgence and development of online education triggered by the epidemic, college students should enhance their learning consciousness, summarize the difficulties encountered in learning, and formulate personalized learning programs. The government, society, families and schools should work together to care about the students' psychology, develop more colorful teaching forms, imperceptibly carry out psychological counseling and life education for students, and improve students' sense of achievement in their studies. It needs the joint efforts of students and teachers to carry out the political lessons, pay attention to the influence of non-intellectual factors and overcome the inconvenience caused by the pandemic.

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