

Research on the Status Quo of People's Choices and Usage of Online Education

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Abstract. In the knowledge explosion era, the need for lifelong learning is urgent in every industry. People need multiple abilities to compete and achieve better performance in their positions. Online education developed rapidly during the pandemic period. To have a detailed understanding of the current status of online education, and how to improve it in the future to adapt to a wider range of use, this paper uses the basic theory of behavioral economics to interview users who usually participate in online education. This paper interviewed 87 online education users from different ages and industries and observed their usage habits. Drawing on nudge theory, prospect theory, and motivation theory, this article analyzes the interviewee's behaviors and usage habits of online education. The research results provide suggestions for online education in terms of design, content layout, curriculum structure, and course evaluation.

Keywords: online education, behavioral economics, improve online course design

1. Introduction

Since the COVID-19 pandemic swept the world in late 2019, a lot of offline education has been forced to move online. Nearly 1 billion students worldwide were affected, with 70 percent unable to continue their studies [1]. In addition, the number of people working and studying online has soared, further promoting the prosperous development of various software applications and a wide range of online courses [2]. Although online education does not connect people directly like offline classrooms, various forms of interaction have evolved online. Based on research, online education has shortcomings in humanization and in appealing to users' interest in courses, such as unreasonable page layouts, boring course content, inappropriate class scheduling, etc. In online education, some behavioral interventions can be used to slightly adjust users' behaviors and optimize the effects of learning. Interviewing users about their feedback, comments, and needs, and analyzing the results using behavioral economics theories, we hope to give some insights to improve online education in the future. The second part focuses on the research design, including the background of online education, the research topic, and the use of semi-structured interviews as the research method. The third part uses behavioral economics theories to analyze the psychological factors and decision mechanisms behind various choices of the interviewees. The conclusion will summarize the online education methods, content, and course designs that interviewees are more willing to accept.

2. Research design

This paper discusses online education in a broad sense, including schools, educational websites of organizations, free and paid online education platforms in the market, and closed-loop educational software on learning machines. We will first investigate mainstream online course platforms in various countries, summarize their market shares and user groups, and then select interview subjects and case websites. According to the audience and providers, the online education studied in this paper is mainly divided into three types: school-affiliated websites and software for online classrooms, free public online education, and paid online courses launched by commercial education and training institutions. Considering the age and learning purpose of the users, this article divides the survey respondents into three groups: primary and secondary school students, university students, and post-graduation vocational learners. The main survey content is divided into compulsory learning in schools or companies, and individual independent learning. The subjects of this study were limited to China. Through preliminary investigation, compulsory learning is mainly based on the official websites of schools and companies and live broadcasts borrowed from social software, while the choice range of self-learning platforms is relatively broad, and the selection range of all age groups is crossed. All this article will select the surveyed platform according to the current mainstream platforms on the market and combine the subjects' usage preferences to interview. The platforms for primary and secondary school students mainly include: Easy100, XUEERSI, TECENT Class. The platforms for university students and adults mainly include: edX, Udemy, Khan Academy, Bilibili, China MOOC, 51cto, XDF.CN, OFFCN. This paper will interview why users choose this website and its courses, how attractive different websites are to them, how effective they learn, what are the shortcomings and users' comments on the interface design, content provision and online education of the learning platform website.

3. Research analysis based on different behavioral economics theories

3.1. Nudge theory

The popularization of electronic devices makes online learning more convenient. The extensive research and development and application of educational apps have enabled them to be adapted and installed on various electronic devices. During the interview, we also found that due to the varying compatibility of the app among different devices, it would also affect students' choice of online course apps. For example, apps like "Bai Ci Zhan" have poor adaptability on different devices, affecting the experience. Some students even change devices to use the app. Whether students will consistently choose to use a particular app depends on the availability of better alternatives, their ability to afford the cost of switching devices, or the constraint of being limited to specific device types for continued use of the app.

The resolution of electronic devices and the transmission speed of the network also greatly affect students' experience of the comfort of online classes [3]. Students said that new devices such as interactive electronic whiteboards, VR glasses, foldable screen mobile phones, and detachable tablet laptops would make them feel that online learning surpasses the sense of technology, high-end and convenience in offline classrooms. These high-tech devices will greatly enhance the appeal of online courses to students.

Classroom content is often associated with a lot of related supplementary knowledge. To test how providing knowledge links affects students' mastery of knowledge, the researchers asked students about the impact of providing related book links, videos, and paper indexes—specifically, whether

such resources help them master and understand content better and more deeply. According to nudge theory, providing students with relevant learning links makes it easier for them to engage in deep learning than searching for valuable knowledge independently, which requires more effort to sift through jumbled information [4]. The provided links can also increase their independent extra learning time and promote them to actively explore other content in the field. Compared with mandatory tasks assigned by teachers, such open-ended extracurricular tasks are more often perceived by students as additional resources rather than homework burdens. As a result, students engage with this material more frequently and effectively than they do with mandatory assignments. In addition, due to peer pressure, completing mandatory homework alone does not bring additional benefits, whereas engaging with supplementary information helps reduce the gap with other students—thus strengthening their motivation to learn.

At present, there are many online courses for the same subject from different institutions in the market, some of which are very rich in content and some of which are relatively simple. Different levels of understanding and knowledge will affect which type of online course students choose. Among the online courses purchased by respondents, content tailored to children of all ages was included. In the children's curriculum, they mostly get a sense of accomplishment, not a sense of blow from specialized courses for adults. The researchers asked the purchasers which type of course they tend to choose more and persist in learning. The researchers collected interviewees' learning feedback, observed their usage habits, and counted their learning duration on the platform to analyze which type of curriculum is more reasonable. Taking "Fenbi" and "OFFCN" as examples, too many course categories will cause learners to ignore some content because they cannot complete it. Learners are more inclined to choose a list of courses with fewer types of courses and a clear structure. When faced with too many courses to choose from, they will be at a loss and randomly select one to start learning, rather than following the established course system. This indicates that clear and simple course sets have better learning effects than overly complex and sophisticated ones. Students are more willing to choose courses that come with corresponding paper handouts and offer mailing services. This makes their learning clearer and more convenient. A simple and concise curriculum system not only means that students have greater confidence to complete tasks, but also that they can be liberated from the vast and complex ocean of knowledge, reduce the time spent on screening, and precisely align with the content they need to learn. In addition, regularly push relevant reading materials through emails and course announcements, and provide purchase links, reference lists, and packaged folders, etc., to make students feel that the course is a complete system and that their payment is well worth it. This is somewhat similar to bundling in sales. The simpler and clearer the website pages are, the more precise and actionable students will be for their learning goals. Another study by Community Colleges in the United States also showed that a large number of course options reduced students' learning effectiveness and graduation rates, making their learning very confusing. This is also in line with the paradox of choice, which is that excess selection reduces efficiency [5].

The interviewees indicated that course duration significantly impacts their psychological expectations for completing the course. It is easy to concentrate on a single knowledge point course within 20 minutes, 20-60 minutes is normal, and it is difficult to concentrate on a course longer than 1 hour. A 2-3 hour course is more likely to be seen as a lecture rather than a detailed explanation of the knowledge point.

The setting of questions to be answered in the course will also affect the learners' experience and effect. Very few interviewees are willing to type lengthy responses to short-answer questions using a keyboard, while many are willing to complete multiple-choice questions by clicking with a mouse.

The number of questions also has a direct impact on the learners' experience. Most respondents prefer the range where one question appears every 10 to 20 minutes of course playback on average. There are multiple reasons for this. First, it may be related to each individual's concentration span and physical condition. Second, it may be influenced by the interviewees' personality traits. After making mistakes in the questions, some respondents would get rather frustrated, believing that they had not mastered the courses during this period. Generally, the system will set up a forced replay to allow learners to study again. The less time there is for replaying, the less time one needs to spend repeatedly. For instance, the online course software "Easy100" frequently used by a high school student in the interview is set up in this way. Thirdly, some students have pointed out that seeing encouraging words after error prompts will boost their confidence and make them want to continue their studies. This avoids giving them a psychological suggestion that they are incapable. Some students prefer that their mistakes are caused by objective factors such as difficult questions and course content, rather than due to their own learning ability. This sense of frustration from others' low evaluation of them will make them lack confidence to complete more complex and difficult questions.

3.2. Prospect theory

There is some exaggerated online course propaganda, such as 'memorizing 30,000 words in 30 days' or 'losing 5 kilograms in 10 days'. These seemingly counterintuitive courses can still attract many students. Some of the interviewees had purchased such courses and knew that the effect of the promotion was minimal, but they were willing to pay for it. It is because they feel that if this course has a promotional effect, and they have no choice, they will have to pay more time and money in similar learning. This is the same as buying lottery tickets is a psychology, people in the face of a small probability of profit, most people are risk gamblers.

Students with good reference and comparison role models are more likely to set higher learning goals and strive for better grades [6]. For instance, the "Easy100" website often invites local top scorers in the high school entrance examination and college entrance examination who have taken these courses to share with new students how they use the website to help improve their grades. The experiences of those who achieved good results after completing the course greatly inspire new students to understand their own current learning level. They will believe that if they can also complete the course with high quality, they can achieve the same results. This mentality is also applicable in adult vocational certificate education.

Due to limitations from practical factors such as region, economic development level, and family background, not everyone can fulfill their aspirations to attend prestigious schools. They have greater confidence in the teaching of renowned teachers and higher expectations for learning outcomes.

3.3. Motivation theory

Before purchasing online courses, students are attracted by course advertisements, slogans, and promotions, and imagine the outcomes they can achieve through learning—such as mastering a skill, passing an exam, or gaining a comprehensive understanding of knowledge in a specific field. In this study, people from ordinary families, those with limited time or limited geographical location are more inclined to choose online education because it can meet their expectations of learning effects. Home is a common setting for online education, so parents' performance and family atmosphere have a more direct impact on children's learning. Students with a good and relaxed family

atmosphere are more willing to study at home and are more focused. Therefore, online education is not the absolute factor that determines and influences children's interpersonal communication. Parents always play a significant role. Parental recognition and support are highly positively correlated with students' active participation in online courses. The active participation of parents also has a significant impact on students' completion of homework.

Some of the mandatory courses that accompany the certificate have a click-and-punch every few minutes to detect whether the learner is sitting in front of the computer to study instead of leaving to do something else. Some interviewees reported discovering and purchasing courses through their friends' social media platforms. This also serves merchants' goals by incentivizing course buyers to share relevant content on their social accounts, with corresponding rewards offered in return. Besides, many courses offer full refunds to learners who complete the required study and pass assessments, with some even providing additional bonuses or prizes. In some long courses, it is possible to learn one lesson a day because of the cost paid upfront, and the material incentive of the extra prize gives the learner more motivation to persevere. For courses with strict check-in restrictions that offer cashback or other generous rewards upon completion, the subjects will more strictly abide by the design rules of the course itself and complete the predetermined content step by step. Because when they chose this course, they thought that the generous remuneration would be theirs. If they don't receive benefits because they forget to study, they will show disappointment and anxiety. To avoid such losses, learners will adjust themselves for the monetary value to complete the online course more consciously. Younger children tend to prefer spiritual rewards—such as certificates, awards, verbal praise, medals, and electronic certificates—over mere material incentives, as these spiritual rewards feel more unique than uniform offline rewards.

Most courses have several free trial sessions before the official purchase, and some of the respondents said that they were attracted to the test class and purchased the complete course. There is also a part of the pirated course on the Internet, interested so went to buy the genuine full course to continue learning. Some of the students who had only one or two trial lessons said that the trial lessons were more exciting than the formal ones. Most of the students who took a small number of pirated courses and then went to buy expensive genuine courses said that the value of buying genuine courses was lower than the price paid. In the case of a 118-hour course that taught English grammar lessons, one respondent first took 40 lessons of the same content on a video app and instead spent \$4,000 to buy a full version of 118-hour course. He said he should have stopped after taking the 40 free lessons. This mentality embodies the endowment effect bias in behavioral economics.

4. Conclusion

This research mainly conducts qualitative analysis, adopts the method of semi-structured interviews, and uses the NVivo software to analyze the interviewees' discourse. Online education platforms can easily alter students' learning medium, methods, state, mode, and progress by adjusting video size and resolution, forcing students to stay on a page for a certain period, requiring correct answers before allowing video playback to continue, providing links to course materials, dynamically adjusting displayed ranking lists based on performance, and optimizing class allocation and course page layouts. All these changes are made in a subtle way that gradually alters certain behaviors of students.

Showing students the excellent grades achieved by others who have taken this course, the high recognition and encouragement from parents with a good socioeconomic status, well-known schools

and teachers, and helping students set the right goals to stimulate their intrinsic motivation will greatly enhance the effectiveness of online education.

Online education for children, especially teenagers, is underpinned by more profound social and psychological factors. Seeking recognition in another environment, achieving a sense of accomplishment in the virtual world, and finding a personal space for solitude are all significant considerations that cannot be overlooked. Apart from the students' own motivation for learning, the spiritual incentives such as cashback, gifts and certificates given as rewards for the courses can make students feel a sense of achievement.

This research is based on the conclusion drawn from collecting and analyzing the feelings of online education participants and their learning experiences. In the future, research in online education will be expanded using quantitative methods. Econometric analysis will be applied to multifaceted factors encompassing per-course enrollment numbers, course durations, completion rates, socioeconomic variables (income, gender), and academic metrics (grades) to systematically model both the intrinsic structural relationships among variables influencing online learning efficacy and the quantifiable associations between contextual determinants—including learning environments, social influences, psychological states, and instructional design—and specific academic performance indicators such as course grades, sustained attention levels, and response accuracy.

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