

Research on the Status of Online Teaching of Ideological and Political Courses in Colleges and Universities under the Background of "Tobacco Control and Novel Coronavirus Epidemic"——Take a Flight Technology Major from a Civil Aviation University as an Example

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Objectives: Due to the impact of Tobacco Control and novel coronavirus pneumonia epidemic, how to ensure the effectiveness of ideological and political courses teaching during epidemic prevention and tobacco control, and use "online teaching" to achieve "non-stop classes" are huge challenges that universities across the country need to face. This research is based on the perspective of the subject-learning subject. Taking the actual situation of ideological and political courses "online teaching" of the flight technology major in a civil aviation university as an example, it is found that the overall situation of "online teaching" is acceptable, but there are still quite a few teaching platforms. Problems such as complexity, teaching methods still need to be improved, excessive after-school burdens, and teaching effectiveness need to be improved. The root cause is the lack of a "student-oriented" teaching philosophy. Therefore, we should streamline the teaching platform and focus on students based on the needs of the curriculum and students cultivation of learning ability, improvement of teaching methods, construction of "diversified" teaching evaluation, reduction of students' burdens, improvement of teachers' teaching and information technology literacy, and enhancement of teaching effectiveness to help establish a "life-oriented" teaching philosophy.

Key words: tobacco control and novel coronavirus epidemic background; ideological and political courses colleges and universities online teaching; flight technology major; empirical research.

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RESEARCH BACKGROUND

"Just as the essence of tobacco advertising is to attract consumers,"¹ the essence of online teaching is "teaching guidance and assistance". Teaching guidance focuses on what students learn and how to learn, while teaching assistance helps students resolve stuck and blocked points, solve difficult points, and strengthen key points, which means, "taking promotion of students' learning as the foundation". In response to the sudden COVID-19 epidemic and Tobacco Control in 2020, the Chinese Ministry of Education has clearly notified the "postponement of the 2020 spring semester", and recommended that all localities use online platforms to achieve "stopping classes without learning suspension". "Online teaching" has undoubtedly become the most important teaching method among national universities during the period of "stopping classes without learning suspension." The current research on online teaching in colleges and universities during the period of "stopping classes without learning suspension" mainly focuses on the "teachers' competence at the micro view, construction of model ecology at the medium view and education reform and development in the context of the epidemic at the macro view"². The relevant research based on the learning subject (student) perspective of "online teaching" is rare, and the relevant empirical research on the ideological and political courses in colleges and universities is even rarer. The research on the background of COVID-19 epidemic and Tobacco Control is even more rare. Referring to the research methods and ideas of "College Students' Exposure and Engagement with Tobacco-related Social Media."³ This research is based on the essence of "online teaching". From the perspective of learning subject of "online teaching", it takes the practice of "online teaching" of pilot students in a civil aviation flight university in 2020 as an example, explores the current status quo and problems of "online teaching" of ideological and political courses in colleges and universities in domestic colleges and universities through "point-to-surface" manner, proposes suggestions and

countermeasures to promote the improvement of teaching effectiveness, provides path guidance for the improvement of "online teaching" quality in domestic colleges and universities in the future, and offers reference and direction for related research.

RESEARCH METHODS

Research object

In the special training mode combining "theoretical education + flight training" for pilot students in China, the students in the "flight training" stage mainly focus on the practical operation of flying skills, learning fewer theoretical courses, and the flow of personnel is distributed in different training bases or flight schools at home and abroad. Hence, this study takes pilot students in the "theoretical education" stage from a domestic university as the research object, adopts random cluster sampling to select 20 teaching classes as research samples, and distributes 800 questionnaires in the form of online surveys. 800 questionnaires were returned, with the questionnaire recovery rate at 100%. 23 invalid questionnaires were deleted. A total of 777 questionnaires were returned effectively, and an effective recovery rate of 97.13%.

Due to the particular training model of the flight technology (it needs to be noted that the flight technology of this school no longer enrolls girls since 2015), different training batches of the students in the "theoretical education" stage mean different educational progress. The "learning stage" of the students cannot be simply divided by "grade". As shown in Table 1, the subjects of this survey are mainly composed of 777 students in the three categories of "Class A", "Class B (including international class and base class)", and "conversion of college students to pilot students". The three types of students have basically close composition ratio.

Table 1
Composition of Research Object

	Option	Number	Percentage
Training batch	A class	275	35.39%
	B class (including international class and base class)	263	33.85%
	Conversion of college students to pilot students	239	30.76%

(Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

Tools and methods

This research mainly adopts the questionnaire survey method. Based on reference to relevant research, by combining expert opinions and actual teaching conditions, we compiled the "Online Teaching Survey Questionnaire for Pilot Students of Civil Aviation Flight University". It consists of two parts, namely "the basic situation of learning and online teaching status survey", which are mainly based on single-option and multiple-option questions. The content of the "basic situation of learning" includes "student training stage or batch status"; "online teaching status survey" includes "teacher and students attending classes on time, the use of teaching platforms and teaching methods, the teaching interaction, the teaching process organization, the completion of teaching goals and personal satisfaction, the advantages and disadvantages of online teaching, and suggestions for online teaching improvement". After the questionnaire was collected, IBM SPSS Statistics was used to perform statistical analysis and processing on the acquired data, and all data are kept to 2 decimal places.

Data Analysis

As shown in Table 2, the basic teaching order has not been greatly affected during the period of "stopping classes without learning suspension": 99.61% of teachers can still normally "attend the class" by following the timetable pre-set by the Academic Affairs Office, and 99.74% of students can attend classes on time. Moreover, 99.23% of teachers will issue teaching notices before class to ensure the normal progress of online teaching, and 99.87% of teachers will let students sign in in some way to supervise their attendance. However, there are disagreements among students on "whether it is necessary to sign in": 55.86% of the students think it is "necessary to sign in", while 44.14% of students think it is "unnecessary". Further analysis of variance $p=0.023>0.05$ reveals certain difference among students of "different training batches" regarding "whether it is necessary to sign in". Specifically, the students in "Conversion of college students to pilot students" have the highest degree of agreement with "whether to sign in", followed by "Class A". Class B (including international class and base class) has the lowest degree of agreement for "signing in or not".

Table 2
Teaching Preparation

Topic	Option	Class B	Conversion	Total	χ^2	p
		(including international class and base	of college students to airmanship			
	Class A					

		class)		students			
Does the teacher's teaching time follow the curriculum?	Yes	274(99.64)	263(100.00)	237(99.16)	774(99.61)		
	No	1(0.36)	0(0.00)	2(0.84)	3(0.39)	2.285	0.319
Total		275	263	239	777		
In online teaching, can you attend class on time?	Yes	275(100.00)	262(99.62)	238(99.58)	775(99.74)		
	No	0(0.00)	1(0.38)	1(0.42)	2(0.26)	1.106	0.575
Total		275	263	239	777		
Does the teacher issue a teaching notice before class?	Yes	275(100.00)	259(98.48)	237(99.16)	771(99.23)		
	No	0(0.00)	4(1.52)	2(0.84)	6(0.77)	4.077	0.130
Total		275	263	239	777		
Will your class teacher take a certain way for signing in?	Yes	275(100.00)	262(99.62)	239(100.00)	776(99.87)		
	No	0(0.00)	1(0.38)	0(0.00)	1(0.13)	1.957	0.376
Total		275	263	239	777		
Do you think it is necessary to sign in for online class?	Yes	145(52.73)	138(52.47)	151(63.18)	434(55.86)		
	No	130(47.27)	125(47.53)	88(36.82)	343(44.14)	7.513	0.023*
Total		275	263	239	777		

Note.
 $p < 0.05$ ** $p < 0.01$
 (Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

As shown in Table 3, almost all common teaching methods of “online teaching” are used by teachers. Through the analysis of “response rate” and “popularity rate”, we can find that the most frequently used ones are “live streaming”, “online discussion, Q&A”, "distribution of teaching resources in advance + self-study + homework assignments", "Video on Demand", among which, the "popularity rate" of "live streaming" has exceeded 90%, making it become the most common

teaching method for students and the most used teaching method for teachers during the "online teaching" period (However, it is worth noting that some teachers may not use a single method in actual teaching, but use multiple teaching methods at the same time). Through the goodness of fit test $p=0.000$, it is found that although the ratio of each option has certain difference, chi-square test $p=0.182 > 0.05$ shows that there is no significant difference in the use of "teaching methods" by

teachers for students of different "training batches".

Option	Class A (n=275)	Class B (n=263)	Conversion of college students to pilot students(n=239)	Response rate	Popularity rate (n=777)	Summary (n=777)
Live streaming	274(99.64)	261(99.24)	239(100.00)	32.01%	99.61%	774(99.61)
Video on demand	151(54.91)	151(57.41)	122(51.05)	17.54%	54.57%	424(54.57)
Online discussion and Q&A	212(77.09)	199(75.67)	176(73.64)	24.28%	75.55%	587(75.55)
Distribution of teaching resources in advance + self-study + homework assignments	188(68.36)	184(69.96)	154(64.44)	21.75%	67.70%	526(67.70)
Others	42(15.27)	48(18.25)	17(7.11)	4.43%	13.77%	107(13.77)

Note
Chi-square test: $\chi^2=11.358$ $p=0.182$, goodness of fit test: $\chi^2=500.830$ $p=0.000$ with percentages in parentheses
(Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

As shown in Table 4, 260 students are "very satisfied", accounting for 33.46%, and 252 students are "satisfied", accounting for 32.43%. It can be seen that more than half of the students are satisfied with the teaching methods used by teachers, but there are still nearly more than one third of the students who are "unsatisfied" or "unclear"; through the chi-square test $p=0.006 < 0.01$, it can be found that students of different "training batches" have significant difference in satisfaction with the use of "teacher teaching methods". Specifically, 42.18% of

"Class A" choose "very satisfied", which is significantly higher than the average level of 33.46%, and only 38.49% students in "Conversion of college students to pilot students" choose "satisfied", which is significantly higher than the average level of 32.43%, while the percentages of "Class B (including international class and base class)" who choose "very satisfied" or "satisfied" are all lower than the average. In overall, their satisfaction towards "use of teacher teaching methods" is also the lowest.

Topic	Option	Class A	Class B (including international class and base class)	Conversion of college students to pilot students	total	χ^2	p
Are you satisfied with the current teaching methods used by teachers	Very satisfied	116(42.18)	80(30.42)	64(26.78)	260(33.46)	21.540	0.006*
	Satisfied	78(28.36)	82(31.18)	92(38.49)	252(32.43)		

Topic	Option	Class A	Class B (including international class and base class)	Conversion of college students to pilot students	total	χ^2	p
in online teaching?	Unclear	34(12.36)	44(16.73)	29(12.13)	107(13.77)		
	Dissatisfied	45(16.36)	56(21.29)	54(22.59)	155(19.95)		
	Very dissatisfied	2(0.73)	1(0.38)	0(0.00)	3(0.39)		
		275	263	239			

As shown in Table 5, through the analysis of "response rate" and "popularity rate", it can be found that "participate in discussions, Q&A, guide me into positive thinking" and "solve the problems I raised in time" are the most important problems in the teaching methods currently used by teachers. Only 34.23% (response rate 14.81%) of students think that teachers "cannot supervise or monitor my learning status". It can be seen that "real-time Q&A, enlightening induction" is students' most urgent need for the teachers'

online teaching process, which is also an important factor that affects students' satisfaction with the use of teachers' teaching methods. Through the goodness of fit test $p=0.000$, it is found that although there are differences between the selection ratios of the options, the chi-square test $p=0.87 > 0.05$ shows that there is no significant difference among of students of different "training batches" regarding the opinion that "the teaching methods used by teachers have problems".

Option	Class A (n=275)	Class B (n=263)	Conversion of college students to pilot students (n=239)	Response rate	Popularity rate (n=777)	Summary (n=777)
Cannot solve the problem I raised in time	199(72.36)	183(69.58)	162(67.78)	30.29%	70.01%	544(70.01)
Cannot report the job status in time	145(52.73)	145(55.13)	114(47.70)	22.49%	51.99%	404(51.99)
can't participate in discussions and Q&A, and cannot guide me into positive thinking.	203(73.82)	193(73.38)	186(77.82)	32.41%	74.90%	582(74.90)
Can't supervise or monitor my learning status	101(36.73)	89(33.84)	76(31.80)	14.81%	34.23%	266(34.23)

Note.
Chi-square test: $\chi^2=2.489$ $p=0.870$, goodness-of-fit test: $\chi^2=138.592$ $p=0.000$ with percentages in parentheses
(Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

As shown in Table 6, 443 students choose “very willing” to interact with teachers, accounting for 57.01%, and 308 students choose “willing” to interact with teachers, accounting for 39.64%. More than 90% of students are willing to actively

communicate and interact with teachers. Through the chi-square test $p=0.325>0.05$, it can be found that there is no significant difference in the willingness of students from different “training batches” towards “teaching interaction”.

Topic	Option	Class A	Class B (including international class and base class)	Conversion of college students to pilot students	total	χ^2	p
In online teaching, are you willing to actively communicate and interact with teachers?	Very willing	173(62.91)	144(54.75)	126(52.72)	443(57.01)	9.206	0.325
	Willing	92(33.45)	110(41.83)	106(44.35)	308(39.64)		
	Not sure	7(2.55)	6(2.28)	5(2.09)	18(2.32)		
	Unwilling	2(0.73)	3(1.14)	2(0.84)	7(0.90)		
Total		275	263	239	777		

Note.
p<0.05 ** p<0.01, with percentages in parentheses

As shown in Table 7, through the analysis of "response rate" and "popularity rate", it can be found that "teaching interaction is linked to performance", "teaching content is attractive", "interested in classroom content", and "teacher's guidance and inspiration are effective" are the factors that students think will most affect the enthusiasm for participation in teaching interaction, which shows that most students do not actively participate in teaching interaction simply because of the “desire for better grades” or "attraction by teachers and teaching content",

but "both play a role" and there are even more factors. Through the goodness of fit test $p=0.000$, it is found that there is a difference between the selection ratios of each option, but it can be found through the chi-square test $p=0.928>0.05$ that there is no significant difference in the selection of "factors affecting the enthusiasm for participation in teaching interaction" among students of different "training batches".

Option	Class A (n=275)	Class B (including international class and base class) (n=263)	Conversion of college students to pilot students (n=239)	Response rate	Popularity rate (n=777)	Summary (n=777)
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Teaching interaction is linked to performance	224(81.45)	199(75.67)	163(68.20)	25.49%	75.42%	585(75.42)
Teacher's guidance and inspiration are effective	186(67.64)	172(65.40)	166(69.46)	22.79%	67.44%	524(67.44)
The teaching content is attractive	206(74.91)	192(73.00)	172(71.97)	24.79%	73.36%	570(73.36)
Interested in classroom content	213(77.45)	189(71.86)	157(65.69)	24.31%	71.94%	559(71.94)
Other	21(7.64)	22(8.37)	17(7.11)	2.61%	7.72%	60(7.72)

Note.
 Chi-square test: $\chi^2=3.106$ $p=0.928$, goodness-of-fit test: $\chi^2=439.045$ $p=0.000$ with percentages in parentheses
 (Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

As shown in Table 8, regarding “overall evaluation of online learning during the epidemic”, 28.31% of the students are “very satisfied” and 38.61% are “satisfied”. Overall, more than 60% of the students are satisfied with online teaching during the epidemic. However, 32.28% of students still think that they are “just so so” or “unsatisfied”. Regarding “whether the teacher has clear teaching goals and requirements in teaching”, more than 95% of students say goals and requirements are "very clear" or "clear". It can be seen that the transition from “traditional teaching” to “online teaching” does not affect teachers’ implementation of teaching goals and requirements. Regarding “teacher’s organization of the online teaching process”, 74.26% of students believe that “the organization is reasonable, with appropriate leniency and strictness”, 24.71% of the students think that “the organization is relatively reasonable and there are requirements for students”. Most of the students recognize the teaching organization in the teacher's “online teaching”, which also suggests that the change of teaching mode will also

prompt teachers to adjust their own teaching organization to adapt to the new requirements. As for “whether it is necessary to teach the course again after returning to school”, only 18.02% of the students think “no need” and 69.88% of the students think “key and difficult points need to be explained”. Seen from teaching form, current "online teaching" has basically been able to meet the needs of students, but in terms of the actual teaching effect, the current "online teaching" still needs to be further strengthened.

Table 8							
Students' Evaluation of Online Teaching							
Topic	Option	Class A	Class B (including international class and base class)	Conversion of college students to pilot students	Total	χ^2	p

Your overall evaluation of online learning during the epidemic	very satisfied	89(32.36)	57(21.67)	74(30.96)	220(28.31)	15.929	0.043*
	satisfied	97(35.27)	104(39.54)	99(41.42)	300(38.61)		
	General	69(25.09)	87(33.08)	51(21.34)	207(26.64)		
	Dissatisfied	19(6.91)	14(5.32)	15(6.28)	48(6.18)		
	Very dissatisfied	1(0.36)	1(0.38)	0(0.00)	2(0.26)		
Total		275	263	239	777		
Do you think the teachers have clear teaching goals and requirements in teaching?	Very clear	173(62.91)	135(51.33)	135(56.49)	443(57.01)	13.086	0.042*
	Clear	94(34.18)	115(43.73)	100(41.84)	309(39.77)		
	Not sure	5(1.82)	11(4.18)	4(1.67)	20(2.57)		
	Unclear	3(1.09)	2(0.76)	0(0.00)	5(0.64)		
Total		275	263	239	777		
Your evaluation about the teacher's organization of the online teaching process	organization is reasonable, with a degree of leniency and strictness	212(77.09)	192(73.00)	173(72.38)	577(74.26)	2.600	0.627
	organization is relatively reasonable, with requirements for students	61(22.18)	67(25.48)	64(26.78)	192(24.71)		
	There is certain organization, the requirements are relaxed	2(0.73)	4(1.52)	2(0.84)	8(1.03)		
	Total		275	263	239		
Do you think it is necessary for teachers to teach online courses again after you return to school?	Need	32(11.64)	30(11.41)	17(7.11)	79(10.17)	13.478	0.036*
	No need	39(14.18)	42(15.97)	59(24.69)	140(18.02)		
	Important and difficult points need to be explained	197(71.64)	186(70.72)	160(66.95)	543(69.88)		
	It doesn't matter	7(2.55)	5(1.90)	3(1.26)	15(1.93)		
Total		275	263	239	777		

Note.

p<0.05 ** p<0.01, with percentages in parentheses

(Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

Through the chi-square test, it can be found that different "training batches" have an effect on students' option in "overall evaluation of online learning during the epidemic period", "whether the teacher has clear teaching goals and requirements in teaching", and "whether it is necessary to repeat the course after returning to school." There are big differences between different training batches: the difference in percentage comparison shows that 33.08% of "Class B (including international class and base class)" choose "general" regarding "overall evaluation of online learning during the epidemic", which is significantly higher than the average

level of 26.64%. From the perspective of the ratio of each option, "Class B (including international class and base class)" has the lowest overall evaluation against "online learning during the epidemic". Regarding "whether the teacher has clear teaching goals and requirements in teaching", 62.91% of the "Class A" chooses "very clear", which is significantly higher than the average level of 57.01%. It can be seen that "Class A" has slightly higher recognition towards teachers' teaching goals and requirements than students of other training batches. Regarding "whether it is necessary to repeat the course again after returning to school", 24.69% of students "in Conversion of college students to pilot students"

choose “not necessary”, which is significantly higher than the average level of 18.02%. It can be seen that students “in Conversion of college students to pilot students” have slightly higher internalization of the teaching content during the “online teaching” period than students of other training batches.

As shown in Table 9, only 13% of students think that “online teaching is superior to traditional teaching”, 30.50% of students think that “online teaching is as effective as traditional teaching”, and 36.29% of students think that

“online teaching is inferior to traditional teaching”. It can be seen that although online teaching can meet the learning needs of students to a certain extent during the period of "stopping classes without learning suspension", but its actual teaching effect still has a gap from traditional teaching. Through the chi-square test $p=0.102 > 0.05$, it can be seen that there is no significant difference in the selection of "comparison between online teaching and traditional teaching" among students of different "training batches"

Topic	Option	Class A	Class B (including Conversion of international college students to pilot students and base class)			χ^2	p
			international class	college students	Total		
How do you think learning effect of online teaching compared to traditional teaching	Better than traditional teaching effect	35(12.73)	36(13.69)	30(12.55)	101(13.00)	10.601	0.102
	As effective as traditional teaching	86(31.27)	78(29.66)	73(30.54)	237(30.50)		
	Inferior to traditional teaching	89(32.36)	91(34.60)	102(42.68)	282(36.29)		
	Hard to say	65(23.64)	58(22.05)	34(14.23)	157(20.21)		
Total		275	263	239	777		

Note.
 $p < 0.05$ ** $p < 0.01$, with percentages in parentheses
 (Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

As shown in Table 10, through the analysis of “response rate” and “popularity rate”, it can be found that “overburden after class”, “the influence of internet lag and hardware equipment on the teaching effect”, “high self-learning ability requirement”, “it takes a lot of time” are the main problems of online teaching caused to students' learning compared with traditional teaching. Further analysis of the "popularity rate" reveals that the popularity rate of "overburden after class" is 58.04%, which has exceeded 50%, becoming a common problem faced by more than half of students in online teaching. Through goodness-of-fit test $p=0.000$ and chi-square test

$p=0.002 < 0.01$, it can be found that students of different “training batches” have different choices in “computer, phones and other hardware operational level”, "influence of internet lag, hardware equipment on teaching effects", and "overburden after class". For the specific manifestation, a higher proportion of "Class B (including international class and base class" students choose “computer, phones and other hardware operational level”; a higher proportion of students in “Conversion of college students to pilot students” choose “influence of internet lag and hardware equipment on the teaching effect”; a higher proportion of "Class A" students choose “overburden after class”

Table 10
Compared with Traditional Teaching, Learning Difficulties Caused by Online Teaching Among Students (Multiple Option)

Option	Class A (n=275)	Class B (including international class and base class) (n=263)	Conversion of college students to pilot students (n=239)	Response rate	Popularity rate (n=777)	Summary (n=777)
High self-learning ability requirements	112(40.73)	100(38.02)	94(39.33)	19.55%	39.38%	306(39.38)
It takes a lot of time	104(37.82)	100(38.02)	75(31.38)	17.83%	35.91%	279(35.91)
Requirements for the operating level of hardware such as computers and mobile phones	50(18.18)	63(23.95)	28(11.72)	9.01%	18.15%	141(18.15)
The influence of internet lag and hardware equipment on teaching effect	121(44.00)	121(46.01)	146(61.09)	24.79%	49.94%	388(49.94)
Overburden after class	174(63.27)	155(58.94)	122(51.05)	28.82%	58.04%	451(58.04)

Note.
Chi-square test: $\chi^2=24.152$ $p=0.002$, goodness of fit test: $\chi^2=177.182$ $p=0.000$ with percentages in parentheses
(Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

As shown in Table 11, through the analysis of "response rate" and "popularity rate", it can be found that "time and place are not restricted", "resources are more abundant and can be used directly", and "can be reviewed and listened repeatedly" are the greatest advantages of online teaching compared with traditional teaching in students' opinion. Through the goodness of fit

test $p=0.000$, it is found that although there is a difference between the selection ratios of each option, the chi-square test $p=0.704 > 0.05$ shows that students of different "cultivation batches" have no significant difference in choice of "advantages of online teaching compared with traditional teaching"

Table 11
Advantages of Online Teaching Compared with Traditional Teaching Mode (Multiple Option)

Option	Class A (n=275)	Class B (including international class and base class) (n=263)	Conversion of college students to pilot students (n=239)	Response rate	Popularity rate (n=777)	Summary (n=777)
Time is free and flexible, and the time and place for learning can be arranged independently without constraint	187(68.00)	163(61.98)	175(73.22)	24.95%	67.57%	525(67.57)
Oriented objects are more extensive, can communicate with more people	119(43.27)	96(36.50)	113(47.28)	15.59%	42.21%	328(42.21)
The resources are more abundant and can be used directly	184(66.91)	162(61.60)	155(64.85)	23.81%	64.48%	501(64.48)
When one encounters unclear knowledge points, one can look back and listen repeatedly.	156(56.73)	154(58.56)	124(51.88)	20.63%	55.86%	434(55.86)
Teachers and students can have interactive Q&A in real time	118(42.91)	99(37.64)	99(41.42)	15.02%	40.67%	316(40.67)

Note.
Chi-square test: $\chi^2=5.493$ $p=0.704$, goodness-of-fit test: $\chi^2=88.067$ $p=0.000$ with percentages in parentheses

As shown in Table 12, by analyzing the "response rate" and "popularity rate", it can be found that "too heavy schoolwork burden", "the teaching platform used is too complicated",

"teaching methods such as live streaming and watching videos are not effective" are the most important problems in online teaching according to the students. Through the goodness of fit test $p=0.000$, it is found that although there is a

difference between the selection ratios of each option, the chi-square test $p=0.42>0.05$ reveals that students of different "training batches" have

no significant difference in the views towards "current problems in online teaching".

Option	Class A (n=275)	Class B (including international class and base class) (n=263)	Conversion of college students to pilot students (n=239)	Response rate	Popularity rate (n=777)	Summary (n=777)
Overburden after class	148(53.82)	153(58.17)	132(55.23)	26.07%	55.73%	433(55.73)
Teaching methods such as live streaming and watching videos are not effective	133(48.36)	131(49.81)	138(57.74)	24.20%	51.74%	328(51.74)
Too little communication and interaction between teachers and students	53(19.27)	63(23.95)	76(31.80)	11.56%	24.71%	192(24.71)
Lack of restraint and insufficient self-control	71(25.82)	76(28.90)	68(28.45)	12.94%	27.67%	215(27.67)
The teaching platform used is too complicated	151(54.91)	141(53.61)	127(53.14)	25.23%	53.93%	419(53.93)

Note.
Chi-square test: $\chi^2=8.142$ $p=0.420$, goodness of fit test: $\chi^2=168.449$ $p=0.000$ with percentages in parentheses
(Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

As shown in Table 13, by analyzing the "response rate" and "popularity rate", it can be found that "reduce the burden after class", "streamline online teaching platform", "enrich curriculum resources", and "improve teaching methods such as live streaming and recorded broadcast" are the improvement suggestions mentioned the most by the students for online teaching. It can be seen that "reduce burden", "improve teaching methods", and "enrich

teaching resources" are the most direct expectations of students for the improvement of online teaching quality. Through goodness of fit test $p=0.000$, it is found that there is a difference between the selection ratios of options, but the chi-square test $p=0.151>0.05$ reveals that students of different "training batches" have no significant difference in terms of "suggestions for improvement of online teaching"

Option	Class A (n=275)	Class B (including international class and base class) (n=263)	Conversion of college students to pilot students (n=239)	Response rate	Popularity rate (n=777)	Summary (n=777)
Enrich curriculum resources	148(53.82)	140(53.23)	121(50.63)	16.88%	52.64%	409(52.64)
Strengthen real-time teaching interaction	103(37.45)	98(37.26)	89(37.24)	11.97%	37.32%	290(37.32)
Strengthen classroom management	77(28.00)	63(23.95)	50(20.92)	7.84%	24.45%	190(24.45)
Improve teaching methods such as live streaming and recorded broadcast	129(46.91)	114(43.35)	135(56.49)	15.60%	48.65%	378(48.65)
Reduce after-school burden	179(65.09)	174(66.16)	121(50.63)	19.56%	61.00%	474(61.00)
Shorten the course time	93(33.82)	93(35.36)	60(25.10)	10.15%	31.66%	246(31.66)
Streamline online teaching platform	151(54.91)	148(56.27)	137(57.32)	17.99%	56.11%	436(56.11)

Note.
Chi-square test: $\chi^2=16.953$ $p=0.151$, goodness-of-fit test: $\chi^2=193.414$ $p=0.000$ with percentages in parentheses
(Data from Statistics from Questionnaire on Online Teaching of Ideological and Political Courses for Flight University Students)

RESULTS

Teaching methods still need to be improved

"The advantages and limitations of online teaching make learning-based rather than teaching-based model more suitable."⁴ Online teaching is not a direct online copy of the traditional classroom teaching model, nor does it blindly chase "fashion" and pursue new, novel teaching methods. Instead, we should choose a suitable teaching method based on "the specific requirements of the curriculum and the development of students' learning ability"⁵. Judging from the current teaching methods used by teachers, it can basically meet the needs of students in terms of form, but the specific organization of the teaching process and the specific presentation of the teaching content still face problems, such as "cannot participate in discussions, Q&A, and guide students into positive thinking", "cannot solve the problems I raised in time", "live streaming, watching videos, etc. have poor effect", which affects the effectiveness of teaching and neglects the cultivation of students' learning ability. For its reason, on the one hand, it may be that the teachers' teaching philosophy has not yet changed, and the "student-oriented" teaching philosophy has not yet been established, so the traditional "teaching-based approach" is still implemented in the teaching design; on the other hand, it may be that the teacher's teaching and information technology literacy needs to be improved. "The lack of proficiency in the use of emerging teaching methods and teaching platforms has affected the concrete presentation of teaching."⁶

Overburden after class

The essence of "online teaching" is to "guide and assist learning", which takes promoting students' learning enthusiasm and enhancing their learning ability as the primary purpose. It is not a "quantified activity" aimed to complete a certain teaching task. Excessive "traced management" makes us pay too much attention to the "external form" in teaching and ignore the "substantial content". In terms of the current survey, "overburden after class" has become the biggest problem encountered by students in "online

teaching", and "burden reduction" has become the common aspiration of students. On the one hand, the reason for this may be that teachers have not yet fully adapted to the various changes brought about by the transformation of teaching methods, resulting in the failure to achieve the desired teaching effect in actual teaching, so additional "tasks" after class are needed to strengthen the teaching effectiveness. On the other hand, it seems that the teaching management department has not yet adapted to the changes in the teaching management model brought about by "online teaching", which is still accustomed to the traditional "quantified" way in weighing of teaching.

Teaching effectiveness needs to be improved

What needs to be clear is that seen from the current academic research results and practice, "online teaching" is only a countermeasure to meet the learning needs of students in a special period, which cannot completely replace traditional teaching. Seen from the previous surveys such as "comparison of online teaching and traditional teaching effects" and "whether it is necessary to repeat the courses again after returning to school", there is still a gap between the "online teaching" and traditional teaching in actual teaching effects. How to effectively improve the teaching effectiveness in the next "online teaching" and complete the smooth connection between "online" and "offline" is a practical problem that needs to be solved in the future.

DISCUSSION AND SUGGESTIONS

Pay attention to the cultivation of students' learning ability and improve teaching methods

Teaching method is not only the presentation carrier of teaching content, but also the direct representation of teaching practice. "A good and reasonable teaching method should not only enable the transformation of teaching content from the display of 'objective experience' to the subjective experience of the learning subject, but also promote the continuous improvement in learning ability of the learning subject."⁷ Therefore, focusing on the cultivation of students' learning ability, we can make full use of the advantages of "online teaching" to "avoid the 'teaching-oriented' online 'cramming education'"⁸, take the actual ability of teachers and the actual needs of course teaching as the basis, and

select an appropriate teaching methods for the courses of different categories. It's like tobacco control advertising needs to meet the expectations of different consumers. For example, for public basic courses, we can choose the "excellent course on-demand broadcast + self-study + online Q&A" mode. The "online Q&A" process focuses on "solving students' doubts and stimulating learning motivation". For professional basic courses, we can choose the mode of "distributing teaching resources in advance + live streaming", and pay attention to the inspiration of students' learning initiative and enthusiasm in the process of "live streaming". For special types such as "ideological and political courses" and "physical education", according to actual needs, we can choose different teaching methods such as "excellent course on-demand broadcast+ live streaming", "live streaming + self-study". However, no matter which teaching method we choose, we should stick to "study-oriented approach" instead of "direct copy of traditional classrooms".

Construct "diversified" teaching evaluation to reduce the burden on students

The teaching goal of "online teaching" is not simply "subject-based or knowledge-based" to master knowledge or skill, but should be student-based and focus on the development of students⁹. It should not measure the learning status of students and test the teaching status of teachers through "explicit forms" of after-school homework, quantitative assessment, etc., which will continually "increase burden" on students. Like college students' self-willingness to tobacco control. We should pay attention to the developmental level of students' learning and the actual "sense of gain", and construct "diversified" teaching evaluation models to reduce the burden on students. For example, the educational administration department should change the concept, change the teaching management model. While relying on the corresponding online learning (teaching) platform to detect and analyze the "quantified" data such as "teaching duration", "uploaded teaching content", and "sign-in status" through technical means, we can also learn about

teachers' teaching status and students' learning status through multiple channels such as "online inquiry", "real-time lectures", and "online course assessments". In addition to consolidating the content of classroom teaching by assignment, there are many ways for teachers to test and evaluate students' learning. For example, in the "live streaming" process, teachers directly conduct one-to-one or one-to-many online tests, divide the courses with previously distributed teaching resources into different units or sections and distribute resources to different study groups. After preparation by the corresponding study groups, "live teaching" can be carried out, so that the mutual evaluation and mutual testing of students can be carried out during the teaching process.

Improve teachers' teaching and information technology literacy, and enhance teaching effectiveness

For teachers as one of the two subjects in the teaching relationship, their own literacy, especially "teaching and information technology literacy, is not only an important component of the development of TPACK for college teachers"¹⁰, but has the most direct impact on the effectiveness of "online teaching". Just as you need to focus on college students' self-control of tobacco control. We should constantly strengthen teachers' teaching and information technology literacy. For example, colleges and universities can provide teachers with "online teaching overview", "teaching platform use", "curriculum resource development" and other related trainings on "online teaching" through "layered classification" to help teachers more quickly adapt to changes in "online teaching", such as "learning environment", "teacher-student relationship", "organizational management", "teaching structure", etc. Teachers from the same school and the same teaching and research section can form a teaching community according to teaching needs to participate in teaching design, teaching seminars, experience sharing, and teachers mutual evaluation, etc. "It is not necessary for everyone to become an Anchor, but we can carry out division of labor, results sharing based on the teachers' respective advantages, and strengthen the scientificity of teaching design and the operability of teaching implementation through team strength."¹⁰ Teachers can use MOOC, SPOC, national, provincial and

municipal quality course resources, etc. to enhance respective subject knowledge and teaching knowledge, transfer objective "subject knowledge" to students' subjective "personal experience", transfer respective "direct experience" in traditional teaching to the new context of "online teaching", etc.

Study Limitations

In fact, there are some limitations in our research need to be made clear to readers. First, the research object has certain limitation, the representativeness of "college students" is not strong enough to represent the overall situation and individual differences of different types of colleges, different majors and female college students. It is not comprehensive. Additionally, the depth of relevant research is not enough. For example, "college students' willingness to use online teaching platform" has many specific influencing factors, and there is no in-depth investigation and exploration. For the evaluation of the use of online teaching platform, it is not only necessary to consider the students, but also the perspective and needs of teachers.

Implications for Practice and Suggestions for Future Research

In our opinion, we suggest future research should focus on the following two aspects: First is the "college students for online teaching participation factors" research, to find out what factors affect students' participation, in particular the specific impact of tobacco control and COVID-19 epidemic background on teaching effectiveness. Just as the specific impact of tobacco control advertising evaluation on consumer evaluation. Second is the research on "online teaching evaluation" and "influencing factors of online teaching evaluation", revealing the evaluation methods and influencing factors that are truly suitable for "online teaching". These are the problems that need to be solved and the direction of efforts in future research.

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References

1. Moran, Meghan Bridgid; Pearson, Jennifer L. Real. Simple. Deadly. A Pilot Test of Consumer Harm Perceptions in Response to Natural American Spirit Advertising. *Tobacco Regulatory Science*. 2019; (07):30-368.
2. Yang Jinyong, et al. Online Teaching Practice and Experience during Epidemic. *China Educational Technology*.2020; (04):29-41.
3. Clendennen, Stephanie L.et al. College Students' Exposure and Engagement with Tobacco-related Social Media. *Tobacco Regulatory Science*. 2020; (01):38-53.
4. PITUCH K A, LEE Y. The influence of system characteristics on e-learning use. *Computers & Education*, 2006; 47(2): 222-244.
5. SONG H, WU J, ZHI T. Online teaching for elementary and secondary schools during COVID-19 prevention and control. *ECNU Review of Education*, 2020; 3(4): 745-754.
6. Hew, K. F., & Cheung, W. S. Students' and Instructors' Use of Massive Open Online Courses (MOOCs): Motivations and Challenges. *Educational Research Review*, 2014; 12:45-58.
7. Najafi, H., Rolheiser, C., & Harrison, L. et al. University of Toronto Instructors' Experiences with Developing MOOCs. *International Review of Research in Open and Distributed Learning*, 2015; 16(3):233-255.
8. Zhu Zhiting, et al. Policy Interpretation, Key Issues and Countermeasures of Classes Suspended but Learning Continues. *China Educational Technology*.2020; (04):1-7
9. Zhu Dequan Yang Lei. The Development of Instructional Theory over the Past Seven Decades in China: Practice

Cheng Xiangyu et al.

Research on the Status of Online Teaching of Ideological and Political Courses in Colleges and Universities under the Background of "Tobacco Control and Novel Coronavirus Epidemic"—Take a Flight Technology Major from a Civil Aviation University as an Example

Models and Logical Directions. *Educational Research*.2019; 40(09):14-28.

10. Koehler, M. J., & Mishra, P. What Happens When Teachers Design Educational Technology? The

Development of Technological Pedagogical Content Knowledge. *Journal of Educational Computing Research*, 2005:32(2):131-152.