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An Analysis about Attitudes Towards the Changes in Online Tutorials from the Perspective of Teachers

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Abstract: This study aims to explore the teachers' attitudes towards changes in online tutorials and what changes they will adapt to these challenges for achieving long-term development. In this study, the data collected is quantitative and use a questionnaire to collect related information from 117 samples. Through the investigation and analysis of teachers' attitudes about the changes in online tutorials, the following two conclusions are mainly drawn. Initially, majority of teachers has recognized attitudes towards the teaching methods, course content and teaching effects of existing online tutorials, and is willing to accept the changes in online tutorials. At the same time, the age (teaching age) and experience in online tutorials are also important factors that have an impact on teachers' attitudes towards changes in teaching methods and course content. Secondly, teachers' attitudes towards existing online tutorials can also impact on teachers' recognition and behavioral intentions of changes in online tutorials. Teachers, on the whole, are in favor of changes in the design and content of online tutorial courses, which implies that the curriculum will be more student-centered and high-quality. These two findings support the validity of the research hypothesis. Furthermore, the research suggests that teachers take advantage of the opportunity to develop their teaching abilities, overcome their fear of challenges, embrace change, and ensure technical support, based on the literature and research. However, in order to gain a better grasp of this topic in the future, more in-depth research will be required. In summary, this research has both theoretical and practical significance.

Keywords: Online tutorials; Teacher development; Online education; Teacher attitude

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1. Introduction

Nowadays, online education institutions are influenced by the socioeconomic environment and the process of mixing educational ideas. Some evidence suggests that online tutorials can shift from a teacher-centered paradigm to a student-centered paradigm, i.e., teaching activities are increasingly shaped by the needs and responses of students [1]. At the same time, it is believed that some practices from flipped learning can modify online teaching, particularly putting the focus on benefiting from the live synchronous meeting between students and teachers within the live sessions [2].

In addition, the educational reform and policy in China lead to the structural innovation from an examination orientation to a quality orientation. In other words, rather than searching for the objective of improving students' examination scores, teachers from online tutorials are gradually pursuing students' actual acquisition of knowledge, improvements in self-learning skills as well as enhancement in

comprehensive learning abilities [3].

Due to above changes in online tutorials, teachers are in face of some challenges and need to adapt to the changes and adjust their teaching form and content. The previously published studies in the field of online tutorials only focused on teacher perceptions of online tutorials. In most research, it is shown that teachers not only hold a positive attitude towards online tutorials but also perceived online tutorials form were effective [4-6]. Up to date, rare attention has been paid to the role of both how teachers perceive the changes in the form of online tutorials, and how new changes have impacts on their attitude. In view of this, this paper is designed to analyze teachers' views on the changes online tutorials are encountering and what changes they will adapt to these challenges for achieving long-term development.

2. Literature review

2.1. Online tutorials

A large volume of existing studies has described the definition of tutorials. Chinese domestic scholars first defined tutorials as "tutoring for the cultural or art classes that junior high school students privately participate in outside of the formal school education" [7]. Majority of the literature believes tutorials as "outside school educational tutoring," which is a variety of course aimed at improving academic performance that students participate in outside school education [8]. In summary, current scholars consider tutorials is similar to the school curriculum and are supplementary to school students who receive formal school education.

Online courses and tutorials have been growing at fast pace in past twenty years [9]. Since the COVID-19 outbreak in the beginning of 2020 provided a chance for online teaching, which created dramatically development for it. Learning in a digital environment has various benefits. For example, its flexible working hours [10] allow students to choose when and where to study at their convenience. Additionally, it was pointed out by some research that online tutorials were pedagogically promising because their self-paced and student-centered approach encouraged deeper learning [11].

2.2. Flipped learning

Many relevant studies have focused on flipped learning. In this model, current classroom paradigm was redesigned, in which the students spent time learning initial course concepts outside the classroom, while class time is used for solving problems as they learn and practice-based activities [12]. The flipped classroom has been used in STEM teaching and promising results have shown that how it can help the students enhance their understanding of knowledge and engage them more in the teaching activity [12-13]. Flipped classrooms can reorient students' attention to learning positively. The flipped classroom can also be used in online tutorials. If online teaching is combined with flipped classroom, a new blended learning model for relevant courses may be created and the learning effectiveness of the online classroom can be improved. [14]

2.3. The changes in online tutorials

The form of online tutorials is constantly evolving because of the changes in educational paradigms and the social environment. At present, there is a change from a teacher-centered paradigm to a student-centered paradigm. In other words, teaching activities are increasingly shaped by students' needs and responses [1]. At the same time, in terms of the educational reform in China, aims of education changes from an examination orientation to a quality orientation. That is to say, for the educators, their objective of teaching used to be improving students' examination scores and now more emphasis is being placed on how to enhance the quality of teaching and the student's engagement in the classroom. They pursue students' actual acquisition of knowledge, improvements in skills, and enhancement in abilities [2]. To this end, flipped

classroom pedagogy is increasingly gaining popularity in China's education system. The pedagogy overturns the in-class and out-class time and provides the students with considerable autonomy and flexibility [14]. Flipped classroom practices might be increasingly adopted in online education. This is because the virtual learning environment is friendly to the flipped classroom pedagogy and can promote its development. Under the online education model, students are provided with great flexibility, and they can learn without the constraints of time and location [15]. At the same time, online learning entails students' strong self-regulated learning abilities, and they are required to be responsible for planning, monitoring, and assessing learning processes and outcomes by themselves, which are in line with the requirements of flipped classroom pedagogy [2].

However, the above changes in the form of online education bring challenges to education practitioners. To adapt to these changes, they have to adjust their teaching plans and practices and use new ICTs to assist their teaching in order to embrace new educational paradigms and approaches. In addition, effective interaction like that in the traditional classroom may be compromised in the non-face-to-face communicative form in online courses [16]. Besides, it is more difficult for teachers to monitor student's learning processes and performance in an online learning context compared to an offline one [17]. According to the existing research on teacher perceptions of online tutorials, it is found that the majority of research has reported that teachers hold a positive attitude towards online tutorials and perceived online learning as effective [4-6]. However, little is known regarding how teachers are perceiving the changes in the form of online tutorials. It is important to answer the questions as it will generate valuable implications for how to help teachers better adapt to these changes and implement instructional practices according to these changes. It also helps educators identify challenges encountered by teachers, thus providing practice support for the group.

3. Methods

3.1. Research strategy

Considering the essence of the research questions, a positivist philosophy is adopted in this study. This philosophy insists on the objectivity of social facts and indicates that the existence of social facts is not affected by how they are observed and interpreted by humans. Hence, researchers must construct knowledge by using observable facts [18]. The changes in the form of online education are objective existences, and these changes also influence teacher attitudes objectively. Therefore, it is necessary to answer the two research questions from an objective and neutral perspective. Meanwhile, a deductive research approach is adopted for its logical rigorousness and objectivity. This approach strongly relies on existing theories. It uses relevant theories to hypothesize the patterns of a research object and then analyses empirical evidence for confirmation or disconfirmation [19]. Accordingly, relevant theories and research are reviewed first in this study to develop two research hypotheses were proposed based on existing theories. And then quantitative evidence is used to test these hypotheses.

(1) Hypothesis 1: Age and teaching experience will influence teachers' attitudes towards changes in online tutorials.

(2) Hypothesis 2: Teachers' attitudes towards existing online tutorials will likewise influence teachers' recognition and behavioral intentions towards changes in online tutorials.

3.2. Data collection and analysis

In this study, the data collected is quantitative and the use of a quantitative method fits the positivism and the deductive approach. Specifically, structural and objective instruments and criteria are used in the quantitative method to describe and analyze social facts. It is an effective method to find out associations

or causalities in social phenomena [20]. This essay mainly investigates teachers' attitude of changes in online education. To collect related information, a questionnaire is implemented. In order to get access to eligible respondents, this study will use a purposive sampling technique to get access to suitable respondents [21]. This is a structural and standardized process where a large volume of respondents is interviewed by the same set of questions. In this way, the common patterns of a large group can be identified [19].

Attitude is the psychological tendency in learning for an individual to conduct evaluative respond for an object with a persistent pattern of approval or disapproval, where the attitude is expressed in the form of an individual's conscious evaluation for an object [22]. Based on this understanding, the questionnaire includes two main questions related to attitudes towards online tutorials: one is a question related to teachers' dispositional attitudes towards existing modes of online tutorials (15 questions); the second centers on the teachers' dispositional attitudes towards the changes facing online tutorials (15 questions).

The questionnaire was designed according to Li et al.'s assessment scale for teachers' attitudes and behavior intentions, and making certain modifications based on the research questions in this survey. To maximize the validity of the questionnaire, experts in the fields of education are consulted and their comments are all addressed in the final version of the questionnaire.

The coefficient reliability for the questionnaire is (0.901) on Cronbach's alpha, indicating that it well fits the purposes of the current study. Meanwhile, the factor analysis of the scale shows that the KMO (Kaiser-Meyer-Olkin) value is 0.735 and the p value of Bartlett's sphericity test is 0.000 indicating that the questionnaire has good validity. The reliability and validity of the questionnaire are given in **Table 1** and **Table 2** respectively.

The questionnaire is administered to respondents online through the Wenjuanxing online data collection platform. The data is analyzed by SPSS using techniques such as frequency statistics, Cronbach's alpha tests, correlation analysis, descriptive statistics, and regression analysis. Ethical issues such as anonymity, informed consent, minimized harm, and confidentiality are fully addressed by this study.

Table 1. Reliability analysis of the questionnaire

Reliability statistics		
Sample size	**Items**	**Cronbach's Alpha coefficient**
117	30	0.901

Table 2. Validity analysis of the questionnaire

KMO and Bartlett's test	
KMO value	0.735
Bartlett's spherical value	2262.374
df	435.000
P value	0.000

4. Presentation of results

4.1. Sample description

Table 3 shows the profile of the 117 questionnaire participants. All of them were online education institutes' teacher and majority of them were females (71.8%). From the perspective of age structure, the over half of them were 26 ~ 30 years old (56.4%) and 21 ~ 25 years old teachers accounting for 35.9%. One of the reasons perhaps is that the profession of online education institutes' teachers is more popular with young people. Moreover, the over 80% of them had more than 1 years of teaching experience. Therefore, many

of the participants were experienced.

Table 3. Characteristics of participants in the study

Terms		Frequency	Proportion (%)
Gender	Male	33	28.2%
	Female	83	71.8%
Age	21 ~ 25years	42	35.9%
	26 ~ 30 Years	66	56.4%
	31 ~ 35 Years	5	4.3%
	36 ~ 40 Years	0	0%
	Above 51 Years	4	3.4%
Teaching Experience	0.5 ~ 1 Years	23	19.7%
	1 ~ 3 Years	40	34.2%
	4 ~ 6 Years	35	29.9%
	7～9years	15	12.8%
	Above 10 Years	4	3.4%

4.2. Analysis of teachers' overall attitudes towards changes in online tutorials

4.2.1. Analysis of teachers' attitudes towards existing online tutorials

The currently available items are rated using a 5-point Likert scale approach. The teachers' attitudes towards online tutorials were divided into three parts based on the content, namely, attitudes towards the teaching methods, content and effectiveness of teaching and learning in online tutorials. The details are shown in the **Table 4**.

As shown in the **Table 4**, overall, the total score for teachers' attitudes towards existing online tutorials are greater than 3, indicating that teachers' overall agreement with existing online tutorials.

In terms of the content, teachers generally agree more with the "content of online tutorials" and "teaching effectiveness of online tutorials" and there is little variation within them. There is more internal variation in teachers' agreement on "effectiveness of online tutorials."

Teachers highly agree with "existing online tutorials enables the rational allocation of educational resources and promotes educational equity." (With a negative rating of 15.4% and mean value at 3.96) and "the content of existing online tutorials increases students' anxiety." (With a negative rating of 12.8% and mean value at 3.5). Also, the item with the lowest level of agreement is "The existing classroom format of online tutorials is not conducive to student interaction" (2.85) despite the negative rating of 52.1%. The large standard deviation of this question also proves that it is more controversial among teachers.

To sum up, the most intuitive feeling provided by the available teaching forms in online tutorials is its convenience, allowing teachers to teach flexibly and innovatively. Meanwhile, the existing course formats offer students more flexibility (regardless of time and space) in terms of teaching effectiveness. Also, it was found that the existing online tutorials are limited in these areas and its contribution to students' achievement remains controversial, with negative ratings of nearly 30%. This may resonate with Bandura's social cognitive theory, which emphasizes that "presence" does not mean that learning will take place.

Therefore, when students take a course, whether in the classroom or a virtual environment, it does not necessarily mean that they will learn from what is presented and improve their performance. As shown in the above table, overall, the total score for teachers' attitudes towards existing online tutorials are greater than 3, indicating that teachers overall agree with existing online tutorials.

In terms of the content, teachers generally agree more with the "content of online tutorials" and

"teaching effectiveness of online tutorials" and there is little variation within them. There is more internal variation in teachers' agreement on "effectiveness of online tutorials."

Table 4. Teachers' attitudes towards existing online tutorials

Dimensions	Items	Mean Value	Standard Deviation	Negative Rating (%)
Teaching methods of online tutorials	The existing teaching methods of online tutorials can engage students.	3.92	0.756	5.1
	The existing teaching methods of online tutorials are convenient.	4.21	0.637	7.7
	Teachers of online tutorials are able to teach flexibly and creatively.	4.05	0.693	3.4
	Teachers of online tutorials like the existing teaching methods.	3.84	0.798	6.0
	Teachers of online tutorials will continue to use the existing teaching methods.	3.69	0.866	11.1
Content of online tutorials	Teachers engaged in online tutorials will continue to use existing classroom content for teaching.	3.56	0.933	16.2
	Existing online tutorials will have an impact on content taught in the classroom.	3.9	0.814	6.0
	Students enjoy the content of existing online tutorials.	3.87	0.772	6.0
	The content of existing online tutorials enhances students' motivation to learn.	3.83	0.864	8.5
	The content of existing online tutorials increases students' anxiety.	3.5	0.943	12.8
Effectiveness of online tutorials	Existing online tutorials contributes to student achievement.	3.48	1.095	28.2
	Existing online tutorials learning provides students with more flexible learning conditions (not limited by time and space).	4.27	0.773	2.6
	The existing online tutorials classroom format provides a learning environment in which students can collaborate with each other.	3.87	0.737	3.4
	Existing online tutorials enables the rational allocation of educational resources and promotes educational equity.	3.96	0.781	15.4

Teachers highly agree with "existing online tutorials enables the rational allocation of educational resources and promotes educational equity." (with a negative rating of 15.4% and mean value at 3.96) and "the content of existing online tutorials increases students' anxiety." (with a negative rating of 12.8% and mean value at 3.5). Additionally, the item with the lowest level of agreement is "The existing classroom format of online tutorials is not conducive to student interaction" (2.85) despite the negative rating of 52.1%. The large standard deviation of this question also proves that it is more controversial among teachers.

4.2.2. Analysis of teachers' attitudes towards changes in online tutorials

Likewise, based on the content dimension, teachers' attitudes towards changes in online tutorials were analyzed in three aspects, namely teachers' attitudes towards changes in the teaching methods of future online tutorials, attitudes towards changes in the content of future online tutorials and attitudes towards changes in the teaching effect of future online tutorials. The details of the three aspects are shown in the table below.

Table 5. Analysis of teachers' attitudes towards changes in online tutorials

Dimension	Item	Average	Standard Deviation	Negative Feedback
changes in the teaching methods of future online tutorials	The flipped classroom will be increasingly adopted online tutorials in the future.	4.13	0.664	1.7
	The role of teachers in online tutorials will change in the future.	3.96	0.621	16.2
	The classroom of online tutorials will gradually shift from a teacher-centered paradigm to a student-centered paradigm in the future.	4.03	0.706	3.4
	In the future, teachers engaged in online tutorials must guide students to acquire knowledge by themselves rather than directly teaching knowledge.	4.01	0.749	3.4
	In the future, teachers engaged in online tutorials must accept new teaching strategies and models to cope with changes in the industry.	4.2	0.633	1.7
changes in the content of future online tutorials	In the future, the content of online tutorials will gradually change from test-oriented to quality-oriented.	4.08	0.672	2.6
	In the future, the focus of the content of online tutorials will be on the formation and development of students' physical and mental qualities.	4.13	0.664	1.7
	In the future, teachers engaged in online tutorials must change the curriculum provided for students.	3.82	0.847	7.7
	In the future, changes in the content of online tutorials will increase the workload of teachers.	3.85	0.823	6.0
	In the future, the content of online tutorials will be combined with school education.	4.07	0.704	2.6
changes in the teaching effect of future online tutorials	In the future, students in online tutorials will have more opportunities to speak than before.	4.03	0.642	2.6
	In the future, online tutorials will provide students with more autonomy than before.	4.09	0.596	0.9
	In the future, online education will help students improve their autonomous learning abilities.	4.1	0.635	3.4
	Compared with current online tutorials, future online tutorials will have a decreased level of recognition.	2.16	0.9	12.0
	In the future, students engaged in online tutorials will be required to plan, monitor and evaluate their own learning processes and results.	4.04	0.649	1.7

As shown in the **Table 5**, overall, teachers' attitudes towards changes in online tutorials were close to 4 (3.96), which indicates that most teachers have relatively positive recognition and psychological expectations of changes in online tutorials.

In terms of the content dimension, teachers generally believe that the teaching form of online tutorials in the future will gradually change from a teacher-centered paradigm to a student-centered flipped

classroom, which has a better understanding and higher degree of recognition of this teaching form. From the perspective of behavioral intentions, most teachers believe that they should actively learn and accept new teaching strategies and models to cope with changes in the industry. Regarding the curriculum, teachers believe that the focus of the content of future online tutorials will be not only concentrate on examinations but also on the formation and development of students' physical and mental qualities. However, teachers are more pessimistic about changes in the content of online tutorials in the future than other items (3.82), admitting that changes in the content of online tutorials may increase their own workloads. At the same time, the evaluation of changes in the teaching effects of online tutorials also illustrates that changes in online tutorials will not lead to a reduction in the extent of recognition of future online tutorials by teachers. On the contrary, changes in the teaching method and content of online tutorials have improved teachers' expectations of future teaching effects to a certain extent.

In addition, regarding the descriptive statistics of teachers' attitudes towards future changes in online tutorials, there are 9 factors with an average value of 4 or more, while the scores of negative feedbacks in **Table 5** are significantly lower than those of negative feedback in **Table 4**, which suggests that teachers' expectations of future changes in online tutorials are higher than their evaluations of the current status quo. That is to say, teachers are optimistic about the future development of online tutorials and show a higher level of recognition of the future development of online tutorials.

4.3. Analysis of different teachers' attitudes towards changes in online tutorials

4.3.1. Analysis of differences in attitudes of teachers of different ages and teaching experience towards changes in online tutorials

The differences in the extent of recognition in online tutorials is another dimension to be considered in this study. The "Recognition" refers to teachers keeping a relatively positive attitudes towards changes in online tutorials and showing a high level of acceptance for changes and development is the future. In order to understand the differences in the extent of recognition in online tutorials from the perspective of teachers in different ages, a significance test of difference was carried out to examine the ages of teachers and various dimensions of online tutorials. As shown in **Table 6**, in terms of significance, teachers in different ages held significantly different attitudes towards online tutorials (at a significant level of 99%). Teachers between 26 and 30 years old had the highest degree of recognition in current teaching form and changes in online tutorials, while teachers aged over 40 were more optimistic about the teaching effect of online tutorials.

Table 6. Teachers of different ages towards changes in online tutorials

		21~25	26~30	31~35	Above 40 years	Significance
teachers' attitudes towards current online tutorials	teaching methods	23.02	23.98	23.80	21.25	0.000
	content	10.74	11.64	12.20	11.25	0.016
	teaching effect	11.93	23.02	12.80	11.00	0.000
teachers' attitudes towards changes in online tutorials	teaching methods	19.81	19.94	21.2	20	0.000
	content	11.71	12.02	12	11	0.011
	teaching effect	24.48	24.24	25	27.5	0.000

Teachers with different teaching experience had significantly different attitudes towards online tutorials (at a significant level of 99%). Teachers with teaching experience less than one year held the highest degree of recognition of online tutorials. Teachers with 1 to 3 years' teaching experience held the

highest degree of recognition of the future teaching methods in online tutorials. Teachers with teaching experience of 7 years or more preferred the existing teaching methods and content of online tutorials, comparing to other teachers. In addition, the topic 'I think teachers engaged in extracurricular online education will continue to use the existing teaching methods' had a difference in teaching age (F=3.264, p=0.030), which, to a certain extent, suggests that experienced teachers are unwilling to give up current model and make changes in teaching forms and contents.

Table 7. Teachers of different teaching experience towards changes in online tutorials

		0.5 ~ 1 years	**1 ~ 3 years**	**1 ~ 3 years**	**7～9 years**	**Above 10 years**
teachers' attitudes towards current online tutorials	teaching methods	23.04	23.6	23.91	24.27	19.75
	content	11.13	11.13	11.51	11.93	10.5
	teaching effect	10.39	10.38	10.14	10.2	11
teachers' attitudes towards changes in online tutorials	teaching methods	19.96	20.23	19.77	19.93	18.75
	content	23.04	23.6	23.91	24.27	19.75
	teaching effect	11.13	11.13	11.51	11.93	10.5

4.3.2. Correlation analysis between "continuing to use existing teaching methods" and attitudes towards changes in teaching methods

To further analyses teachers' attitudes towards changes in online tutorials outside the classroom, a correlation analysis is conducted with a focus on the relationship between "continuing to use the existing teaching methods" and attitudes towards changes in classroom formats and course content.

Table 8. Correlation analysis between "continuing to use existing teaching methods" and attitudes towards changes in the teaching methods

	Continue to teach using existing classroom contents	Continue to teach using existing teaching methods
Attitudes towards changes in teaching methods of online tutorials	0.017	0.023
Attitudes towards changes in course content of online tutorials	0.071	0.555**

* Significantly correlated at the p<0.05 **p<0.01 level

As can be seen from the **Table 8** above, the belief that teachers engaged in online tutorials will continue to use current content and method is significantly associated with attitudes towards changes in teaching methods of online tutorials and attitudes towards changes in the content of online tutorials at a significant level of 0.01, which indicates that the degree of adherence to the current teaching method is significantly associated with attitudes towards future changes in course format and content. In addition, attitudes towards changes in the teaching method in online tutorials were significantly correlated with attitudes towards changes in the course content of online tutorials at the 0.05 level with a positive coefficient, indicating that teachers' attitudes towards changes in the teaching method in online tutorials and attitudes towards changes in the content in online tutorials can reinforce and influence each other.

5. Discussion

5.1. Key findings

The analysis of teachers' attitudes towards the changes in online tutorials has led to the following key findings.

First, majority of teachers show approval of the existing teaching method, course content and effectiveness of online tutorials and are receptive to changes in online tutorials. At the same time, age and experience in online education (years of teaching experience) are also important factors affecting teachers' attitudes towards changes in course form and content. Teachers with a high level of recognition of existing online education also tend to accept the subsequent changes, which not only proves that our research hypothesis is valid but also confirms the view of some experts that people hold more positive attitudes towards activities that they have experienced [22]. Teachers who present positive attitudes towards changes, who have come to realize their strengths through their own experiences, are more open to new forms of teaching and content, which provides a favorable ideological and operational foundation for ongoing change in online tutorials.

Second, the level of teachers' acceptance for the flipped classroom in change of teaching form is lower than other approaches. The flipped classroom is a student-centered format in which students use videos and materials provided by the teacher for independent learning before class and spend time discussing and solving problems in the classroom. Teachers generally believe that the use of flipped classrooms accelerates the process of reversing roles between teachers and students and helps to improve students' independent learning skills. Also, teachers who believe flipped classroom would improve their teaching are more likely to adopt it. However, the study also finds that older teachers were less willing to change the format and content in their experienced courses. This may because in addition to teachers' recognition of the existing format and content, many teachers are pleasant with the current situation and are reluctant to implement a new format. The research demonstrates that a significant proportion of teachers felt that applying flipped classroom and changing course content might increase their workload, consume more time and energy, and encounter new pressure.

5.2. Recommendations for teachers to cope with changes

In the current economic environment, changes in method and content of online tutorials are the inevitable trend. The student-centered classes and competency-based education are likely to become the "new normal" in the future. Therefore, to encourage more teachers to embrace the changes, accept and implement better online teaching, three recommendations are proposed for teachers of online tutorials.

Firstly, teachers should seize the opportunity to improve their online teaching skills. Teachers ought to actively learn and practice new forms of teaching method and content. Research has found that teachers who have had good teaching experiences tend to have a more positive and receptive attitude towards online teaching. Good attitudes, in turn, motivate teachers to be willing to improve their teaching and create a virtuous circle [23]. During the process of change, teachers' experiences of attempting to make changes in course content contributed to positive attitudes towards the format and content change in online tutorials verse vice. Therefore, teachers are supposed to continue to learn and understand new teaching format and content to achieve comprehensive control of the teaching process and improve their abilities. In addition, the ability of adapting to changes in teaching method and course content should become a basic teaching skill for teachers based on online tutorials in the long run. Moreover, teachers have to focus on improving their ability to design online syllabus and organize class interactions in terms of the modification of flipped classroom.

Secondly, teachers need to overcome their fears of difficulties and respond positively to change. Facing the "new normal" in online tutorials, student-centered teaching and quality-focused course content is no

longer a short-term phenomenon, but a long-term innovation of education. At the same time, teachers should collect positive cases of teaching and invite outstanding teachers to share their experiences of online teaching so that they can reduce their negative emotions of change and adapt to the changes in online tutorials comfortably.

Finally, institutions should improve their support in the technical aspect. In the case of online teaching, network support is a key factor [23]. Teachers can advise their institutions to take their online technology services in a higher level, such as equipping smart multimedia recording rooms and upgrading equipment such as lighting, sound and video recording. These approaches may support teachers to record teaching videos and send them to students without restrictions. The timely publishing of teaching videos helps to promote the flipped classroom and turn main tasks of the class into practice, including group discussions, group reports and commenting based on the video content, which greatly improve the students' participation and engagement in class. Meanwhile, technical support helps teachers to create more smart classrooms and smart labs that are suitable for students' independent learning demands and obtain more competitiveness in the industry.

6. Conclusion

The goal of this study is to examine teachers' attitudes toward changes in online tutorials, as well as what modifications they will do in response to these obstacles in order to achieve long-term development.

The study contains a review of relevant theories and research, followed by the application of quantitative evidence to answer research questions and draw conclusions. The following two conclusions are mostly obtained from the examination and analysis of teachers' perspectives toward changes in online tutorials. Initially, the majority of teachers recognized views concerning existing online tutorials' teaching techniques, course content, and teaching impacts, and were open to accept adjustments. At the same time, instructors' age (teaching age) and online tutorial experience are important factors that influence their views regarding changes in teaching methods and course material. Second, instructors' opinions toward current online tutorials can have an impact on their recognition of changes in online tutorials and their behavioral intentions. Teachers, on the whole, are in favor of changes in the design and content of online tutorial courses, which implies that the curriculum will be more student-centered and high-quality. These two findings support the validity of the research hypothesis. Furthermore, the research suggests that teachers take advantage of the opportunity to develop their teaching abilities, overcome their fear of challenges, embrace change, and ensure technical support, based on the literature and research. In conclusion, this study has both theoretical and practical implications.

This research has certain limitations as well. To begin with, the generalizability and accuracy of the research findings may be harmed due to the small sample size. As a result, future studies will require a larger sample size. Second, this study uses a partially subjective method to analyze opinions regarding online lessons, which is likely to detract from its persuasiveness and accuracy. Finally, despite employing a variety of viewpoints to investigate changes in online tutorials, this study does not develop a specific framework for analyzing teachers' attitudes on these changes. As a result, in order to gain a better grasp of this topic in the future, it will be necessary to conduct some in-depth research.

Disclosure statement

The author declares no conflict of interest.

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