



Construction of “Psychology+ Technology+ Education” Digital Intelligence Platform Based on New Media Technology

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Abstract. At present, the continuous progress of science and technology has prompted the development of new media technology to become more and more mature, bringing unprecedented changes to people's life and production. With the rapid development of new media technology, the field of college students' mental health education is facing new opportunities and challenges. How to improve the level of mental health education in colleges and universities in the era of new media has become an important issue. This paper focuses on the theme of new media technology empowering mental health education in colleges and universities, starting from the construction of a digital platform of “psychology+ technology+ education”, and focuses on exploring the construction strategy of college students' mental health education platform in the era of new media. This paper proposes the use of big data and cloud computing, React.js and other modern front-end technologies to build an intelligent platform with multidisciplinary knowledge, to meet the diverse needs of students, and to protect students' privacy, which integrates learning and education functions and psychological counseling functions, with a view to expanding new ideas and paths for the development of mental health in colleges and universities.

Keywords: Digital intelligence platform, Mental health education, New media technologies, Digitalization of education, New paths

1 Introduction

Mental health means that all aspects of the psyche and the process of activity are in a good or normal state. The current society is too fast-paced, life pressure, easy to breed bad emotions, not only affects the physical and mental health of individuals and even affects the harmony and stability of society [1]. The party and the state attach great importance to the ideological and political quality education of students in colleges and universities in the new era, and pay attention to the development of college students' mental health. It is committed to cultivating physically and mentally healthy socialist

successors. Mental health services are the core of social psychological services, and school mental health services are the main way of psychological education. With the iterative upgrading of Internet technology, new media, with its unique communication methods, colorful content and wide coverage, provides a brand new platform and tools for mental health education in colleges and universities. At present, China has made some progress in the development of college students' mental health education, but the innovation ability of digital education means still needs to be improved. For this reason, the new era of college students' mental health education needs a new atmosphere of informationization and digitalization. For college administrators and teachers of mental health education, it is necessary to optimize the mode of mental health education for college students based on the new media background, and disseminate mental health knowledge in a way that is pleasing to college students. Make full use of modern technology platform, let science and technology for students, for education, for society [1].

2 Need for the platform

The new media technology-enabled mental health education platform for college students is a platform that utilizes new media technology and means to provide mental health education services for college students [1]. The platform aims to build a platform for the integration of “psychology + technology + education” and provide college students with instant psychological counseling, personalized psychological support, diversified empathy recommendation and other services, with the aim of creating a better mental health education environment for college students, and assisting college students in their mental health and growth and success [2].

2.1 Optimizing the structure of resource allocation

At present, most colleges and universities in China have uneven distribution of mental health counseling resources and limited resources, especially the inadequate staffing of psychological counseling, which is difficult to meet the growing demand for psychological counseling of students [9]. The varying levels of mental health education teachers have resulted in a lack of scientific and professional mental health information, which has had a certain impact on the mental health education of college students. The construction of a unified mental health education platform can reduce the lack of education caused by the large difference in the distribution of psychological resources [3].

2.2 Enriching the forms of education and teaching

The traditional mode of mental health education program only offline classroom for students to deliver relevant knowledge, limited information and poor timeliness, unable to meet the development of students' actual mental health education [5]. The new media platform creates an interactive communication channel between teachers and students, and students can leave messages, comments and questions on the platform, and psychological teachers and professional counselors can reply in time to answer students'

questions and solve their problems [4]. At the same time, college students can also share their own psychological experiences and feelings, forming a mutual supportive atmosphere, so that college students can participate in mental health education more actively and more widely.

2.3 Meeting the diverse needs of students

The existing mental health education platform separates teaching and psychological counseling, which cannot meet the diverse psychological needs of students. Relying on the new media digital intelligence platform, it can realize the unification of students, teachers and psychological counselors [8]. Students can anonymously send their psychological distress, and teachers and professional counselors can provide timely services to students through the platform. At the same time, offline mental health consulting services can also be booked on the platform to provide one-on-one psychological counseling services in a safe and comfortable environment to address the psychological counseling needs of college students [11]. Using the mutual coordination of online and offline services, an all-round and three-dimensional mental health service model is formed.

3 The practice of new media technology in mental health education

With the rapid development of new media technology, its application in mental health education has become an important means to promote psychological quality and mental health intervention. The article puts forward a design idea of “psychology+ technology + education” digital intelligence platform based on new media technology, which promotes the innovation and development of mental health education mode through the integration of big data, artificial intelligence and cloud computing technologies [6]. It systematically analyzes the design concept and core functions of the platform, discusses the practical application value of new media technology in mental health education, and emphasizes the in-depth integration of psychological theories and technological realizations, so as to provide a new path to promote the popularization, personalization and efficiency of mental health education. The article takes the Digital Intelligence Platform App “Mind Station” as an example to introduce in detail the practical application strategy of new media technology in college students' mental health education [7].

3.1 Digital Intelligence Platform Design Ideas

3.1.1 Interdisciplinary integration: psychology with new media technologies.

Mental health education, as an important part of the application field of psychology, has always focused on the popularization of theoretical knowledge and the enhancement of mental health awareness. The traditional education model faces problems such as poor timeliness and limited dissemination channels, especially when mental health education is carried out in large-scale groups, the effect is difficult to be guaranteed.

The rapid development of new media technology and breakthroughs in the fields of smartphones, social platforms and cloud computing have provided emerging technical support for mental health education, combining new media technology with psychological theories, enriching the forms of expression and channels of dissemination of mental health education, and accurately identifying individual mental health problems and providing tailor-made intervention programs through big data analysis and artificial intelligence algorithms [8].

The design concept of the “Psychology + Technology + Education” Digital Intelligence Platform aims to build a multi-dimensional mental health education platform by integrating modern psychological research results and new media technology, so that users can obtain personalized mental health support in a convenient digital environment. The core concept of the platform is based on the four principles of “individualization, interactivity, real-time, and privacy protection” [10], integrating psychological intervention modes such as emotion regulation theory, cognitive-behavioral therapy, and positive-thought therapy of modern psychology, and realizing precise and personalized services through new media technology [9].

3.1.2 Function Module Underlying Logic.

The underlying logic of the platform's functional modules aims to maximize the popularity, timeliness and interactivity of mental health education [2]. Supported by big data and cloud computing, the platform is able to conduct real-time monitoring, data analysis and emotion prediction of users' mental health status, thus providing timely intervention suggestions and psychological guidance. The platform generates personalized psychological intervention programs and psychology learning resources by combining psychology models and user data through the intelligent recommender system, so as to improve users' self-management ability and mental health literacy. The functional modules of the platform are mainly divided into the following three parts:

1. Personalized Psychological Assessment and Diagnosis Module: Evaluates users' mental health through psychological scales and big data analysis technology, generates psychological reports and recommends personalized intervention plans.
2. Emotion regulation and psychological guidance module: through emotion recognition and analysis technology, provide users with real-time feedback and emotion guidance suggestions.
3. Mental health education and self-improvement module: Combined with the user's personalized needs, it recommends psychology learning content to help users improve their psychological quality.

3.1.3 “The Soul Station” App.

The “The Soul Station” App always focuses on user experience and meets the needs of users in all aspects. In order to improve user experience and increase user stickiness, the team members, based on the results of the research on the existing product functions and the actual needs of students for mental health education, determined the specific core functions and R&D direction of the product based on the underlying logic of the

functional modules (Figure 1). specific core functions and the direction of research and development, as shown in Figure 2.

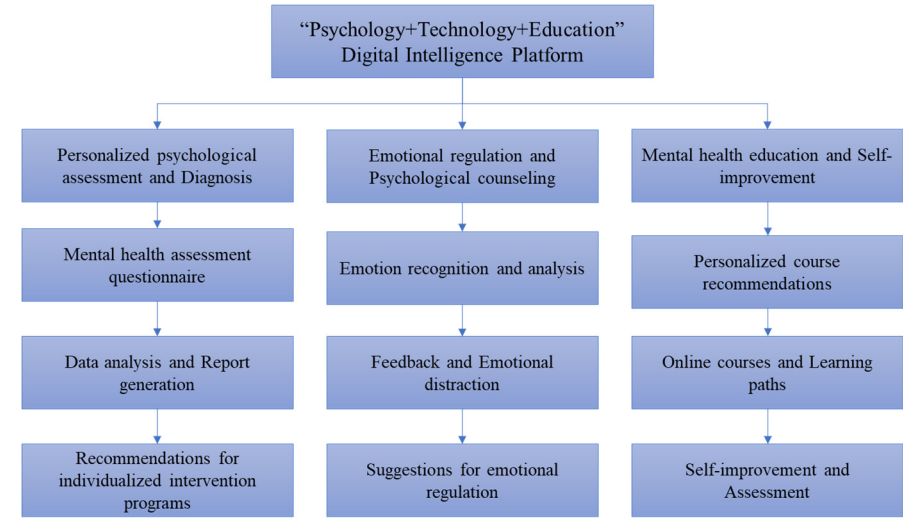


Fig. 1. Functional Modules Underlying Logic

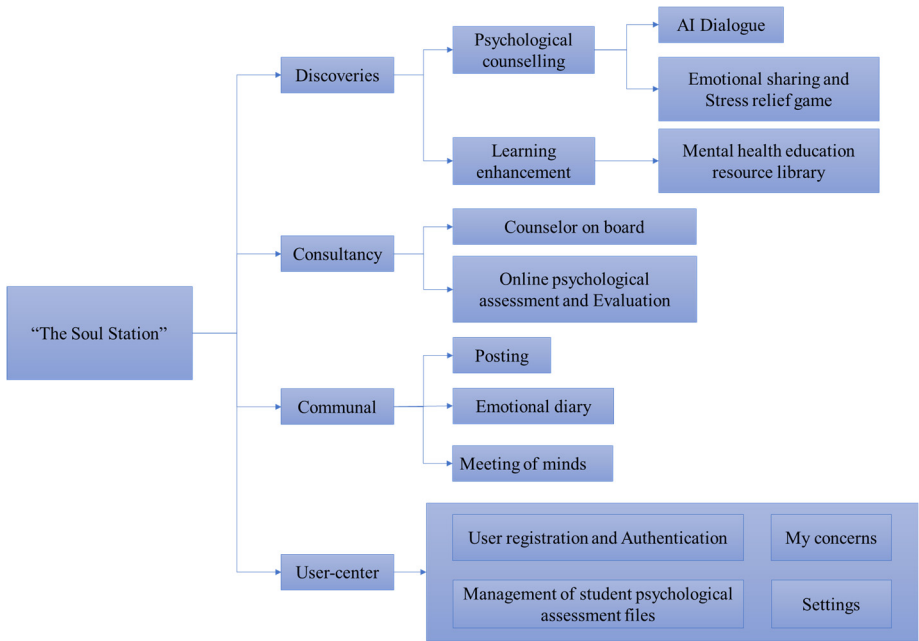


Fig. 2. Functional framework of the “The Soul Station” App

3.2 Strengthening Core Functions

3.2.1 Personalized psychological assessment and diagnosis.

Personalized psychological assessment is one of the core functions. Through a number of scales (such as depression scale, anxiety scale, stress perception scale, etc.) constructed on the basis of psychological theories to conduct a comprehensive assessment of the user's mental health, the user fills in the corresponding mental health assessment questionnaire, the system will use big data analysis technology to intelligently analyze the user's answers, so as to generate a detailed and personalized mental health report, and through data mining technology, the platform is able to identify the user's Through data mining technology, the platform is able to identify the potential mental health problems of users and provide users with preliminary mental health assessment and professional advice based on the analysis results [1].

This function not only helps users understand their own psychological state, but also provides data support for subsequent psychological guidance and personalized interventions. This function combines the theory of cognitive behavioral therapy, and recommends specific interventions based on the results of the user's assessment, such as positive thinking meditation, emotion management techniques or cognitive remodeling training. The application of this function ensures that the module is scientific and accurate in terms of education and intervention, while big data technology makes the assessment process more precise and personalized [1].

3.2.2 Emotional regulation and psychological guidance.

Emotion regulation is a crucial aspect of mental health education. The theory of emotion regulation points out that the identification and regulation of emotions can effectively alleviate psychological pressure and enhance psychological resilience. Based on this basic theory, the emotion regulation and psychological guidance function is designed to help users self-soothe through scientific means of emotion regulation when facing psychological distress.

This function adopts emotion analysis technology, through semantic analysis of the text information entered by the user in the AI dialogue, it automatically recognizes the user's emotional state (such as anxiety, depression, anger, etc.), and based on the results of the emotion analysis, the platform is able to recommend to the user the corresponding emotional relief strategies, such as meditation exercises, relaxation training, emotional catharsis, etc. At the same time, the "The Soul Station" app provides an emotional diary. "At the same time, the app provides an emotional diary function, allowing users to record their daily emotional fluctuations and get feedback. This function is based on the psychological theory of emotion regulation, and helps users better manage their emotions by systematically recording and reflecting on their mood swings [3]. The platform's emotion regulation function also combines with Positive Thought Therapy to provide Positive Thought Meditation exercises to help users reduce stress and improve their emotions through meditation, during which the platform adjusts the content and intensity of the meditation exercises according to the users' emotional fluctuations, in order to achieve personalized and real-time emotion channeling effects.

3.2.3 Mental health education and self-improvement.

Mental health education is another core function of this platform. This function is dedicated to helping users learn psychology knowledge systematically and improve their mental health literacy through psychology courses, special lectures, popular psychology articles and other forms. The platform provides customized learning paths for users, who can choose different course modules according to their needs, such as emotion management, stress management, cognitive behavioral therapy, etc. The platform recommends the most suitable learning resources for users through data analysis. The platform can dynamically adjust the recommended content by combining the results of the user's psychological assessment [6]. For example, if the user shows a high level of anxiety in the psychological assessment, the platform may recommend relevant anxiety management courses or videos to help the user cope with anxiety through knowledge learning and self-improvement.

The core of psychology education is to enhance users' mental health knowledge and improve their ability to cope with life stress and psychological distress. This function adopts an intelligent recommendation system, and the platform recommends personalized learning content through tracking and analyzing users' behavioral data, combining with the “education and intervention” strategy of cognitive-behavioral therapy, the education and learning function of the platform can help users form scientific and scientific knowledge. Combined with the “education and intervention” strategy of cognitive behavioral therapy, the education and learning function of the platform can help users form scientific psychological cognition and learn to apply psychological theories and skills to cope with various challenges in life.

3.2.4 Privacy Protection Service.

Psychological counseling products are closely related to sensitive personal information due to their unique attributes. As students are at a specific stage of physical and mental development and social experience accumulation, they tend to attach a higher importance to privacy issues, but have obvious deficiencies in self-protection of privacy and lack effective experience in dealing with privacy risks [9]. In response to this situation, “The Soul Station” App adopts new encryption technology and a strict user review system to provide students with more comprehensive mental health protection as much as possible.

3.3 Technical Architecture and Implementation

3.3.1 Data processing and analysis.

All functions of the platform are based on powerful data processing and analysis capabilities. By integrating artificial intelligence algorithms (e.g., natural language processing, sentiment analysis, etc.), the platform is able to process user data in real time and provide personalized feedback and suggestions based on user inputs of emotional and psychological states. The back-end of the platform uses cloud computing technol-

ogy to ensure large-scale user data storage and processing capabilities, and data encryption technology and privacy protection measures to ensure the security of user information. The data processing framework is shown in Figure 3.

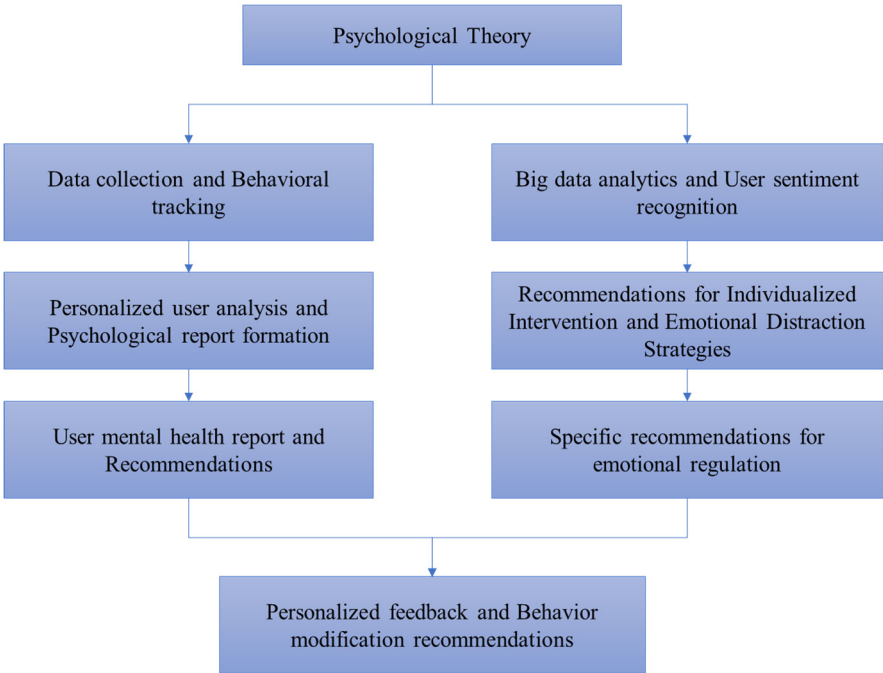


Fig. 3. Data-processing framework

3.3.2 User Interface and Interaction Design.

Interaction mode plays an important role in improving user experience, so the optimization and upgrading of software interaction mode is of great significance. First of all, at the level of language and text interaction. Language and text interaction constitutes the basic way of information circulation, and both of them have their own merits, with language interaction having the advantage of convenience, while text interaction is excellent in terms of privacy [4]. The developers embedded a speech recognition module inside the software to realize the two-way conversion between speech and text. In this way, college students can flexibly choose the appropriate form of information transmission according to the specific situation, which guarantees the accuracy and clarity of the feedback information while maximizing the protection of their personal privacy from disclosure. Secondly, in terms of the degree of operating difficulty. Efforts are made to cut down the number of buttons in the UI interface, lay out the core functions in a prominent position, reduce the depth of drop-down menus, and minimize the proportion of hover windows in the UI interface [2]. This can create a simple and clean visual effect, fit the aesthetic preference of college students, and effectively reduce the learning cost of college students in the process of using the software. Finally, in terms of positive feedback, college students often have high psychological expectations for

the feedback function of psychological counseling software. Therefore, when designing the feedback system, it is necessary to understand the real demands of users, use simple and intuitive guidance strategies to help college students understand the rules of micro-interaction, and open up diversified feedback channels for them. At the same time, on the basis of adhering to the principles of security and privacy, we should strive to improve the efficiency of information feedback, uphold the concept of “student-oriented”, and scrutinize the reasonableness of the internal functions of the app from the perspective of students [7].

In order to enhance the user experience, the “The Soul Station” App adopts a responsive design, which is suitable for a variety of terminal devices, including cell phones, tablets and PCs. the interface of the platform is simple and intuitive, and the users can easily complete the operations of emotional records, psychological assessment, and the selection of learning paths, etc. Through the use of modern front-end technologies such as React.js, the platform can quickly respond to the user's operation and provide a smooth and efficient user interface. Through the use of modern front-end technologies such as React.js, the platform is able to respond quickly to user operations and provide a smooth user experience [11].

4 Conclusion

Advancing the construction of mental health education platform in colleges and universities in the new media era requires the joint efforts of all parties. With the rapid development of the times, the psychological needs of students are also diversified. Under the further accelerated evolution of new media technology, colleges and universities need to take advantage of the role of new media technology in mental health education, and comprehensively improve and perfect the digital application boards based on the actual needs of students. Continuously promote educational innovation and development, actively respond to new problems and challenges, and constantly summarize new experiences. By building a platform for the integration and development of “psychology + science and technology + education”, the systematic and effective nature of mental health education is strengthened to meet the requirements of the development of college students' mental health in the new era. By continuously enriching the mental health resource base, developing real-time psychological assessment and monitoring services, optimizing the online communication form of the App, and improving the efficiency of information sharing, we use digital technology to assist schools in establishing and improving the long-term mechanism of psychological education and services, and empower the high-quality development of mental health education in colleges and universities with new media technology, so as to effectively improve the level of mental health education for college students. In order to truly realize the goal of cultivating students' good psychological quality and promoting students' all-round development, new media technology and school mental health education influence each other and promote each other, and new media technology will surely promote the vigorous development of mental health education in colleges and universities.

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