

An Analysis of How Formative Assessment Affects the Assessment Methods of Chinese High School Education--Taking the Internal Assessment in IBDP as an Example

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Abstract: In a society with competition for talents and knowledge, Looking at Chinese current education, students have been in a state of test-oriented education for a long time. There is no doubt that the assessment of students is mostly based on final test scores, namely gaokao. Such assessment methods seriously hamper the innovative spirit and ability of students. In order to solve this contradiction, quality education must be implemented in an all-round way, and student assessment plays a role in guiding the development of value orientation suitable for social development in this process. As a long-standing assessment method in China, the college entrance examination naturally has the advantages of high reliability, high validity, and high efficiency. However, the shortcoming of being scored-based is obvious as well. This paper focuses on the literature-based method by collecting and analyzing various existing literature on the subject and selecting information from it for the purpose of the study. In this study, the beneficial impact of formative assessment on educational development is expounded through the characteristic internal assessment method in the International Baccalaureate Diploma Program (IBDP). Combined with the actual situation in China, it analyzes the feasible methods of formative assessment in China such as diverse formative assessment in different subjects and the problems it may face, such as the large population base and the shortage of education funds.

Keywords: IBDP assessment, Chinese education assessment, formative assessment, new curriculum reform

1. Introduction

In 2001, the new curriculum standards in China consist of statements of what students should know and be able to do in different school subjects over the course of schooling, concerning three dimensions of content: knowledge and basic skills, attitudes and values, competencies in the application and problem-solving [1]. One research about the challenges in curriculum reform indicated that: “because of the lack of an effective assessment system, accountability system, and independent superintending system, the curriculum reform might fail if we do not take powerful action” [2]. In order to realize the "three-dimensional goal" proposed by the new curriculum reform, there must be a matching way of student assessment. As a mature global education project, IBDP

has a student assessment method that focuses on the learning process, student skills, critical thinking, and values, which is very similar to the three-dimensional goals of the new curriculum reform in China[3]. At the same time, the great difference between the Chinese senior high school education assessment and the IBDP student assessment makes the comparison possible and meaningful. This essay will firstly describe how formative assessment works in the IBDP curriculum. By analyzing what are the strengths and weaknesses of the way students are assessed in Chinese high school education, this essay will continuously focus on how formative assessment can improve the high school education system in the context of Chinese education and finally assess the possibilities for implementation, i.e. giving practical suggestions and analyzing possible disadvantages. The literature-based method will be the primary research method used in this essay. This paper compares the literature on the formative assessment approach of the IBDP and the Chinese educational assessment approach, summarizes the characteristics of both, and compares the similarities and differences between the two. The aim is to accurately grasp the research findings and developments and to gain a comprehensive and clear understanding of the research subject. The unique feature of this essay is the relatively new research theme. A review of the literature shows that there is very little research in this area both nationally and internationally, and yet student assessment occupies an important part of educational development. It is hoped that the findings of this article will provide valuable and practical assistance on how to reform student assessment methods in Chinese education.

2. Literature Review

2.1. IBDP and Formative Assessment

In 1968, IBDP was established in Geneva, Switzerland. It is a non-profit educational organization. The IBDP is currently running in 2465 schools across 140 countries[4]. IBDP tries to provide students with real international education and encourages them to understand and appreciate different cultures, languages, and perspectives. The IBDP course is divided into six groups of subjects, i.e. first language, second language, science, mathematics, humanities and arts, together with Theory of Knowledge (TOK), Extended Essay (EE) and CAS which stands for creativity, activity and service, forming a complete learning system.

Student assessment refers to the assessment of students' academic knowledge, morality, values and other aspects so as to understand the acquisition of students in these aspects. It plays a guiding role in education and plays an important role in the development of students. A good student assessment mechanism can not only promote students' learning but also promote teachers' teaching in turn to achieve the goal of teaching and learning.[5]. IBDP student assessment is a combination of formative assessment and summative assessment. Summative assessments (external assessments) are used by faculty to measure student achievement against a set of predefined criteria. Each criterion is assigned a value based on the extent of student achievement at the end of a period of learning. Hence, summative assessments are viewed as “assessments of learning”. Formative assessment serves as the cornerstone for preparing students for the ‘high-stakes’ summative assessment. Formative assessments are regular internal assessments which provide teachers with insightful student responses. Thus, formative assessments should be designed to accurately reflect student understanding and knowledge rather than to quantify student achievement.[6]. IBDP is aware of the influence of summative assessment on teaching and learning and has aimed to construct an assessment system that influences everyday teaching and learning by connecting both summative assessment and formative assessment [7]. Although the internal assessment in the IBDP course is completed in the teaching process, it has a certain impact on the total score, so the internal assessment is reflected in the whole student assessment process.

The formative assessment of IBDP is flexible. Students can choose their own subjects and allow schools to develop some courses related to local culture or geographical conditions [8]. For example, as an internal assessment method combined with subject characteristics, the oral examination is generally applicable to language subjects. The oral test selected by IBDP schools in Australia for English as a second language includes the protection of the famous local scenic spot Uluru. Formative assessment accounts for 20% - 50% of the total score, which can effectively reduce the loss caused by students' abnormal performance in the summative assessment. In the second language, the oral test at both the standard level and the high level accounts for about 30% of the total score. The oral test is mainly to examine the student's ability to understand the content, communicate and express themselves.

2.2. Current Research on IBDP Formative Assessment in China

At present, the domestic research on IBDP student assessment mainly focuses on taking a specific subject as an example to describe how teachers evaluate students in learning or analyze how IBDP has an impact on Chinese education as a whole. Few studies have analyzed the impact of IBDP on education in China from the perspective of formative assessment. With the gradual expansion of International Education in the domestic market and the deepening of domestic education reform, how to learn from the advantages of other education systems and help China's education develop better still needs further discussion.

3. Chinese Education Assessment Method

3.1. Advantages of the Chinese Education Assessment Method

The advantage of Chinese high school students' assessment is that its assessment results have high reliability, validity, and efficiency. First of all, reliability refers to the reliability of test results, that is, the consistency of the results obtained by multiple measurements of a test and the accuracy of the results obtained by one measurement [9]. In China, the students' assessment in the senior high school stage is mainly based on the quantitative method, supplemented by the qualitative method. Moreover, the qualitative assessment method only has a certain impact on the students in the learning process and will not affect the final student assessment. The college entrance examination avoids the influence of external factors on the student's performance as much as possible, and the examination questions are mostly objective questions. Therefore, the scoring results of the examination papers have great reliability.

Secondly, validity refers to the degree of accuracy and validity of the measurement results, that is, whether the measurement has achieved the expected purpose [9]. In the assessment of students, the validity of the examination is directly related to the validity of the assessment. All kinds of tests are set according to a particular purpose, and different assessment purposes have additional proposition requirements. This ensures the validity of the test and improves the validity of student assessment.

Third, high efficiency is another crucial advantage of student assessment in China. China has a vast population base, and the number of examinees is about ten million yearly. Examination and assessment are undoubtedly an extensive project. These examinees finished the test in three days and received the results in the next 20 days. The efficiency of the college entrance examination is evident to all.

However, under these advantages, the school's assessment of students is biased towards pursuing perfect results. The school seeks a higher enrollment rate for the sake of social reputation, and the social evaluation of a school determines the enrollment rate of the school in turn. When the college entrance examination plays a decisive role in the assessment of students, the assessment method

that overemphasizes the test results will undoubtedly ignore the comprehensive development of students and the development of students' emotions, attitudes, and values.

3.2. Shortcomings of Chinese Education Assessment Methods

First, students' knowledge acquisition and quality development are equally important. In China, the assessment of high school students basically relies on the traditional paper test or uses scores and rankings to evaluate a student. This assessment method pays too much attention to the acquisition of knowledge and neglects the development of other aspects of personality which means that examinations cannot evaluate students' moral and emotional development. Learning interest, motivation and effort cannot be assessed quantitatively even though these aspects are also fundamental aspects of student development. If we only pay attention to the investigation of book knowledge and neglect the development of students' feelings, attitudes, and values, we will not be able to meet the requirements of social development, and the students trained will also be unqualified; It is also contrary to the concept of the new curriculum reform.

Secondly, usually, the performance of students in the process of learning and the stage of learning achievements will be used in formative assessment. The learning strategies and learning attitudes displayed by students in the learning process are also the assessment content of the formative assessment. This kind of student assessment cannot be separated from the teachers' observation of the whole process of students' learning. It is also necessary to record and reflect on the student's performance. However, traditional high schools in China pay more attention to the final test results of the educated and ignore their performance in the learning process. For example, in a semester, students' final scores are often more important than their monthly test scores; Students' examination results are often more important than those of each academic year; The college entrance examination result is regarded as the most crucial result in all the exams before high school. Parents and teachers often view it as a "destiny-determining" test. However, as for the student's performance during usual times, although high school teachers will observe students' academic performance, from the perspective of long-term internal assessment results, various forms of internal assessment methods have not played a substantive role. The results of the internal assessment cannot complement and coordinate the students' examination results and cannot change the primary position of the college entrance examination in the student assessment. The formative assessment of students' learning process has not played a substantive role in high schools in China.

4. Advantages of Formative Assessment

Regarding the assessment methods of high school students, the most distinctive internal assessment method of IBDP student assessment is the worthiest of the study. Internal assessment is conducive to the supervision of students' learning process. Since the scores obtained by the students through the examination can only reflect the student's understanding of the essential subject knowledge but cannot fully reflect the student's abilities in all aspects, teachers can also adjust their teaching strategies in real-time through the performance of students in the learning process and find a harmonious and unified teaching approach between teaching and learning. The internal assessment is an effective supplement to the external assessment. Education is widely recognised to face people who are developing physically and mentally. In school education, the process of students receiving an education cannot be separated from the supervision and guidance of teachers. The internal assessment method adopted by IBDP for students' learning has played a significant role in helping students learn. On the one hand, in the internal assessment, some of the students' learning achievements are completed under the guidance of teachers. The role of teachers is not only the final judge but also the collaborator and guide of students' learning. The joint efforts of teachers and

students are the best way for students to succeed. On the other hand, according to the "Hawthorne effect" principle, when people realize that they are concerned, they will develop in the direction expected by the concerned people, and education is no exception[10]. When students realize that their learning is concerned and expected by teachers, they will spontaneously develop in the direction teachers desire to overcome learning difficulties and achieve desired goals actively. The teachers of IBDP internal assessment for middle school students are the implementers of the assessment. To get higher scores, students must strive to keep up with teachers' pace in their studies and gradually acquire the knowledge and skills that should be mastered in the high school stage.

5. Possibility of Implementation of Formative Assessment in Chinese High School Education

Internal assessment plays a significant role in IBDP's rapid development; this is where Chinese student assessment is lacking. However, internal assessment requires a lot of work, and this process will take a long time. There are also some postgraduate courses and activity courses in high school teaching in China, but they are not in the assessment system. However, for such a large group of students as ours, there is no assessment standard and supervision mechanism suitable for its internal assessment. Therefore, it is not practical to copy all of them. We only need to increase them appropriately and gradually improve them. It is impossible for us to increase the proportion of internal assessment to 20% - 50% at one time, like IBDP. We can only learn from the internal assessment methods suitable for our national conditions. Moreover, different internal assessments should be added according to the characteristics of different subjects and cannot be generalized. For example, the internal assessment of science can adopt the assessment method of experiment and cultivate students' scientific literacy, experimental methods, profound scientific spirit and rigorous scientific attitude through the process of doing experiments. For literary assignments of language subjects, students can choose to read world literature by themselves and independently write papers on topics of interest to themselves.

6. Conclusion

In a word, IBDP's student assessment is a multi-link circular process. It adds the role of internal assessment to the whole student assessment process and shows students' growth process. Summing up the student assessment process in China, we will find that the student assessment is a straight-line in the whole process. In the entire process of student assessment in senior high school, there is a lack of executive assessment as a supplement to the examination. We can find that the test determines both the academic level test in high school and the entrance examination in university. Although the assessment of students in senior high schools in China is limited by a large number of students and education funds, the examination method of formative assessment according to different subjects still needs to be paid more attention to. Therefore, the assessment of students in high schools in China should not only focus on the final examination results of students but also conduct a formative assessment of students in the learning process to improve the effectiveness of the learning process. This will more comprehensively evaluate students and be conducive to the comprehensive development of students.

Due to limited conditions, this research lacks a field investigation of the IBDP of the International Baccalaureate Senior High School Program, and the information obtained through literature review and IBDP-related website inquiries will inevitably have deficiencies. Future research in this field should focus on field investigation and personal experience, obtain information from different perspectives and analyze and compare.

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