

# Background, Content and Enlightenment of Australasian Survey of Student Engagement (Ausse)

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**Abstract:** As early as the 1960s, the Australian government has paid attention to the quality of higher education, and has taken a number of measures to build a quality assessment environment for higher education. In 2007, in order to continue to promote the development of Australian higher education quality assessment, Australasian Survey of Student Engagement (AUSSE) was produced and achieved good results under the interaction of many aspects, becoming one of the representatives to evaluate the quality of higher education based on the perspective of students. In order to promote the improvement and diversity of assessment tools in my country, increase the reliability and validity of assessment tools, and highlight the localization and specialization of assessment tools, this article uses AUSSE as the research object for analysis. The tool focuses on the whole process of learning, takes the degree of student engagement as the benchmark, and takes the measurement of student engagement and outcomes as the core content. Through the analysis, the resulting enlightenment is obtained: to clarify the dual role of government in higher education reform, to establish the concept of “Student-Centered” education quality assessment and the awareness of international exchange and cooperation in higher education quality.

## 1. Introduction

Under the background of economic globalization and knowledge economy society, the higher education reform of various countries pays great attention to the quality of higher education. Therefore, the evaluation of higher education quality has become an important international issue in the field of higher education research. The traditional quality assessment of higher education only focuses on school resources and reputation, which cannot truly reflect the quality of universities. Since the 1990s, countries in the world have gradually turned the research perspective to students, and developed the survey tools of higher education quality assessment from the perspective of student engagement. Australasian Survey of Student Engagement (AUSSE) is the typical representative of them. Since its official launch in 2007, AUSSE has quickly taken a central place in the quality assessment of Australian universities,<sup>[1]</sup> and in just two years, AUSSE has entered three quarters of Australian and New Zealand universities, and received a lot of praise.<sup>[2]</sup> Improving the quality of higher education is the core task of the development of higher education. In 2020, the gross enrollment rate of higher education in China has entered the stage of popularization. With the expansion of the number of Universities, the quality is the key to the development of higher education itself and the most concerned by all sectors of society. Therefore, the research on the background, content and implementation process of AUSSE is expected to contribute to promoting the improvement and diversity of assessment tools in China, enhancing the reliability and validity of assessment tools, and highlighting the localization and specialization of assessment tools.

## 2. The Background of Ausse: the Interaction of Many Aspects

### 2.1 Direct Drive: Australian Government's Promotion of Higher Education Quality

Before the 1990s, the quality assurance system of Australian higher education was mainly based on internal quality management of autonomous universities, and there was no guarantee system at

the national level. In order to enhance international competitiveness and cope with the trend of increasing scale of higher education, the Australian government paid great attention to the quality of higher education and participates more and more in the higher education work. In October 1991, Peter Baldwin, Australia's Minister for Higher Education and Employment Services, published a report entitled "Higher Education: Quality and Diversity in 1990s", which officially put quality issues on the agenda of higher education for the first time.<sup>[3]</sup> In the 21st century, Australia has gradually formed a higher education quality assurance system consisting of the federal government, state and territory governments, universities, Australian Universities Quality Agency (AUQA) and Australian Qualifications Framework (AQF).<sup>[4]</sup> In late 2011, Australia established The Tertiary Education Quality and Standards Agency (TEQSA), which replaced AUQA and all existing state and territory government safeguards, and is committed to establishing a new system to ensure the quality of higher education as a whole. In addition, the government formulated measures to serve the national strategic objectives of "a Stronger Australia" and "a fairer Australia", and comprehensively involved in the assessment and supervision of teaching quality in higher education. To sum up, a series of measures taken by the Australian government to improve the quality assurance system of higher education have become the direct driving force of AUSSE.

## **2.2 Internal Driven: Lack of Data on the Effectiveness of Student Engagement in Educational Practice**

In the 1990s, the Australian government began to formulate clearer national standards for higher education around the structure of students' needs and the response of universities to the needs. In order to redefine the standards of teaching and learning, it is particularly important to measure the teaching quality and educational environment, and to measure the student engagement.<sup>[5]</sup> However, few studies in Australia have explicitly focused on how students interact with schools and all possible contacts and produce effective learning, that is, ignoring that the essence of student participation is a series of educational activities in which students participate. These activities may include active learning, participating in rich educational experience, seeking guidance from staff or cooperating with other students. In addition, most of the data only focus on the system and teaching activities, as well as the personal background characteristics of learners.<sup>[6]</sup> After entering the 21st century, although the newly formulated higher education quality standards in Australia have played a baton role in evaluation to some extent, they do not pay enough attention to specific teaching practice. They only focus on leading the development direction of higher education and teaching from a macro perspective, and cannot fall into the real teaching situation.<sup>[7]</sup> In order to solve these problems, Australian federal government, relevant departments and educational scholars must develop appropriate scientific research tools as soon as possible to obtain comprehensive and objective data of educational practice. Therefore, the lack of data on the effectiveness of student participation in educational practice has become the internal driving force for the development of the Australian university student learning engagement survey tool.

## **2.3 External Drive: the Good Driving Effect of National Survey of Student Engagement (Nsse)**

At the end of the 20th century, in the process of universalization of American higher education, the decline of education quality became more and more obvious, which led to the decline of government credibility and the intensification of social contradictions. It prompted the American government to develop scientific survey tools, timely understand the real learning situation of students, and then take measures according to the data to alleviate the pressure of high dropout rate in colleges and universities as well as improve the reputation and status of colleges and universities and the credibility of the government. The Pew Charitable Foundation of the United States provided \$3.5 million in initial funding, Commissioned Peter · Ewell of National Center for Higher Education Management Systems to develop the tools, and the National Survey of Student Engagement (NSSE) was formed eventually.<sup>[8]</sup> Since NSSE was launched in 1999, it has not only been favored by many American colleges and universities, but also has been widely applied in Asia (mainly China), Oceania and North America. At the turn of the new century, Australia is accelerating the process of rebuilding the new system of higher education and the new standard of

education quality. Recognizing the significant role of NSSE in improving the quality of higher education, Australia has also begun to explore the survey tool of localized college students' learning engagement. In 2006, the AUSSE project was run by the Australian Council for Educational Research (ACER) in partnership with higher education institutions in Australia and New Zealand, and a foundation was established at the end of the year to develop the survey tool.<sup>[9]</sup> Finally, through several revisions, AUSSE was officially launched in 2007.

## **2.4 Core Drive: the Determination of the Concept of “Student-Centered” Education Quality Assessment**

Since the 1990s, it has become a common measure of all countries to evaluate the teaching quality of higher education and improve students' academic achievements based on standards. Focusing on connotation, emphasizing quality and students' subjectivity has increasingly become a common concept. At the end of 1990s, the UK established The Quality Assurance Agency for Higher Education (QAA). This organization insists on the Student-Centered evaluation concept and regards students as a vital evaluation subject, aiming to fundamentally improve the quality of UK higher education. The quality assessment of higher education in Iceland, Denmark, Finland, Norway and Sweden also reflected the concept of “Student-Centered” and paid more attention to student participation. Although the degree and ways of student participation were different in each country, they had all produced good results.<sup>[10]</sup> At the beginning of the 21st century, western countries represented by the United States began to introduce the concept of “Student-Centered” education quality assessment into the practice of college education quality assessment, focusing on the combination of Student-Centered and results-based assessment. Developed a parallel tool for two-year colleges called the Community College Survey of Student Engagement (CCSSE) in the United States. Therefore, the concept of Student-Centered quality assessment of higher education is gradually established and has become the core concept of AUSSE.

## **3. The Content of the Ausse**

### **3.1 Survey Objects and Tools**

#### **3.1.1 Survey Objects**

Based on the three-year undergraduate education system in Australia, the respondents selected freshmen and graduating students, that is, freshmen and students who have studied in the third year (or the sixth semester) (including international students).

#### **3.1.2 Survey Tools**

AUSSE includes Student Engagement Questionnaire (SEQ), Postgraduate Student Engagement Questionnaire (POSSE) and Staff Student Engagement questionnaires (SSES). Among them, POSSE and SSES are the iteration of AUSSE, which are used for graduate students and faculty respectively. This paper mainly discusses SEQ, which takes undergraduates as the survey object in detail. SEQ has passed a series of psychometric verification and is authorized by the higher education center of Indiana University in the USA. NSSE is conducted in both online and offline ways, with a time limit of 15 minutes and contains about 150 questions, using a series of personal activity response indicators (e.g. “Never”, “sometimes”, “often”, “very often” or “no”, “1 to 2”, “3 to 4”, “5 to 6”, “more than 6”, etc.), has strong serviceability.<sup>[11]</sup> SEQ is now the most fully validated survey tool used in Australian higher education and has been revised for use in Australian higher education.<sup>[12]</sup>

### **3.2 Core Content of Survey**

#### **3.2.1 Student Engagement**

Student engagement is an index that reflects the degree of students' participation in teaching activities in colleges and universities. Therefore, the measurement of student engagement can provide higher education institutions and researchers with information about students' participation

in learning as individuals and how to use educational resources.<sup>[13]</sup> In order to quantify the degree to which universities promote students' learning and cater to the local social needs and background of Australia, AUSSE has reformed the original five indicators of NSSE and developed six indicators to evaluate effective teaching practice, which are as follows: Academic Challenge (AC), Active Learning (AL), Student and Staff interaction (SSI), the Enriching Educational Experiences (EEE), Supportive Learning Environment (SLE), Work-Integrated Learning (WIL).

First, AC refers to the degree to which students are expected and assessed to challenge their learning. Items in this scale include the degree to which students' learning is challenged by the institution and its teaching expectations. It consists of 11 questions in two different formats. One is used to distinguish the amount of students' learning experience, including abstract thinking such as analysis, synthesis, judgment and applied theory. The other one focuses on written papers, length of papers, repetition and time to complete tasks.

Second, AL refers to “students' active construction efforts”. Based on the Constructivist learning theory, the index includes seven questions, such as working on projects with other students in class, attending classes or giving online reports, and asking questions or participating in discussions in class or online and so on.

Third, SSI is defined as “the degree of contact between students and faculty.” The index includes six questions, including communication about academic and career planning, written or oral feedback from teachers, and participation of teachers and students in extracurricular activities.

Fourth, EEE refers to educational activities outside of university. The index has 12 questions, including time spent using electronic devices, peer communication between different races, community service and studying abroad, etc. These questions help the participating institutions to compare the average scores of their first year and senior students, providing valid data for many Australian institutions.

Fifth, SLE refers to the degree of support students feel in the university, including the relationship between students and school administrators and service departments, the relationship between teachers and students, and non academic support and so on.

Sixth, WIL refers to the extent to which employment-centered work experience influences learning engagement. The index includes five questions: the combination of academic learning and work experience, employment-related knowledge and skills, how to apply what you have learned to work, internship or work experience, and how to acquire work or job-related knowledge and skills. This index has been specially developed for AUSSE and is mainly influenced by the academic situation in Australia and New Zealand.

### **3.2.2 Learning Outcomes**

Australia defines learning outcomes as what learners are expected to know, understand and do at the end of learning, which is usually expressed as knowledge, skills, and the application of knowledge and skills.<sup>[14]</sup> AUSSE aims to use the results of learning outcomes in all aspects closely related to the interests of colleges and universities, such as performance evaluation and enrollment quota adjustment, to explore the factors that promote student engagement and improve the quality of college education. Its measurement consists of the following seven dimensions: Higher order thinking (HOT), General learning outcomes (LRN), General development outcomes (DEV), Average overall grade (GRD), Departure intention (MOB) , Overall satisfaction (OVL), Career readiness (CRE).

First, HOT refers to the level of students' participation in higher-level thinking, mainly including the ability to analyze ideas, experience or theory, synthesis and organization, the ability to judge information or value, and the ability to apply theory or concept to practical problems or new situations.

Second, LRN mainly refer to the development of general abilities such as language expression and writing, including 9 items: self-learning ability, effective cooperation ability with others, ability to use computer or information technology, critical analysis ability, effective and clear expression, writing ability and so on.

Third, DEV refers to the level of development of students in general forms of personal and social development. It mainly includes 6 questions such as understanding oneself and blending into people with different backgrounds, solving complex social problems and developing personal values, etc.

Fourth, GRD refers to the total average score of the courses taken so far, which can best represent the average overall score of the students so far and it has only one question.

Fifth, MOB mainly investigates the intention of non graduated students to terminate their studies before completing their studies, that is, the intention to leave school, including study convenience, future career prospects, academic, economic, health and other items, which are manifested in inter school mobility, dropping out of school, changing majors, delaying graduation, etc.

Sixth, OVL refers to students' overall satisfaction with their educational experience, which is measured from obtaining academic advice, overall satisfaction with their educational experience, and whether they still choose their college if they choose again.

Seventh, CRE refers to students' commitment to their future career. The index asks 5 questions, including updating your resume, how to present yourself to employers, where to look for jobs, networking for job opportunities, and setting career goals and plans.

#### 4. Implementation Process and Characteristics of Ausse

##### 4.1 Implementation Process

AUSSE early is the key to the implementation of the sampling, it is different from similar quality investigation tool, does not involve census of the whole population, but a layered system sampling, the population according to year, sex, research field and research methods of layered, and sample randomly in each layer of the students to make sure certain representativeness and generalization. Meanwhile, the tracking cost of excessive sample data can be reduced. In addition, AUSSE puts weight on samples to ensure the representativeness, which are appropriately adjusted according to the given data, such as year level, type of attendance and gender of respondents. For example, 31 institutions participated in the AUSSE in 2012, which randomly sampled 2,000 students each from 91,757 first-year students and 129,398 third-year students in Australia. Then the sample results were weighted to represent key demographic characteristics to some extent and had high reliability and validity. Then the weighted final sample list was sent to colleges and universities for formal investigation.<sup>[15]</sup>

AUSSE is centrally managed by ACER and is conducted in various schools. ACER after receiving institutions return survey data, using SPSS on the collection and analysis, and then discuss the findings into a report every time, all the colleges and universities will also receive a full report, including a series of results and benchmark, as necessary for a particular student community participation in public discussion and analysis, The whole AUSSE implementation process takes about 2 months. The complete flow chart is shown in Figure 1 according to the existing foreign literature and the Annual report of AUSSE issued by ACER.

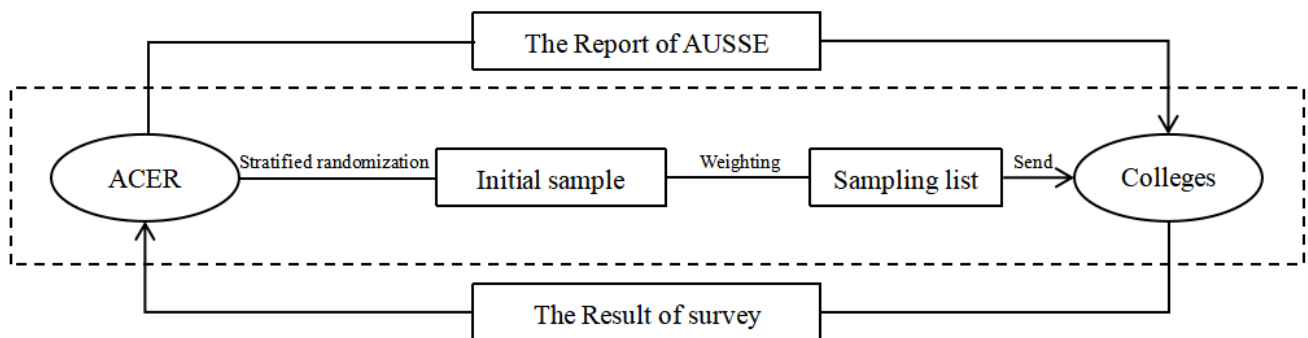


Fig.1 Flow-Process Diagram of Ausse

## **4.2 Characteristics of Ausse**

### **4.2.1 Rely on Strong Technical Support**

#### **4.2.1.1 A Series of Rigorous Psychometrics**

Before AUSSE application, SEQ has carried out a lot of scientific and technical verification work. Differential Item Functioning (DIF) analysis and exploratory or confirmatory factor analysis were used to measure SEQ's structural validity and divergent validity. The results were verified by multiple tests including focus groups, cognitive interviews, expert reviews, pilot tests and reviews, psychometric models, differential item functioning (DIF) analysis and exploratory or confirmatory factor analysis.

#### **4.2.1.2 Efficient and Robust Sampling Strategy**

AUSSE adopts an effective and robust sampling strategy to determine the sample, and re-weights the preliminary sample after stratified random sampling (gender, age, ethnicity, etc.), which not only improves the survey efficiency, but also makes the survey results representative of certain groups. In addition, after receiving the sample list listed by ACER, universities will proofread the list, which ensures the scientific and effective results of AUSSE through two-way sampling.

#### **4.2.1.3 Comprehensive and Detailed Investigation Data Report**

ACER produces the Annual AUSSE report from three aspects of learning engagement, learning outcomes and summary. First of all, the percentage of each index in the survey results of learning engagement scale and learning outcome scale is briefly described. Secondly, in the summary report, a comprehensive analysis is made in the form of charts on the sample of that year, the method of assigning survey results, data comparison across years, and the summary of participation of different student groups. Finally, the next improvement method is proposed according to the results.

### **4.2.2 Absorb New Research Perspective**

#### **4.2.2.1 Flexible and Scientific Reference Standards**

AUSSE closely combines data with practice, uses standardized or non-standardized reference benchmarks to compare results, sets scientific indicators, optimizes strategies flexibly, and actively implements them into real teaching situations to provide more efficient and targeted action guidance.

#### **4.2.2.2 Expansion of Measurement Range**

In addition to testing students' integration into school life, AUSSE also focuses on non-traditional learning content and environment, such as community service, internship, etc., which means students are freed from fixed institutional schedules and given more flexible learning flexibility.

#### **4.2.2.3 Attention to Students' Learning Development**

No matter in the selection of survey objects, item design of the scale or the time interval of the survey, it emphasizes the long-term development of students' study and internship during the undergraduate period. Regular investigation, timely feedback and targeted improvement constitute a virtuous cycle path, which makes the degree of college student engagement gets a steady and long-term improvement.

### **4.2.3 Provide High-Quality Research Support**

#### **4.2.3.1 Managed by Advanced Educational Institutions**

AUSSE is managed by one of the most advanced educational institutions in the world. ACER is an Australian independent non-profit research organization dedicated to education quality assessment. With over 90 years of experience in quality education research, ACER is an international leader in the development and improvement of education quality assessment tools and

service quality. In 2007, a team of professionals was established to lead the AUSSE project.

#### **4.2.3.2 Close Cooperation between Central and Local**

The central administration works closely with local institutions. The AUSSE program is managed by ACER and implemented at various institutions. As we know from the implementation process mentioned above, ACER was responsible for many aspects of the project, including scale improvement, obtaining approval for any action, contacting participating institutions, drafting preliminary samples and distributing them to institutions, and later data analysis and report production. Participating institutions also play an important role, including sample proofreading, questionnaire distribution and recycling, etc. As a result, this close collaboration maintains the momentum of student participation and survey returns, ensuring the quality of survey results.

### **5. Discussion**

#### **5.1 Clarify the Important Role of Government in Higher Education Reform and Promote the Development and Improvement of Evaluation Tools**

At the end of the last century, the Australian Federal Government made a lot of efforts in improving the advanced quality assurance mechanism, such as formulating Australian Learning and Teaching Council Criteria, Australian University Teaching Criteria and Standards, Australian Teacher Teaching Criteria, etc. The Australian Federal Government fully involved in the evaluation and audit of university teaching quality, took the lead in opening a new era of university teaching quality assurance. In recent years, the Chinese government has played a leading role in addressing the quality of higher education and has issued many relevant policy and guiding documents, such as in February 2019, General Office of the Central Committee of the Communist Party of China, General Office of the State Council issued “Implementation Plan for Accelerating Education Modernization (2018-2022)”, which further proposed to promote colleges and universities to improve the internal education quality assurance system. At present, the quality assurance of higher education in my country is mainly based on the “Interim Regulations on Education Evaluation of Ordinary Institutions of Higher Education”. Since the “Regulations” were formulated earlier, its basic framework is still based on the planned economic system, which has not adapted to the new needs of the current situation and development. Therefore, it is necessary to clarify the important role of the government in the development of higher education, play a leading role, and improve the quality assurance system of higher education in time. In addition to the government's macro policies and guidance documents, only by comprehensively supervising and ensuring that relevant departments or colleges implement research into real teaching situations, and timely correcting or upgrading survey tools through feedback to ensure technological advancement can truly promote evaluation tools development and improvement.

#### **5.2 Establish the Concept of “Student-Centered” Education Quality Assessment and Improve the Reliability and Validity of Assessment Tools**

The concept of “Student-Centered” originally dates back to the early 20th century and was incorporated into broader educational theories in the 1850s. <sup>[16]</sup> Until the end of the 20th century, this theory promoted the emergence of the concept of “Student-Centered” education quality assessment, and the focus of quality reform of higher education began to shift, with the focus shifting from teachers to students and the teaching concept shifting from guidance to independent learning. Nowadays, the trend of “Student-Centered” education quality assessment concept has emerged. Since AUSSE’s establishment, it has stimulated a considerable number of Australian higher education research and development, and the concepts of student engagement and “Student-Center” have been embedded in the education reform strategies of many Australian institutions. However, the work of higher education evaluation in China started relatively late. The purpose, principles or guidelines of evaluation more reflect the will of the education administrative department. The evaluation content pays more attention to the investment of external factors such as

higher education teachers and funds, but pays little attention to the effect of college classroom teaching, the evaluation of student engagement and learning outcomes. In November 2020, with the publication of the “Fifth Round of Discipline Evaluation Work Plan”, ““Double First-Class’ Construction Effectiveness Evaluation Measures (Trial)”, “Ordinary Colleges and Universities Undergraduate Education and Teaching Review and Evaluation Implementation Plan (2021-2025)” and other documents. These emphasize the development and implementation of the fundamental requirements of “Morality Education”, and resolutely eliminates the “Five Only”. Therefore, it is urgent to form the concept of student learning development from the concept of reputation based on external factors of education to the concept of student learning focusing on educational process and results, and to implement the concept of “Student-Centered” evaluation in tool development to improve the reliability and validity of evaluation tools.

### **5.3 Establish the Awareness of International Exchange and Cooperation on Higher Education Quality, and Highlight the Localization and Specialization of Assessment Tools**

With the advancement of internationalization of higher education, quality assurance of cross-border higher education has become a common challenge for all countries. Several successful experiences have also verified the necessity of transnational cooperative higher education quality assessment projects. AUSSE begins with individual involvement and combines it with an institutional, cross-institution and transnational perspective to provide new insights and generate substantial value in education related to quality processes and outcomes. Quality Assurance Agency for Higher Education (QAA) in the UK launched the quality assurance project of Sino-foreign cooperative education in China in 2006, and ten domestic colleges and universities participated in it, which greatly improved the professionalism of the evaluation work. However, relevant data show that, except for the education evaluation institutions in Beijing (including the Ministry of Education), Jiangsu province, Shanghai and other places, the participation level of educational institutions in international cooperation is generally low.<sup>[17]</sup> Therefore, it is necessary to promote the awareness of international exchange and cooperation in higher education quality nationwide as soon as possible, promote the prototype of international partnership framework, promote the professional development of existing assessment tools in China, reasonably learn from the reference standards of developed countries, and further make practical contributions to the improvement of higher education quality assessment in China. However, it is worth noting that for the quality assessment of transnational higher education to be effective, we also need to take a series of measures to ensure that the development, implementation, analysis and results used in transnational assessment are valid and applicable. For example, the differences between countries and universities are considered, including the national higher education system and management, and the composition and personnel arrangement of university departments. To sum up, China must take its own educational system and learning situation as the premise, fully consider the applicability of existing foreign research results to China, and actively build local survey tools.

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