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Incorporating Information Technology into College English Teaching: A Case Study of *English Teaching of Featured Chinese Culture*

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Abstract With computer networks and mobile terminals as the main connection links, information technology has been increasingly incorporated into college English teaching to optimize teaching contents, teaching resources, teaching elements and teaching components into a complete whole and construct an informationized teaching environment so as to improve teaching efficiency. In the context of informationized education, college English teaching and researching need to keep pace with the education development by actively applying information technology into its teaching practices. Based on this cognition, *English Teaching of Featured Chinese Culture* managed to take full advantage of its blended massive online open course (MOOC), network-based teaching platforms, and intelligent teaching systems to incorporate relevant information technology elements into its teaching process by constructing informationized learning environments to motivate students' learning interests and desires, renovating ubiquitous learning approaches to optimize students' learning methods and progress, and implementing multimedia product+ assessments to upgrade students' learning processes and outcomes. Incorporating information technology into the teaching process of *English Teaching of Featured Chinese Culture* was expected to meet students' increasing needs for computer network and mobile terminal-based ubiquitous learning and improve teaching efficiency, hopefully providing feasible references and enlightenments for other college English courses to renovate their information technology-supported teaching endeavors.

Keywords College English, *English Teaching of Featured Chinese Culture*, Information Technology, Incorporation, Teaching Practice

1. Introduction

In this new era of extensive application of computer science and mobile technology in the education field, information technology not only provides abundant resources for college English teaching and learning but also enables college English teaching and learning to experience unprecedented changes in teaching concepts, teaching contents and teaching approaches [1]. In this informationized era, traditional ways to express meanings with words have been increasingly combined with other forms of language, vision, audition, posture, and space [2]. The application of information technology into college English would bring forth profound teaching reforms and changes in such key components as constructing teaching contents and resources, renovating teaching approaches and methods, and implementing teaching assessments and evaluations. To comply with these teaching reforms and changes, college English, a general and core curriculum in

China's higher education that boasts of the most various courses that could either be basic or extended, compulsory or selective, language or application, ability or cultural, is bound to renovate its teaching practices by effectively applying information technology elements so as to enrich teaching contents and resources and enhance teaching processes and approaches, with an aim to improve teaching efficiencies to cultivate students' abilities to use English for effective communication in daily life, academic study and potential employment.

2. Study Background

Incorporating information technology into college English teaching is a certainly systematic project, which does not mean just adding some information technology elements into college English. To effectively incorporate information technology into college English teaching, we need, first of all, to answer these questions. What is exactly the incorporation of information technology into college English teaching? What are the key components to incorporate information technology into college English teaching? What are the teaching bases that support the incorporation of information technology into college English teaching? What needs to be done to effectively incorporate information technology into college English teaching? The answers to these questions might provide possible guidance for the study of incorporating information technology into *English Teaching of Featured Chinese Culture*, a college English intercultural communication course in the National High-quality Open Course of *College English Application Course Series* of the case university.

2.1. Incorporating Information Technology into College English Teaching: Concept

With the extensive popularization and application of computer networks in the education field, incorporating information technology into college English teaching is a must for the guarantee of teaching efficiency. Incorporating information technology into college English teaching doesn't simply mean information technology plus college English. The effective incorporation of information technology into college English teaching is the construction of a systematic, connective, dynamic, progressive and ecological teaching system, in which relevant information technology elements are interrelated and mutually functioned. Information technology is no longer an auxiliary means or tool in college English teaching but a very important component in the teaching content [3]. To ensure an effective incorporation of information technology into college English teaching, an information technology supported or based teaching framework is of great importance because it manages to incorporate and coordinate proper information technology elements into the teaching contents, teaching tasks, teaching approaches, teaching processes and teaching assessments.

Scientific construction of informationized teaching environments and effective application of informationized teaching resources were the most important prerequisites for the incorporation of information technology into college English teaching [4]. Constructing informationized teaching environments meant to build up ideal teaching ecologies that could effectively motivate students to internalize, relate, transfer and apply the knowledge learned and the skills acquired into the progress of obtaining learning resources, sharing learning information, and conducting learning activities [5]. Applying informationized teaching resources aimed to renovate the teaching approaches and practice methods that were teacher-mediated individualized explorative and collaborative experiencing learning [6], which enabled the informationized teaching contents and resources to be effectively integrated into students' learning processes, practical applications and social lives, helping them cultivate creative minds, improve research consciousness, and gradually grow into new-type of English talents [7].

2.2. Incorporating Information Technology into College English Teaching: Basis

As an instructive document for China's college English to formulate teaching syllabi, construct teaching courses, organize teaching practices, and implement teaching assessments, "*College English Teaching Guidelines*" [1] stipulated that the extensive application of computer network technology managed to make college English teaching informationized and diversified, and college English learning autonomous and mobile. To improve teaching efficiency and cultivate new-type of English talents, college English teachers needed to enhance information technology consciousness, improve information technology cognition, and more importantly cultivate information technology application so that they could effectively incorporate and reasonably apply relevant information technology elements into their routine teaching practices and activities, providing students with easy access to learning options and resources, and gradually enabling students' learning to develop from "being passive" to "being active".

The optimization and renovation of teaching processes were the key factors to promote students' active learning and improve teaching efficiency. To effectively incorporate information technology elements into college English teaching, it was imperative for those commonly used information technology products, such as computers, networks and mobile terminals, to be reasonably and scientifically incorporated into the teaching and learning processes that were interactively involved by such elements and components as teachers, students, teaching resources, teaching contents, teaching modes, teaching

approaches, and teaching assessments [8,9]. These endeavors cooperated to produce coordinated effects on motivating students to enhance learning consciousness, reinforce learning confidence, improve learning interest, stimulate learning motives, and develop learning behaviors [10]. With the help of the connection links of information technology, students were encouraged to construct knowledge systems, work out practical problems, and create new learning meanings in their practices of selecting learning resources, designing learning circumstances, choosing learning modes, constructing learning progress, and implementing learning activities [11,12].

2.3. Incorporating Information Technology into College English Teaching: Practice

Following "*College English Teaching Guidelines*" to actively apply information technology to college English teaching, relevant Chinese colleges and universities have enthusiastically invested substantial amounts of personnel and material resources in developing informationized teaching resources and renovating multiple teaching approaches [13], aiming to promote their college English teaching reforms and developments. But restricted by insufficient financial inputs and improper technology applications, the effective constructions and practical applications of informationized teaching resources in college English teaching were still at the very initial stage and encountered quite a few problems [14]. On the one hand, the construction level and the application rate of informationized teaching resources were relatively low [15], being far from enough to meet the practical teaching and learning needs. On the other hand, the informationized teaching ideas were not in full agreement with the actual information technology-based teaching practices, failing to effectively construct computer and network based individualized, interactive, autonomous, explorative and open teaching ecologies and environments [16].

In the background of education informationization, incorporating information technology was an imperative process that college English teaching reforms and researches were bound to undergo [16] and an indispensable approach for college English teaching to gain optimal teaching outcomes and ideal teaching objectives [17]. To incorporate information technology into college English teaching to improve teaching efficiency, college English teachers who are significant "others" in students' learning, first of all, need to fully realize the importance of information technology construction and application. By so doing, they would voluntarily try to enhance due consciousness, master necessary knowledge, and improve abilities to use proper information technology elements in their teaching practices. College English teachers secondly need to actively participate in the information technology based teaching practices and reforms of constructing teaching environments, renovating teaching approaches, and implementing teaching assessments so as to reasonably program, effectively manage and systematically apply computer networks and mobile terminals, complying with the new teaching characteristics and meeting the learning needs in the education era of information technology.

3. Incorporating Information Technology into College English Teaching: A Case Study of *English Teaching of Featured Chinese Culture*

To satisfy students' ubiquitous learning demands and improve teaching efficiency, *English Teaching of Featured Chinese Culture* followed the teaching principle of *College English Teaching Guidelines* to have successfully constructed a provincial first-rate blended MOOC in the past decade. Coordinating the construction of the blended MOOC, *English Teaching of Featured Chinese Culture* also managed to establish various network learning platforms and relevant intelligent learning systems. To provide a framework for the information technology supported teaching practice, *English Teaching of Featured Chinese Culture* followed "motivating, enabling and assessing" of the Production-oriented Approach, POA [18], regarded as the foreign language teaching approach with Chinese characteristics, to implement its cultural theme-based teaching processes that included constructing informationized learning environments to motivate students' learning desires, renovating ubiquitous learning approaches to optimize students' learning processes, and implementing multimedia product^{+} learning assessments to upgrade students' learning outcomes.

Constructing informationized learning environments was the basis for the incorporation of information technology into *English Teaching of Featured Chinese Culture*. In the incorporation of information technology into the learning environments, the information technology based hardware learning environments provided a guarantee for students' effective learning with practical use of English, enabling students' learning to be free from the limits of time and space. The information technology supported software learning environments sustained by multimedia and multimodal learning contents and resources motivated students' individualized and autonomous learning desires, helping them to externalize and develop their learning behaviors.

Renovating ubiquitous learning approaches was the key to the incorporation of information technology into *English Teaching of Featured Chinese Culture*. In the incorporation of information technology into the learning approaches, the information technology supported learning platforms and intelligent learning systems created easy access for students to conduct cultural theme task-based learning (TBL) and project-based learning (PBL). Motivated by TBL and PBL, students were able to optimize those

learning-using integrated, and knowledge-action combined experiential and explorative learning processes, enabling them "to be able to perfect their cognitive structures, and cultivate and develop abilities to work out problems in their interaction of knowledge and practice" [19].

Implementing multimedia product$^+$ learning assessments was the striking feature of incorporating information technology into *English Teaching of Featured Chinese Culture*. In the incorporation of information technology into the learning assessments, the multimedia product$^+$ learning assessments promoted learning and using with assessing. The making of multimedia products not only helped students to construct systematic correlations between the knowledge being learned and the knowledge already accumulated to construct new knowledge systems [20], but also enabled students to construct "new resources to create meanings" [21] for the teaching and development of the course, substantially upgrading learning outcomes.

3.1. Constructing Informationized Learning Environments to Motivate Students' Learning Desires

Informationized learning environments referred to those information technology supported teaching and learning materials and resources, and conditions and circumstances that were constructed and developed to display teaching and learning contents, design teaching and learning approaches, extend teaching and learning spaces, conduct teaching and learning activities, fulfill teaching and learning tasks, and realize teaching and learning objectives [22]. In the past decade, *English Teaching of Featured Chinese Culture* spared no effort to construct informationized learning environments, see Figure 1, including hardware and software ones, to help students motivate learning desires and develop potential learning behaviors in their dynamic learning progress of choosing learning platforms, picking up learning contents, conducting online and offline learning, performing in-class and off-class study, and implementing autonomous and collaborative exploration.

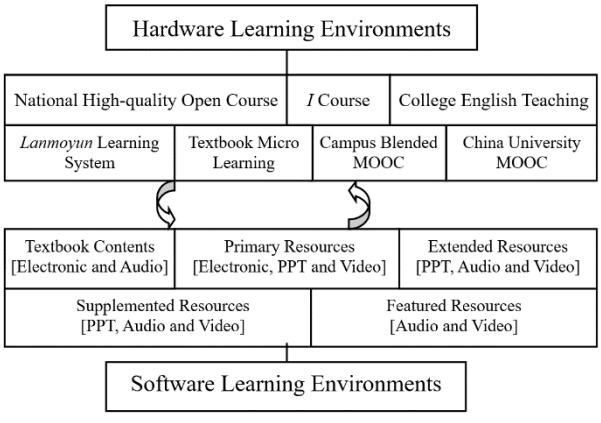

Figure 1. Informationized Learning Environments

3.1.1. Informationized Hardware Learning Environments

English Teaching of Featured Chinese Culture managed to construct the informationized hardware learning environments by building up and developing multiple learning websites, network learning platforms and intelligent learning systems. Apart from co-constructing with *College English Application Course Series* the Internet-based National High-quality Open Course, the *I* Course under the Ministry of Education, and the campus network-based College English Teaching, *English Teaching of Featured Chinese Culture* independently constructed the Internet-based China University MOOC and the campus network-based blended MOOC, successfully introduced *Lanmoyun* and *Zhihuishu* intelligent learning systems, coordinately established class QQ and WeChat, and creatively developed mobile terminal-based micro learning of the textbook equipped with QR code. These informationized hardware learning environments provided optional learning platforms and easy access for students to conduct ubiquitous learning activities and optimize their autonomous and collaborative learning processes, making their learning free from time and space.

3.1.2. Informationized Software Learning Environments

English Teaching of Featured Chinese Culture tried its best to enrich the informationized software learning environments by constructing both primary and extended multimedia and multimodal learning resources to supplement electronic and audio textbook contents. Following the idea of sharing together, *English Teaching of Featured Chinese Culture* developed and perfected such series of primary and extended open resources as teaching videos, electronic teaching plans and profiles, PPTs, etc. to be displayed on the platforms of National High-quality Open Course, the *I* Course, China University MOOC, and College English Teaching, all of which were accessible to social learners of the course. Primary and extended open resources apart, *English Teaching of Featured Chinese Culture* created and expanded, for the students learning the course on campus network-based blended MOOC, various supplementary and featured audio-video learning and application resources, such as cultural theme extension videos, classroom teaching records, onsite cultural interviews, cultural experience products, and oral presentation assessments, all of which intended to provide resource guarantee and practice guidance for students to conduct individualized and collaborative deep learning to fulfill cultural theme based learning tasks and projects, a very striking teaching feature of the course.

3.2. Renovating Ubiquitous Learning Approaches to Optimize Students' Learning Processes

To help students to effectively apply such information technology elements as computer networks and mobile terminals to the learning progress to develop their

individualized and collaborative learning modes, see Figure 2, *English Teaching of Featured Chinese Culture*, with two weeks (four teaching sessions in all) to finish the teaching of a cultural theme, first of all used the first two teaching sessions as classroom teaching and discussion to guide and scaffold students' learning by defining learning objectives, teaching key cultural knowledge, training language expression skills, designing learning circumstances, assigning learning tasks and projects, and clarifying learning requirements. The other two teaching sessions were left for classroom learning assessments of the cultural theme. In the extracurricular periods of the two weeks, students were motivated by the assigned learning tasks, projects and requirements to conduct online and offline integrated, and interaction and collaboration combined learning, enriching and optimizing their ubiquitous learning progress to integrate knowledge learning and social using, constructing knowledge systems and creating new meanings.

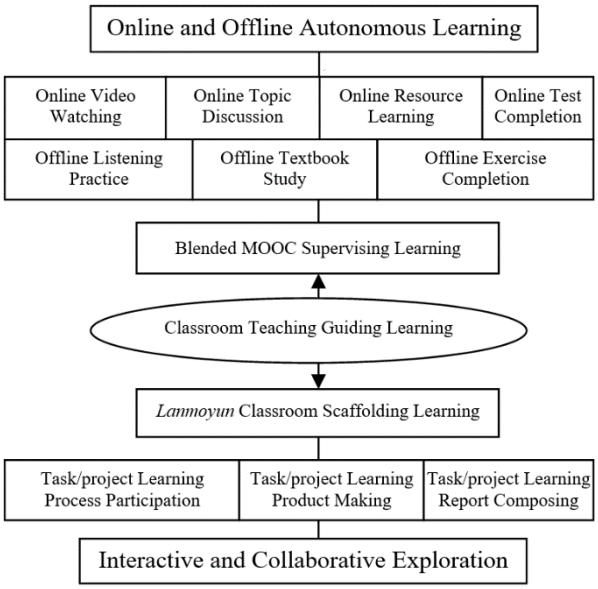

Figure 2. Ubiquitous Learning Approaches

3.2.1. Online and Offline Autonomous Learning

The specific learning requirements of the cultural theme in *English Teaching of Featured Chinese Culture* motivated students to conduct online and offline integrated autonomous learning so as to extend and internalize cultural knowledge, and train and develop language expression skills. These autonomous learning activities included, but were not limited to, blended MOOC-based watching of text teaching videos, participating in culture theme topic discussions, learning course teaching plans and profiles, and finishing tests and quizzes, while their offline autonomous learning activities covered the scanning of the text QR code to practice listening, studying in-depth the texts, finishing the exercises of reading comprehension, information extension, term and paragraph translation, critical thinking topics, essay writing, and so on. Class QQ and WeChat provided convenient platforms for student-student and student-teacher exchanges of information and ideas to work out possible learning puzzles and problems.

Based on the real-time data recorded in the blended MOOC system about students' autonomous online learning of the cultural theme, including the frequencies and lengths of video watching, finishing progress of the tests and quizzes, and the quantities and qualities of topic discussions, teachers, via the help of the blended MOOC system, supervised students' learning progress, and accordingly provided proper learning feedbacks, suggestions and even learning pushes, either collectively, partly or individually, helping students to improve their learning progress.

3.2.2. Interactive and Collaborative Exploration

While conducting online and offline integrated autonomous learning of a cultural theme, students were required to form different learning groups with four to five people in each group to conduct interactive and collaborative learning to finish the learning tasks of the cultural theme. To encourage cooperative spirit and team work, the task-based interactive and collaborative learning followed the commonly used cooperative learning modes of learning together, and group achievements division, encouraging students to make joint efforts to incorporate the cultural knowledge learned and language expression skills trained into fulfilling the learning tasks, making PPT, audio, or video products as learning outcomes.

Before school term came to the end, the learning groups were required to extend their interactive and collaborative learning tasks of the cultural theme into learning projects of the term. To fulfill the open, collaborative, practical and research learning projects [23], the learning groups established communities of learning, decided on the cultural themes they were interested in, divided their roles and duties, resorted to necessary websites and platforms to collect and sort out relevant materials and resources (doing the Chinese-English translation if needed), and went out of campus to such social places as museums, historical villages and townships, or classical Chinese gardens to be mutually engaged in integrating, transferring and applying the knowledge and skills acquired to experience and promote culture in real life situations, making 8 to10-minute long video products with full intellectual property rights.

In students' interactive and collaborative learning to finish the learning tasks and projects, teachers played an important role of scaffolding learning by making use of *Lanmoyun* and *Zhihuishu* intelligent learning systems and QQ/WeChat to promote interactions and exchanges between and among the teachers and the students, facilitating students' collaborative learning progress. On the one hand, teachers suggested proper theoretical and methodological guidance for the learning groups to successfully conduct task and project-based learning,

organized relevant topic discussions to enlighten new and creative ideas, helped to work out students' learning puzzles, made suggestive comments on students' dynamic learning progress and outcomes, and provided instructive feedbacks for the improvements of further learning. On the other hand, teachers created opportunities for the learning groups to use the intelligent learning systems as platforms to share learning resources, organize task and project learning seminars, propose feasible learning suggestions, exchange learning experiences, and share learning reflections, all of which intended to promote the explorative and experiential learning progress for the successful fulfillment of the joint enterprise.

3.3. Implementing Multimedia Product$^+$ Learning Assessments to Upgrade Students' Learning Outcomes

Learning assessments are not the final products of course teaching, but the important progress of the teaching practice, playing an important role in guiding, stimulating, diagnosing, and remedying students' learning progress so that they could make more endeavors to perfect the construction of their knowledge systems. To help students cultivate abilities to use information technology in their communications in English, *English Teaching of Featured Chinese Culture* made into full play the effects that assessments had on motivating students' learning quantities and qualities, and implemented multimedia product$^+$ learning assessments, see Figure 3, to promote the incorporation of information technology into their learning progress, upgrading learning outcomes. The scores of multimedia product$^+$ learning assessments were calculated by different ratios into the term performance score.

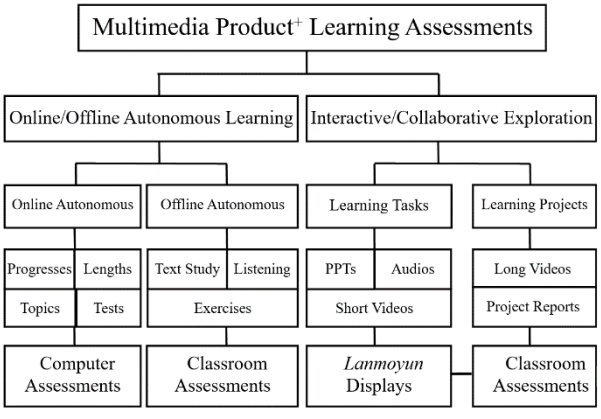

Figure 3. Multimedia Product$^+$ Learning Assessments

3.3.1. Online and Offline Autonomous Learning Assessments

The online autonomous learning assessments of the cultural theme were automatically completed by the blended MOOC system. Teachers, based on the real-time data regarding of students' learning frequencies and lengths, topic discussion quantities and qualities, and test scores generated by the system, objectively diagnosed students' dynamic learning progress and generative learning outcomes in affection development, knowledge acquisition, skill training and ability cultivation, and provided, through the blended MOOC system, necessary instructions and suggestions for students' further learning. The offline autonomous learning assessments of the cultural theme were conducted face-to-face in classrooms with self-assessments and teacher assessments integrated, in which students stated their learning processes, and exhibited relevant learning notes, fulfilled exercises and other proofs of their learning.

3.3.2. Interactive and Collaborative Exploration Assessments

The interactive and collaborative exploration assessments were implemented via *Lanmoyun* and *Zhihuishu* intelligent systems and in face-to-face classrooms. Before classroom assessments were held, the learning groups were required to upload their task and project learning products to *Lanmoyun* and *Zhihuishu* intelligent systems for displays so that all learning groups could learn from each other to make co-progress, also helping to make the classroom assessments fair and just. In classroom assessments, representatives of the learning groups needed to make task and project learning reports or deliver relevant speeches that generally included role divisions, learning progress, product making, and learning reflections. Teachers and learning group representatives cooperated to make comprehensive assessments of task and project learning on the qualitative criteria of the learning products and the learning reports. The qualitative criteria of the learning products included clear cultural theme presentation, effective cultural communication, critical thematic thinking, proper language expression, and novel media application, while those of the learning reports covered reasonable role divisions, objective learning progress, and enlightening learning reflections. Excellent task and project learning products were chosen as the featured teaching and learning resources and materials for the further development of *English Teaching of Featured Chinese Culture*.

4. Conclusions

To comply with network-based, electronic and mobile learning of college English teaching requirements in the context of informationized education, incorporating information technology into college English teaching has become an important teaching and researching topic. *English Teaching of Featured Chinese Culture* tried to integrate various course websites, network-based learning platforms, intelligent learning systems, computer networks, and mobile terminals into a system to construct informationized learning environments to motivate

learning desires, renovate ubiquitous learning approaches to optimize learning processes, and implement multimedia product+ learning assessments to upgrade learning outcomes, meeting students' ubiquitous learning needs and improving course teaching efficiency. As a regular practice, online questionnaires were conducted to investigate into students' learning feedbacks. As was indicated in Figure 4 that 489 students participated in the questionnaire survey conducted in the spring term of 2022. 83.66% of the participants "agreed" and "fully agreed" that "The online and offline blended teaching satisfied their English learning demands". 84.05% of the participants "agreed" and "fully agreed" that "Online platforms and resources provided strong support for their learning". 84.45% of the participants "agreed" and "fully agreed" that "Flipped classrooms offered enough opportunities for using English". 86.03% of the participants "agreed" and "fully agreed" that "Extracurricular cultural experience developed their abilities to use English".

The teaching practices of incorporating information technology promoted the sustainable development of the course, the endeavors of which contributed to honors of the Provincial First-rate Blended MOOC and the First Prize Winner of Higher Education Teaching and Research Achievement of the case university. The teaching and researching practices and achievements of incorporating information technology made the course qualified for the approvals of various teaching research projects, of which, "College English Digital Construction and Development: A Case Study of *English Teaching of Featured Chinese Culture*" of China Association of Higher Education in 2020, and "Research and Practice of Blended Teaching of College English Cultural Courses under the Perspective of Production-oriented Approach" of Jiangsu Provincial Higher Education Teaching Reform in 2021 were just two representative ones.

The study helped to reveal that a more successful incorporation of information technology into college English teaching lies in the scientific application of the already available informationized platforms and resources, particularly the application of the informationized platforms and intelligent systems to the teaching assessments, part of which were conducted in the time-consuming face-to-face classroom operations. To make the teaching assessments fairer and more efficient, greater efforts and creations need to be made to incorporate information technology into the assessing processes.

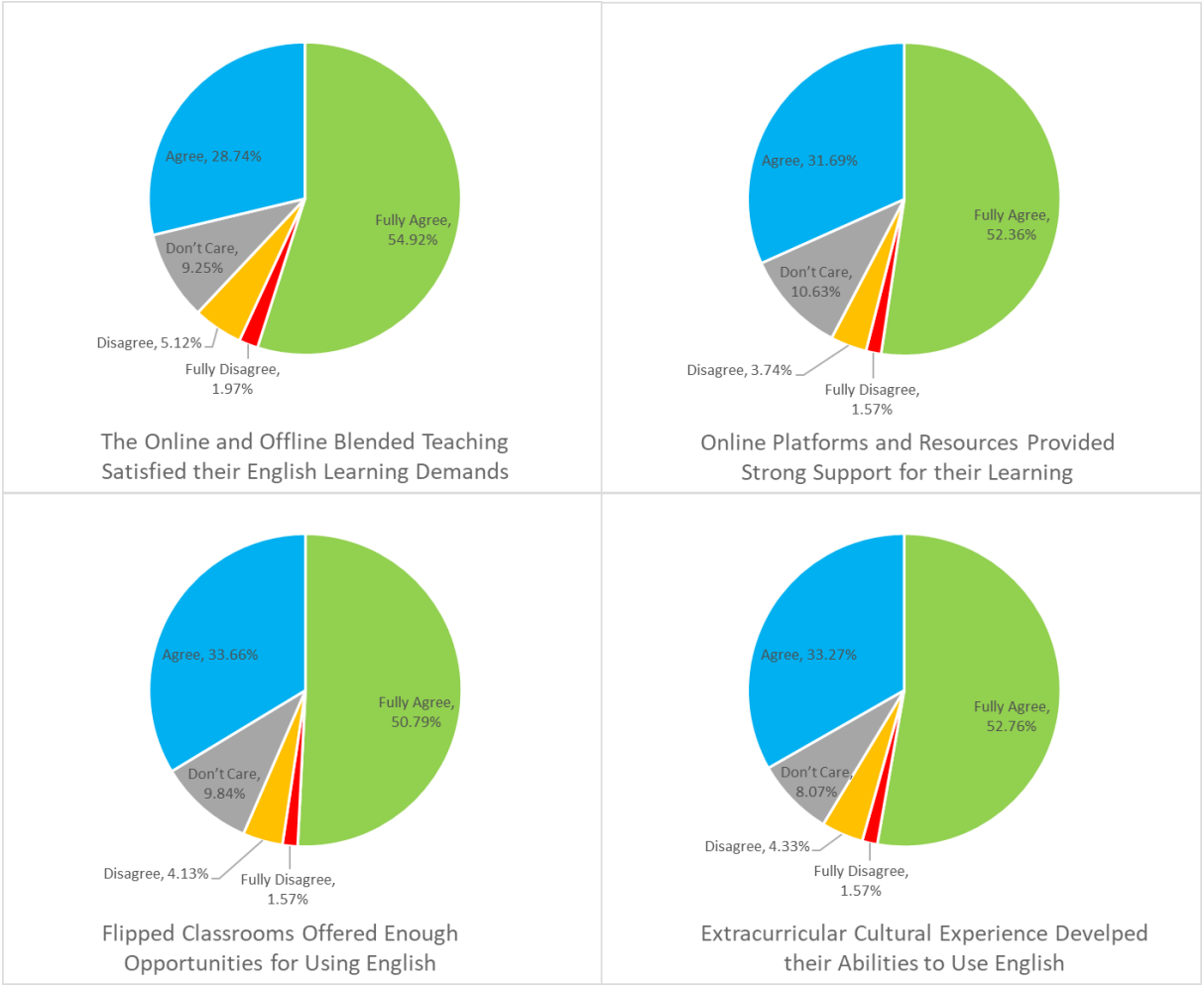

Figure 4. Students' Feedback on Course Learning

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