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Research On The Influence Of Online Teaching-Generated Content On The Learning Decision Process Of Students

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Abstract:
In the online teaching environment, marketer-generated content (MGC) and user-generated content (UGC) have become the key information sources that influence students' learning decisions. Although the academic community has paid considerable attention to this issue, the direct comparison of their roles in the learning decision process of students is still scarce. Therefore, based on cognitive fit theory, this study constructs a model of how online teaching-generated content types (i.e., MGC and UGC) jointly affect the learning decision process of students, and makes an in-depth discussion through empirical methods. The results show that MGC and UGC in the online teaching environment have significant effects on different stages (i.e., cognition, attitude, and learning decision) in the learning decision process of students. Furthermore, there are differences in the roles played by MGC and UGC at different stages. In addition, online course types have a moderating effect on the influence of online teaching-generated content on the learning decision process of students. This study not only enriches the theoretical discussion in the field of how generated content in the online teaching environment affects the learning decision process, but also provides practical suggestions for optimizing the design of online teaching courses.
Key Word*: Marketer-generated content (MGC); User-generated content (UGC); Cognitive fit theory; The learning decision process of students; Search course; Experiential course.*

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I. Introduction

With the rapid development of online teaching platforms, teachers have more opportunities than ever to deliver online courses to students on online learning platforms (Al Mamun., et al, 2022). To improve the quality of students' learning experience and decision-making, teachers have launched various forms of online courses (Martin., et al, 2020), while producing different types of online-generated content. The most typical of these are Marketer-generated Content (MGC) and User-generated Content (UGC). In the era of the continuous emergence of online teaching platforms such as MOOC, Cloud Classroom of Netease, Xuetang X, Coursera, and so on, online-generated content is widely used in teaching activities (Shafiee., et al, 2024). Although the impact of online-generated content on students' learning decisions has received widespread attention, there are relatively few studies on the concurrent effects of MGC and UGC, especially on the process of how these contents are accepted, processed, and ultimately affected by students' learning decisions at the individual level.

This paper aims to explore the influence of MGC and UGC on the learning decision process of students in online teaching. Based on the cognitive fit theory and the three key stages (i.e., cognition, attitude, and learning decision) of Kotler's five-stage model, a model was constructed to study the impact of MGC and UGC on the learning decision process of students. At the same time, we introduce online course types (i.e., search courses and experiential courses) as the moderating variables. Specifically, we will take theoretical courses as the representative of search courses and practical courses as the representative of experiential courses, and collect relevant data through situational experiments to analyze and compare the effects of MGC and UGC on different stages in the learning decision process of students. Furthermore, we examined whether online course types play a moderating role in the impact of MGC and UGC on different stages in the learning decision process of students.

This study not only helps to theoretically understand how different online teaching-generated content types affect different stages in the learning decision process of students, but also provides a valuable reference for college educators to help them better design and adjust the marketer-generated content of online teaching, guide students to express user-generated content. Moreover, it is of great practical significance to meet the diverse needs of students and promote their learning decisions. In addition, the research results will help optimize the design

and utilization of online teaching resources, improve the quality of online teaching, and promote the co-creation of educational value.

II. Theoretical Basis And Literature Review

Cognitive Fit Theory

The cognitive fit theory was proposed by Vessey, this theory views problem solving as the result of problem presentation and solving tasks, as shown in Figure 1 (Vessey & Galletta, 1991). Problem presentation is the presentation form of information, solving tasks mainly focuses on different information emphasized by different tasks, mental presentation mainly focuses on decision-making strategies, and cognitive fit processes are represented by directed arrows connecting each pair of elements in the model. Cognitive fit theory holds that the decision-making process runs more smoothly when the types of information emphasized by the decision elements (i.e., problem presentation and solving tasks) are matched (Hong., et al,2004). Some scholars have applied cognitive fit theory to decision-making related research (Hong., et al, 2004；Teets, 2010 ；Dennis & Carte, 19988).

This paper attempts to apply cognitive fit theory to the study of UGC, MGC, and the learning decision process of students in online teaching. Under this framework, UGC and MGC are the forms of information presentation (i.e., problem presentation); Students' learning decisions are considered as solving tasks. Through this perspective, we can explore how different online teaching-generated content types affect the learning decision process of students.

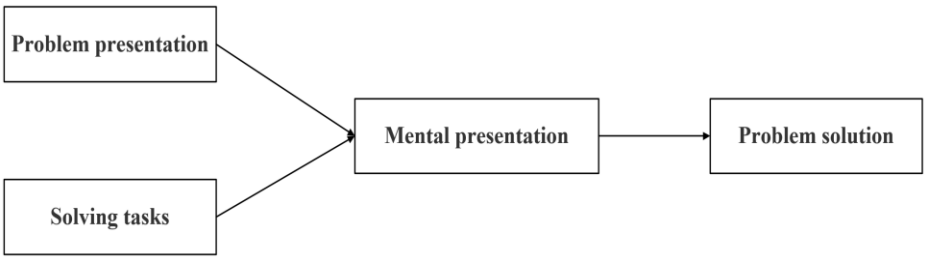

Figure 1 The Model of Cognitive Fit Theory

Learning Decision

With the different stages of students' learning decision-making, their behavior also shows different characteristics. In the study of consumer behavior, Kotler divides consumers' purchase decisions into five stages, namely problem cognition, information collection, evaluation of alternative products, purchase decisions, and post-purchase behavior (Armstrong, 2009). Tam and Ho divided it into four stages: cognition, attitude, decision-making, and evaluation (Tam & Ho,2006). The learning decision process of students is similar to the consumer purchasing decision process, and in some cases, the learning decision of students is also the purchasing decision of consumers, such as when a student purchases an online course. This paper studies the learning decision process of students without considering the feedback behavior after learning. Based on the research results of previous scholars, this paper adopts three stages of the learning decision process (i.e., cognition, attitude and learning decision). Specifically, this paper aims to explore the relative impact of MGC and UGC on the learning decision process of students, that is, to compare the roles of MGC and UGC at different stages and identify which plays a dominant role in the different stages.

Research on MGC and Decision Making

Marketer-generated Content (MGC) refers to all kinds of marketing information released by enterprises or retailers on shopping websites to improve product visibility and increase sales (Goh., et al,2013). Chau, Au, and Tam believe that the more effective and easier-to-use MGC presentation of e-commerce websites, the higher the consumer's evaluation of the website, and the easier it is to generate shopping intention (Chau., et al, 2000). In this study, Marketer-generated Content (MGC) refers to all kinds of teaching information published by teachers on online teaching platforms to improve the popularity of online courses and attract more students to participate in online course learning, including course description, lecturer introduction, course outline, designated textbooks and so on. Teachers' attitude and performance are reflected in the MGC, it positively affects students' online learning satisfaction (Lei & So, 2004).

Research on UGC and Decision Making

User-generated Content (UGC) has emerged with the rise of social media. Among many definitions, the most influential one is proposed by the Organization for Economic Co-operation and Development (OECD). UGC has three characteristics: (1) UGC is published on the Internet; (2) UGC is original; (3) UGC is created by non-professional amateurs, and usually has no expectation of profit (Vickery & Wunsch, 2007). A large number of scholars have researched UGC, most of which focus on online reviews. Vermeulen and Seegers (2009) found that both the quantity and quality of online reviews can significantly arouse consumers' attention to products and affect consumers' consideration. Utz et al (2012). believe that due to the serious information asymmetry in online transactions and the inability to personally judge product quality, online reviews are more likely to gain the trust of potential consumers. Schlosser (2011) shows that consumers are willing to truly reflect their personal needs and experience through online reviews, which is more conducive to potential consumers' purchase decisions. Kumar and Benbasat (2006) found that online reviews can significantly improve consumers' perception of the sociality and usefulness of websites.

In this study, User-generated Content (UGC) refers to all kinds of content created and shared by students on online teaching platforms. It includes students' evaluation and feedback on the online course (such as the quality of the course content, the teaching style of the teacher, the rationality of the course structure, etc.), the personal learning experience, tips, and success or failure cases and so on, so as to help other students understand the actual learning process and effect of the course. In order to simplify the expression, MGC and UGC are collectively referred to as online teaching- generated content types. Leveraging the online content generated by students is an effective means of actively involving other students in the educational process, and the co-creation of innovative educational services through user-generated content (UGC) has become imperative (Shafiee., et al, 2024).

A Comparative Study of MGC and UGC in Decision Making

Dou et al (2012). prove that consumers attach more importance to comments provided by other consumers than information published by marketers. Goh et al (2013). show that UGC has a greater impact on consumer purchasing behavior than MGC. Although UGC appears to be superior to MGC on the surface, Godes and Mayzlin (1970) suggest that both UGC and MGC can overcome the limitations of traditional word-of-mouth. In addition, consumers' information needs will change, and the reference to MGC and UGC will change in different stages of the consumer purchasing decision process. Similarly, references to MGC and UGC may differ at different stages in the learning decision process of students. Therefore, this paper studies the impact of online teaching-generated content types on the learning decision process of students and considers simultaneously the role of UGC and MGC.

Online Course Types

The classic online product classification theory was put forward by Nelson (1970). According to the cost of obtaining product quality information, online products are specifically divided into search products and experiential products. Search products mean that consumers can obtain all the main attribute information of the product before purchase to determine the applicability of the product, such as digital cameras, mobile phones, and other electronic products. Experiential products refer to products that consumers cannot determine the quality and suitability of the product through information acquisition and judgment before purchase, and must be known by consumers' personal experience or use after purchase, such as TV programs, face creams, and hotels. Existing studies have shown that compared with search products, experiential products have relatively few channels for obtaining information, and it is difficult for relevant information to directly display their quality attributes, resulting in a relatively high risk of customers' purchase decisions (Zhang., et al, 2006). Mitra et al (1999). found that customers need to process a large amount of information to reduce perceived risks when buying experiential products.

The classification of online courses can refer to the online product classification theory proposed by Nelson (1970). According to the cost of obtaining education quality information, online courses are specifically divided into search courses and experiential courses. Search courses mean that students can obtain the main attribute information of the course through various channels before choosing the course, so as to determine its applicability. It is mainly some courses related to theory, such as management, consumer behavior, etc. These courses usually have detailed outlines, teacher introductions, student evaluations, and other information, through which students can judge whether the course meets their needs and expectations. Experiential courses mean that before students choose a course, they cannot completely judge its quality and applicability through the available information, and they must make an accurate assessment after the actual learning experience. For example, creative writing courses, programming courses, art appreciation courses, etc., the quality of these resources often depends on the student's personal experience and feelings, which can only be obtained after actual participation. This paper takes online course types (i.e., search course and experiential course) as the moderating variable, and compares the effect of MGC and UGC on different stages in the learning decision process of students.

III. Research Model And Hypotheses

Research Model

Based on the above theoretical basis and related research, combined with online teaching-generated content types and the cognitive fit theory, the research model of this paper is proposed, as shown in Figure 2:

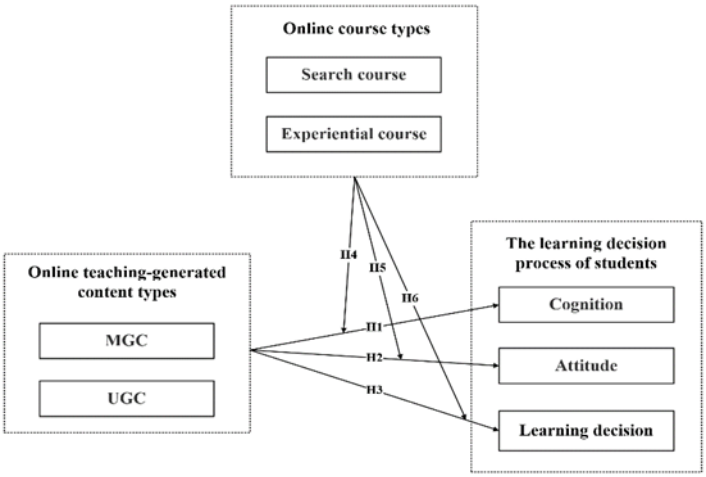

Figure 2 Research Model of UGC and MGC Influencing the Learning Decision Process of Students

Research Hypotheses

Cognitive Stage

Teachers publish relevant attributes of courses on online teaching platforms to create students' awareness of these courses. If students perceive the teacher-generated content (i.e., MGC) as valuable, they will increase the intensity of their engagement, thereby enhancing their awareness of the course or resource. Another way to create awareness is to show the generated content from previous students of the course (i.e., UGC) (Yang, 2016). The creation and dissemination of more relevant UGC will also increase students' awareness of the course or resource. In reality, in the cognitive stage, consumers usually search for the description information of products or services to reduce the perceived purchase risk to an acceptable level (Zhu & Zhang, 2010). Similarly, in the cognitive stage, students often search for descriptive information about courses to reduce the perceived learning risk to an acceptable level. Therefore, we can propose the following hypothesis:

H1: In the cognitive stage, MGC has a greater impact on students' cognition than UGC.

Attitude Stage

MGC can provide interested students with more clues to help them judge whether a course is likely to meet their learning goals. However, trust in MGC is generally low among students, as universities, educational institutions, or teachers may create positive MGC to attract more students, even if the quality of courses is not high. In the context of online shopping, Goh et al (2013) display that compared with MGC, the information richness of UGC has a greater impact on consumers' purchasing behavior. Similarly, reading other students' experiences with courses can help students assess whether those courses meet their preferences and expectations (Yang, 2016). Therefore, the following hypothesis is put forward:

H2: In the attitude stage, UGC has a greater impact on students' attitudes than MGC.

Learning Decision Stage

A student's final decision to choose a course depends on the level of perceived attractiveness and perceived risk associated with learning. The informational value of MGC and its persuasion can increase students' propensity to choose that course. However, students prefer to rely on UGC in general. Both the quantity and quality of UGC affect the learning decision process of students. Sonnier et al. have confirmed that positive UGC increases sales in online shopping (Sonnier., et al, 2011). Similarly, students make an assessment based on their situation by reading other student's experiences with the course to decide whether to take the course (Yang., et al, 2016). Therefore, the following hypothesis is proposed:

H3: In the learning decision stage, UGC has a greater impact on students' learning decisions than MGC.

The Moderating Effect of Online Course Types

Liu (2006) pointed out that information from other consumers, such as online word-of-mouth and online reviews, has a significantly greater impact on the purchase behavior of experiential products than search products. Therefore, online course types may play a moderating role in the influence of UGC and MGC on the learning

decision process of students. When choosing experiential courses, students pay more attention to UGC published by other students and hope to obtain valuable information from it. At this time, UGC brings stronger cognition to students. On the contrary, when choosing search courses, students can easily understand the course content well from the information provided by teachers, so they do not rely on the detailed information published by other students, but only need to understand a general situation. In this case, MGC brings students stronger cognition. Therefore, we can propose the following hypotheses:

H4: Online course types moderate the relationship between online teaching-generated content types and students' cognition;

H4a: For search courses, MGC has a greater impact on students' cognition than UGC;

H4b: For experiential courses, UGC has a greater impact on students' cognition than MGC.

Students seek different types of information when faced with different types of online courses. Previous studies have shown that when evaluating and selecting search products, consumers want to get data about attributes, while for experiential products, they want to get other consumers' experience information (Liu, 2006). Similarly, for search courses, students can infer the value of courses through technical attribute information, while the evaluation of experiential courses cannot rely solely on the information conveyed by MGC. Therefore, students think that information about attributes (i.e., MGC) is more useful when evaluating and selecting search courses, while information about previous student experiences (i.e., UGC) is more useful for experiential courses. Based on these observations, the following hypotheses are introduced:

H5: Online course types moderate the relationship between online teaching-generated content types and students' attitudes;

H5a: For search courses, MGC has a greater impact on students' attitudes than UGC;

H5b: For experiential courses, UGC has a greater impact on students' attitudes than MGC.

MGC, which takes attribute information as its core, supports students in evaluating the course content with technical attributes and focuses on objective data and explanations. UGC, with experiential information as its core, not only contains subjective explanations of technical attributes, but also tends to describe the actual experience of the course. Therefore, MGC matches with students' information-processing strategies for search courses, while UGC matches with students' information-processing strategies for experiential courses. When individuals process online teaching-generated content in a cognitively matched manner, they can process this given content more effectively and thus make learning decisions. Based on the above analysis, this paper proposes the following hypotheses:

H6: Online course types moderate the relationship between online teaching-generated content types and students' learning decisions;

H6a: For search courses, MGC has a greater impact on students' learning decisions than UGC;

H6b: For experiential courses, UGC has a greater impact on students' learning decisions than MGC.

IV. Research Design

Measurement of Variables

The variables involved in this study include UGC, MGC, online course types, students' cognition, students' attitudes, and students' learning decisions. By reading a large number of relevant literature and referring to the literature on consumers' online consumer behavior, the measurement items with the most similar meaning to the variables in this paper are extracted from the mature and widely used measurement scales. According to the reference scales of Dou et al. (2012) and Benlian et al (2012), there are 5 items about cognition, 5 items about attitude, and 5 items about learning decisions in the specific questionnaire design.

In this paper, a 7-level Likert scale was used to measure items, ranging from 1 (strongly disagree) to 7 (strongly agree). The respondents selected corresponding numbers to score each measurement item according to their feelings.

Sample Selection and Data Collection

Before the formal experiment, this study conducted a pre-test experiment to determine the research object, and select the online course and its information for the experiment, ensuring that the experiment design is more reasonable and conforms to the actual situation of online teaching platforms. The experimental results show that this study should take current students as the survey object, designate management as the search course representative, and creative writing as the experiential course representative. The course information mainly selects the information that students generally browse and pay attention to in the online teaching platform. Specifically, MGC-related information is selected as course description, lecturer introduction, course outline, and designated textbook. UGC-related information selects details of course reviews, the number of reviews, the distribution of reviews, etc.

The formal questionnaire survey mainly focuses on current students. Questionnaires were randomly sent to 400 students through an online questionnaire survey. Students were randomly assigned equally to four experimental groups of 100, first reading the material and then answering questions based on the material. After the end of the experiment, a total of 367 questionnaires were collected in this study, and 346 valid questionnaires were obtained by excluding those with the same IP address, inconsistencies, unfilled questionnaires, or most of the data missing.

V. Data Analysis And Results

Empirical Analysis

According to the research model and hypotheses proposed above, SPSS22.0 was used to analyze the obtained questionnaire data, including reliability and validity analysis, factor analysis, ANOVA, etc.

Reliability and Validity Analysis

In the reliability analysis, the Cronbach α of the whole questionnaire reached 0.911. In this study, the Cronbach α of these variables all exceeded 0.8 (i.e., the Cronbach α of students' cognition =0.819, the Cronbach α of students' attitudes =0.807, and the Cronbach α of students' learning decisions =0.814), indicating that the questionnaire in this paper has good reliability.

In the validity analysis, the KMO value of the questionnaire as a whole was 0.923, and the KMO values of these variables all exceeded 0.8 (i.e., the KMO value of students' cognition =0.829, the KMO value of students' attitudes =0.816 and the KMO value of students' learning decisions =0.802), indicating that the sample data of this questionnaire were suitable for factor analysis. The significance probability of the Bartlett spherical test reached the significance level (P = 0.000 < 0.001), indicating that the correlation coefficient matrix was significantly different from zero, and factor analysis could be performed.

Factor Analysis

In this paper, the principal component analysis method of factor analysis was used to carry out the maximum variance orthogonal rotation, and several closely related measurement items were grouped into one item. The measurement items of the three variables (i.e., cognition, attitude, and learning decision) were factor analyzed and rotated, and the results are shown in Table 1. The factor load coefficients were all greater than 0.5. It is shown that 1 factor is extracted, and the factor value of each variable is kept in the table, so the factor variable can represent the original measurement item for ANOVA.

Table 1 Test Results of Factor Analysis

Variable	Measurement item	Factor load coefficient F1
Cognition	Cognition 1	0.711
	Cognition 2	0.749
	Cognition 3	0.765
	Cognition 4	0.772
	Cognition 5	0.831
Attitude	Attitude 1	0.760
	Attitude 2	0.739
	Attitude 3	0.769
	Attitude 4	0.787
	Attitude 5	0.703
Learning decision	Learning decision 1	0.800
	Learning decision 2	0.778
	Learning decision 3	0.740
	Learning decision 4	0.627
	Learning decision 5	0.844

Correlation Analysis

A correlation analysis was made between online teaching-generated content types and the learning decision process of students, and the results are shown in Table 2. It can be seen that the correlation coefficients between online teaching-generated content types and the three variables (i.e., cognition, attitude, and learning decision) were all greater than 0. The correlation coefficient between online teaching-generated content types and cognition at 0.05 level was significant, and the correlation coefficient between online teaching-generated content types and attitude (or learning decision) at 0.01 level was significant. It showed that online teaching-generated content types were positively correlated with cognition, attitudes, and learning decisions.

Table 2 Relationship Analysis

		Cognition	Attitude	Learning decision
	Correlation Pearson	0.110*	0.146**	0.209**

Online teaching-generated content types	**Significance (Double tail)**	0.041	0.007	0.000
	N	346	346	346

* denotes $P < 0.05$, ** denotes $P < 0.01$

Analysis of Variance

This study used ANOVA to investigate the impact of online teaching-generated content types on the learning decision process of students. To understand whether there are differences between different types of online teaching-generated content and the learning decision process of students, One-way ANOVA was used to test whether UGC and MGC have significant differences in students' cognition, attitudes, and learning decisions. The results are shown in Table 3 and Table 4. It can be seen from Table 4 that $F = 4.203$ and $P = 0.041 < 0.05$ in the cognition stage, indicating that online teaching-generated content types had a significant influence on students' cognition. Furthermore, as can be seen from Table 3, the average score of MGC on students' cognition was 0.109, and that of UGC was -0.110, indicating that MGC had a greater impact on students' cognition than UGC, and H1 is established. Similarly, online teaching-generated content types had a significant impact on students' attitudes, and the impact of UGC on students' attitudes was greater than that of MGC. Moreover, online teaching-generated content types had a significant impact on students' learning decisions, and UGC had a greater impact on students' learning decisions than MGC, demonstrating that H2 and H3 are valid.

Table 3 The Meano of Online Teaching-Generated Content Types

Online teaching-generated content types		**Cognition**	**Attitude**	**Learning decision**
MGC	Number	174	174	174
	Mean	0.1090728	-0.1449102	-0.2078823
	Standard deviation	1.05567820	1.08574580	1.07141824
UGC	Number	172	172	172
	Mean	-0.1103411	0.1465952	0.2102996
	Standard deviation	0.93043048	0.88426754	0.87619797

Table 4 The Influence of Online Teaching-Generated Content Types on The Learning Decision Process of Students

	Sum of squares	**Degrees of freedom**	**Mean square**	**F**	**Significance**
Cognition	4.164	1	4.164	4.203	0.041
Attitude	7.350	1	7.350	7.488	0.007
Learning decision	15.126	1	15.126	15.774	0.000

The Analysis of the Moderating Effect

The Moderating Effect of Online Course Types on the Relationship Between Online Teaching-Generated Content Types and Students' Cognition

Taking students' cognition as the dependent variable, the main effect analysis was performed, and the results are shown in Table 5. It can be seen that online course types and online teaching-generated content types had a significant interaction with students' cognition ($P = 0.040 < 0.05$). Moreover, as can be seen from Figure 3, the impact mean of MGC on cognition for search courses was greater than that of UGC, indicating that MGC had a greater impact on students' cognition than UGC for search courses. H4a is valid. The impact mean of MGC on cognition for experiential courses was smaller than that of UGC, indicating that UGC had a greater impact on students' cognition than MGC for experiential courses. H4b is valid. The experimental results showed that online teaching-generated content types and online course types had an interaction with students' cognition. Specifically, online course types moderated the effect of online teaching-generated content types on students' cognition, MGC had a higher impact on students' cognition than UGC for search courses, and UGC had a higher impact on students' cognition than MGC for experiential courses. H4, H4a, and H4b are proven.

Table 5 Effects of Online Course Types and Online Teaching-Generated Content Types on Students' Cognition

Source	**Sum of squares**	**Degrees of freedom**	**Mean square**	**F**	**Significance**
The corrected model	11.733a	3	3.911	4.014	0.008
Length of intercept	4.738E-5	1	4.738E-5	0.000	0.994
Online teaching-generated content types	4.052	1	4.052	4.158	0.042
Online course types	3.465	1	3.465	3.556	0.060

Online teaching-generated content types* online course types	4.140	1	4.140	4.248	0.040
Error	333.267	342	0.974		
Total	345.000	346			
Total variation after correction	345.000	345			

a. R square = 0.034 (Adjusted R Square = 0.026)

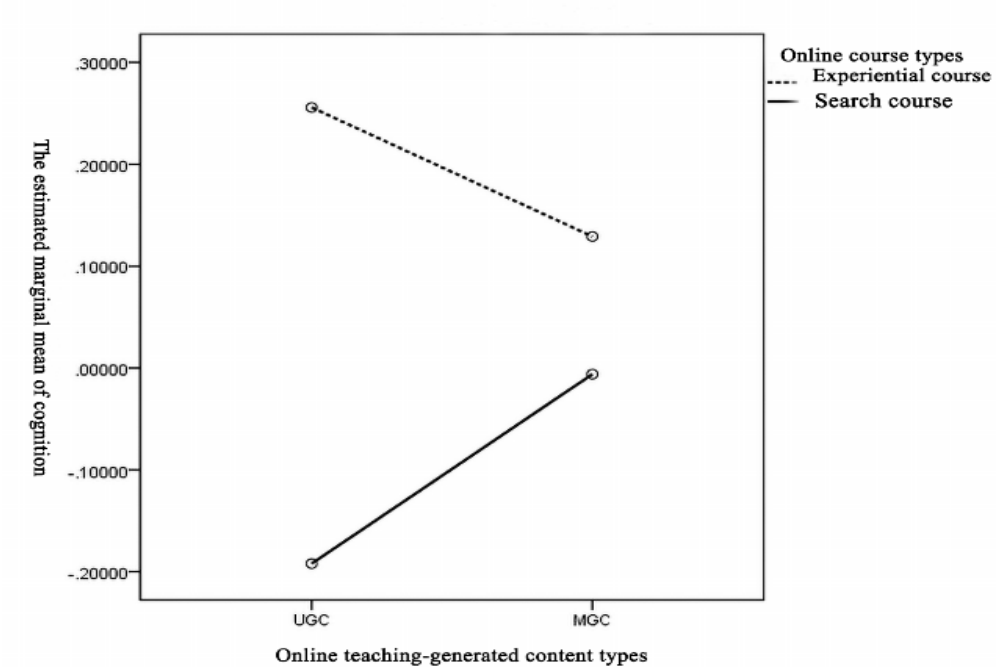

Figure 3. The Interaction of Online Course Types and Online Teaching-Generated Content Types on Students' Cognition

The Moderating Effect of Online Course Types on the Relationship Between Online Teaching-Generated Content Types and Students' Attitudes

Taking students' attitudes as the dependent variable, the main effect analysis was executed, and the results are shown in Table 5. It can be seen that online course types and online teaching-generated content types had no significant interaction on students' attitudes ($P = 0.296 > 0.05$). Moreover, as shown in Figure 4, the impact mean of MGC on attitudes for search courses was smaller than that of UGC, indicating that UGC has a greater impact on students' attitudes than MGC for search courses. Similarly, the impact mean of MGC on attitudes for experimental courses was smaller than that of UGC, indicating that UGC has a greater impact on students' attitudes than MGC for experimental courses. The experimental results show that no matter whether online course types were search courses or experimental courses, the impact of UGC on students' attitudes was higher than that of MGC, which means that online course types did not moderate the impact of online teaching-generated content types on students' attitudes. H5, H5a and H5b are not valid.

Table 6 Effects of Online Course Types and Online Teaching-Generated Content Types on Students' Attitudes

Source	Sum of squares	Degrees of freedom	Mean square	F	Significance
The corrected model	12.899a	3	4.300	4.428	0.005
Length of intercept	0.001	1	0.001	0.001	0.978
Online teaching-generated content types	7.379	1	7.379	7.599	0.006
Online course types	4.508	1	4.508	4.642	0.032
Online teaching-generated content types * online course types	1.062	1	1.062	1.093	0.296
Error	332.101	342	0.971		
Total	345.000	346			
Total variation after correction	345.000	345			

a. R square = 0.037 (Adjusted R Square = 0.029)

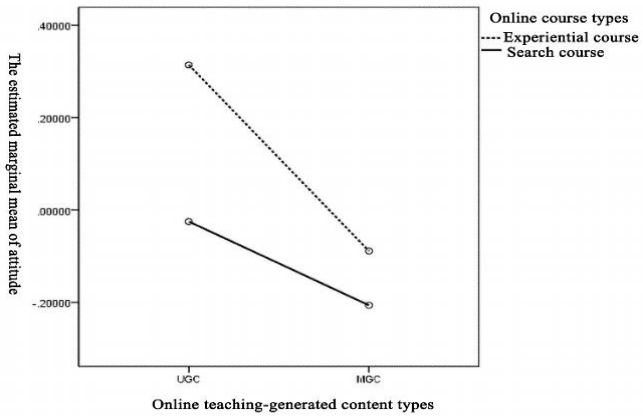

Figure 4. The Interaction of Online Course Types and Online Teaching-Generated Content Types on Students' Attitudes

The Moderating Effect of Online Course Types on The Relationship Between Online Teaching-Generated Content Types and Students' Learning Decisions

Taking students' learning decisions as the dependent variable, the main effect analysis was carried out, and the results are shown in Table 7. It can be seen that online course types and online teaching-generated content types had a significant interaction with students' learning decisions ($P = 0.026 < 0.05$). However, as can be seen from Figure 5, the impact mean of MGC on learning decisions for search courses was smaller than that of UGC, indicating that UGC has a greater impact on students' learning decisions than MGC for search courses. Similarly, the impact mean of MGC on students' learning decisions for experimental courses was smaller than that of UGC, indicating that UGC has a greater impact on students' learning decisions than MGC for experimental courses. The experimental results show that no matter whether online course types were search courses or experimental courses, the impact of UGC on students' learning decisions was higher than that of MGC, which means that online course types did not moderate the impact of online teaching-generated content types on students' learning decisions. H6, H6a and H6b are not valid.

Table 7 Effects of Online Course and Online Teaching-Generated Content Types on Students' Learning Decisions

Source	Sum of squares	Degrees of freedom	Mean square	F	Significance
The corrected model	18.065a	3	6.022	6.299	0.000
Length of intercept	0.000	1	0.000	0.000	0.986
Online teaching-generated content types	14.932	1	14.932	15.620	0.000
Online course types	1.008	1	1.008	1.054	0.005
Online teaching-generated content types * online course types	1.944	1	1.944	2.034	0.026
Error	326.935	342	0.956		
Total	345.000	346			
Total variation after correction	345.000	345			

a. R square = 0.052 (Adjusted R Square = 0.044)

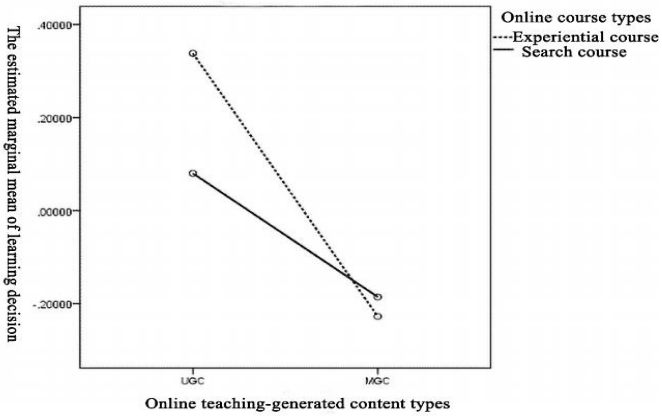

Figure 5. The Interaction of Online Course and Online Teaching-Generated Content Types on Students' Learning Decisions

VI. Conclusion And Suggestions

Conclusion

Through the above empirical analysis, we can see that H1, H2, H3, H4, H4a and H4b are valid, while H5, H5a, H5b, H6, H6a and H6b are not valid, and the following conclusions can be drawn:

(1) The impact of online teaching-generated content types on the learning decision process of students
① MGC has a greater impact on students' cognition than UGC, while UGC has a greater impact on students' attitudes and learning decisions than MGC.

(2) The moderating effect of online course types
① Online course types have a significant moderating effect on the relationship between online teaching-generated content types and students' cognition. Specifically, MGC has a greater impact on students' cognition than UGC for search courses; UGC has a greater impact on students' cognition than MGC for experiential courses.
② Online course types have no moderating effect on the relationship between online teaching-generated content types and students' attitudes. No matter whether online course types were search courses or experimental courses, the impact of UGC on students' attitudes was higher than that of MGC. ③ Online course types have no moderating effect on the relationship between online teaching-generated content types and students' learning decisions. No matter whether online course types were search courses or experimental courses, the impact of UGC on students' learning decisions was higher than that of MGC.

Theoretical Significance

By studying the effect of online teaching-generated content types on the learning decision process of students (i.e., cognition, attitude, and learning decision), this paper increases the understanding of the learning decision process of students in the online teaching context. The theoretical contributions of this paper include: (1) Expanding the understanding of the effects of MGC and UGC: This paper reveals and compares the specific role of online teaching-generated content types at different stages in the learning decision process of students. (2) Online course types have a moderating effect on the relationship between online teaching-generated content types and students' cognition: This paper identifies how different types of courses (search course vs. experiential course) affect students' dependence on MGC and UGC in the cognition stage. (3) Two key antecedents affecting the learning decision process of students are also investigated: Compared with previous studies, this paper also explores the impact of online teaching-generated content types and online course types on the learning decision process of students, filling the gap of existing studies. Through these contributions, this paper not only enriches the theoretical knowledge in the field of online teaching, but also provides valuable guidance for practical application.

Practical Significance

According to different stakeholders of online teaching, the practical significance can be divided into the following points: (1) For online teaching platform managers: ① Using the conclusions of this study can help them design efficient online teaching platforms to enhance students' online learning experience; ② Platform managers can optimize the design of course pages based on research conclusions to ensure effective presentation of MGC and UGC, thereby increasing student engagement and satisfaction. (2) For online teaching-generated content providers (such as teachers): ① According to the conclusions of this study, teachers can design effective targeted MGC to provide students with a comprehensive learning experience that affects students' cognition; ② In addition, according to the strategic positioning of online course types (i.e., search courses and experiential courses), teachers can evaluate which types of online teaching-generated content will affect students' responses, or how the combination of MGC and UGC is most beneficial to increase students' choice of courses. So teachers can increase students' stickiness and satisfaction by adjusting the presentation of MGC and UGC on online teaching platforms; ③ Teachers should recommend appropriate content on the site to facilitate students' learning decisions. Because students may increase their online learning based on the recommendations and ultimately influence course selection rates. (3) For website designers: Through this study, website designers can better understand which content (MGC vs. UGC) should be more emphasized on the website at which stage in the learning decision process of students, so as to optimize the experience of students.

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