KSD model for plagiarism protection in hybrid pedagogy: The view of private college students

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Abstract

Relevance. Hybrid pedagogy has become the new norm of higher education due to the COVID-19 pandemic. However, there is still a problem of detecting plagiarism in hybrid pedagogy and the lack of methods to combat it, which makes it necessary to investigate this issue in more detail.

Purpose. The purpose of the study is to reveal the views of students of Chinese private colleges on the knowledge, causes and methods of solving the problem of plagiarism and provide an effective model of protection against plagiarism.

Methodology. To achieve this goal, the methods of analysis and synthesis, comparison, and generalization, as well as the questionnaire and interview methods were used.

Results. The study found that hybrid pedagogy can contribute to plagiarism due to the lack of control over students and free access to Internet resources. A survey was conducted among students of Chinese private and public colleges, which showed greater awareness of plagiarism among students of public colleges. The results of a survey and interview of respondents were compared and determined that students of Chinese private colleges are more likely to violate academic integrity than students of public colleges. The results of the study show that private colleges have neither method of punishing plagiarism in student papers nor methods of combating it. To provide an effective model of protection against plagiarism, methods of monitoring academic integrity in higher education institutions in Asia, Europe, Africa, and the USA were compared.

Conclusions. The study proposed and described the Knowledge-Support-Defence (KSD) model as a method of combating plagiarism in Chinese colleges. The results of the study can be used by the management of higher educational institutions to develop academic integrity among students and researchers, as well as by teachers to fairly evaluate student work.

Keywords: higher education; copyright; copy prevention; academic integrity; text copying.

Introduction

The COVID-19 pandemic has radically changed the educational process and affected its form. Before the pandemic, classroom learning was the preferred form of education, but during the pandemic, online learning became the leading form of education, which was

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introduced in colleges and universities [1]. According to research, it was the COVID-19 pandemic that led to the active development of hybrid education and made it the new norm. Hybrid pedagogy helps students get education in changing environmental conditions in an online format, and also provides an opportunity to gain practical skills and exchange experience in classroom settings. However, along with the advantages of hybrid pedagogy, it is possible to highlight its disadvantages, including an increase in the number of plagiarism in student papers. Access to a large amount of information on the Internet, lack of regular monitoring by teachers, and lack of awareness in this area can encourage students to plagiarise and violate academic integrity. When investigating the impact of COVID-19 on students' impaired academic integrity, R.A. Wahab et al. [2] noted that educating qualified and virtuous students is the goal of higher education institutions in Asia, but getting students a quality education can be difficult due to plagiarism in their papers. The results of the study by researchers showed that with the beginning of online learning, due to the COVID-19 pandemic, the number of plagiarism in student papers has significantly increased. Students who took part in the study demonstrated an average level of awareness about academic integrity and the consequences of plagiarism. However, according to experts, even those students who have knowledge in this area still do not fully understand the danger of copying other people's achievements.

Having conducted a study of the originality of student papers in higher educational institutions in China, H. Nan [3] concluded that plagiarism is a common phenomenon among Chinese students. The researcher conducted a survey at a state higher education institution in China, which showed that the degree of originality of student papers is low, which includes the level of academic integrity. However, studies among students of private educational institutions and comparative analysis were not conducted. Investigating violations of the academic integrity of Malaysian students, N.H. Yusoff et al. [4] noted that the era of hybrid education promotes plagiarism in student papers. According to experts, students' unhindered and uncontrolled access to internet resources and materials posted on them can affect their academic integrity and encourage them to plagiarise as a way to facilitate and speed up their tasks. Given that students are the future of the state, their activities already at the stage of obtaining education should be honest and ethical, which demonstrates the need to counteract plagiarism.

After conducting a legal analysis of plagiarism in higher education institutions, M.I. bin Mohd Zain et al. [5] noted that plagiarism is currently considered an academic offence and is a problem in Asian higher education institutions. According to researchers, it is the educational institution that should be interested in protecting against plagiarism and make efforts for this, coordinating teachers, students and their educational process. Exploring academic integrity in China, S. Gow and Q. Sun [6] also concluded that it is the educational institution that should take care of academic integrity among students and the quality of their education and professional activities in the future. According to the researchers, most cases of plagiarism in higher education institutions are not detected or reported in order to preserve the reputation of the educational

institution. Students do not receive penalties for plagiarism, which encourages them to use it in the future. Teachers are often reluctant to work with students to promote academic integrity, but it is the management of the educational institution and teachers who are able to identify the causes of such student behaviour and correct it [7, 8].

It was COVID-19 that contributed to the development of hybrid education, which, in turn, contributed to the spread of plagiarism in student papers due to unhindered access to the Internet and the lack of teacher control. Plagiarism is now common among Chinese students who are not aware of its consequences, the analysed studies were aimed at public educational institutions, while in recent years it is private educational institutions that have become increasingly widespread. There is a need to investigate the state of academic integrity, not only in public, but also in Chinese private colleges, and conduct a comparative analysis of the results obtained. The goal of higher education is to train a qualified specialist who will perform their professional activities virtuously. Honesty and professional ethics should be fostered in students by the management of the educational institution and teachers even during their studies at the educational institution on the basis of virtuous performance of student work. However, there were no effective methods of protection against plagiarism in the conditions of hybrid education in the analysed papers.

Based on this, the purpose of the study is to conduct a survey among students of Chinese private colleges and create a theoretical model of protection against plagiarism. The objectives of the study are: to determine the degree of awareness of students about plagiarism, to determine the causes of plagiarism among students of private colleges and what methods they use to protect themselves from it.

Materials and Methods
This paper used a qualitative research structure, which allowed collecting and analysing data, describing and analysing the problem under study in detail, conducting a survey with a limited number of participants, and obtaining detailed data from respondents. Twenty-one students participated in the survey. Eleven of them were students of Chinese private colleges. Of these, 6 were first-year students aged 17-18 (3 female respondents and 3 male respondents) and 5 were final-year students aged 21-23 (2 female respondents and 3 male respondents). Another 10 were students of Chinese Public colleges. Of these, 5 were first-year students aged 17-18 (3 female respondents, 2 male respondents) and 5 were final-year students aged 21-24 (3 female respondents, 2 male respondents). All participants had an idea of plagiarism and encountered it in their educational process. Participants had different social and financial status, different academic achievements, and were students of different specialities. Respondents' participation in the survey was voluntary. The participants were told that their responses would not be evaluated and would not lead to any negative consequences (even if plagiarism was used in their previous student papers).

The author's questionnaire was used, the results of which helped determine the degree of students' understanding of the essence of the concept of "plagiarism", its causes, consequences, and methods of
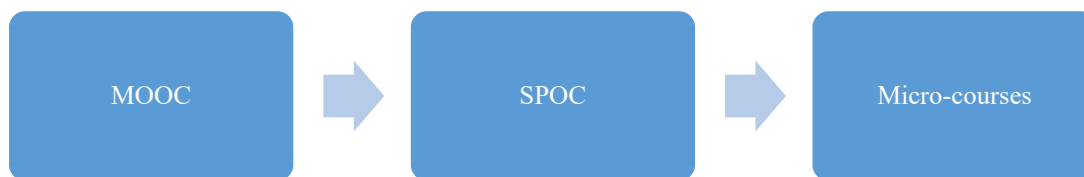
Figure 1. Forms of hybrid pedagogy
Source: F. Yang et al. [9], X. Qiu [10].

MOOC are aimed at the general public and are characterised by scale, accessibility, and the ability to personalise them to suit the rhythm of life, interests and needs. MOOC represents an open knowledge base where each participant can choose the courses they need, their own pace of listening to them, develop their own individual training plan, and study not the entire course, but its individual sections, which are more necessary at the moment. SPOC are aimed at a closed group of students (for example, one group in an educational institution or one learning stream) and are characterised by limited access to information, a more standard approach to the educational process, structure and consistency. In particular, within the framework of SPOC, students cannot study only individual sections of information, their training has a certain structure and, in most cases, takes place under the guidance of teachers or, at least, with constant feedback from them. It is important that teachers within the framework of SPOC can use materials from MOOC (video materials, parts of lectures, elements of tasks), which determines their interconnectedness. Micro-courses are small training courses with short videos that are the basis of the educational process. This convenient mobile training is available to students at any time and in various situations due to its mobility: on the way to an educational institution, while performing physical exercises.

Together, these three forms of hybrid pedagogy represent interrelated elements that can complement each other and improve the educational process, make it more accessible to the general public and more mobile. The advantages of hybrid pedagogy are the ability to personalise the educational process (learning at the pace, at the time and in such quantities that are convenient), flexibility (ability to access educational material at any time), the use of a large number of innovations in the learning process (virtual reality, interactive presentations, artificial intelligence), access to a large amount of information that can be useful in the educational process and help students acquire knowledge and skills. However, there are also problems of hybrid pedagogy, such as: lack of real interaction between students and teachers, possible problems with access to the Internet, without which learning is not always possible or loses its effectiveness, the inability of some students to learn without constant supervision of the teacher. For teachers, hybrid learning can be difficult due to the need to adapt to modern technologies, update teaching methods and materials for it, and the inability to control the integrity of students' tasks [11].

Access to a large amount of information, cited as an advantage of hybrid pedagogy, can also be a disadvantage.

With access to a variety of resources, databases, and materials, students can abuse it and undermine academic integrity. This is also facilitated by the lack of teachers' control over students and their educational process and the availability of innovations, in particular, artificial intelligence, which can be used not only for the learning purposes. Violation of academic integrity can include deception, falsification, and plagiarism [12; 13]. Deception refers to receiving answers to tests or exams from other people (for example, classmates, friends, or relatives), or using cheat sheets. Falsification is understood as the forgery of data in reports and research results. Plagiarism involves the use of material by other authors without proper citation and passing it off as personal achievements. The most accurate definition of plagiarism is found in the manual of the American Psychological Association [14], where it is characterised as copying someone else's text, borrowing ideas from other authors, and misquoting the original.

The use of plagiarism can negatively affect the educational process and further professional activities of students, but available research has revealed the problem of plagiarism only in public colleges, while the number of private educational institutions in China is increasing annually, and the trend towards plagiarism in Asian countries may be higher due to population density. Moreover, students of private colleges may feel impunity for plagiarism in their papers, because private educational institutions do not want to lose their reputation, which is why cases of plagiarism in private educational institutions may be hidden. This makes it necessary to investigate the problem of plagiarism not only in public, but also in private colleges, and if the assumption of a low level of control over academic integrity in private educational institutions is confirmed, to develop a model of protection against plagiarism.

The survey was conducted among 21 students from Chinese private and public colleges, both first and final year students. The author's questionnaire was used for the initial consideration of students' ideas about the phenomenon of plagiarism and academic integrity. At first, the survey was conducted among students of private colleges (11 people). Nine students noted that they are familiar with the concept of "plagiarism", but only 5 noted that they understand the concept of hybrid pedagogy. Another 3 students answered that they doubt the answer. Only 6 students noted that they understand the features of plagiarism in the framework of hybrid pedagogy. This demonstrates the lack of ideas about hybrid education and academic integrity within its framework and indicates the need for students to acquire knowledge in this area.

Plagiarism was detected in the papers of 7 respondents at least once during the entire period of study, but only 3 students noted that plagiarism is punishable in their educational institutions. Five students did not know what responsibility they should bear for plagiarism, 4 – doubt the answer. Nine respondents have never witnessed punishment for plagiarism in their educational institution, which may demonstrate a lack of control over plagiarism in private educational institutions.

Regarding anti-plagiarism systems, 7 students noted that they do not have information about checking their papers for plagiarism within the educational institution. Only 5 respondents used anti-plagiarism detection systems in their educational process independently. This confirms the lack of control of the educational institution over plagiarism in student papers and the lack of writing skills among students. Among those respondents who used anti-plagiarism systems in their work (5 people), only 2 students corrected their work according to the results of the plagiarism test. Five people knew the consequences of using plagiarism in student papers, and 3 more doubt the answer. 6 students knew what academic integrity was, and 4 more said they doubt the answer. Six students understand the importance and necessity of academic integrity in the educational process. Only 3 students noted that their educational institution promotes academic integrity, and teachers conducted conversations about plagiarism with the same number of respondents.

In general, out of 11 students of a Chinese private educational institution surveyed, only 5 were able to score more than 15 points during the survey, which demonstrates a low level of knowledge about hybrid pedagogy, the place of plagiarism in it, and methods of combating it. It may also indicate a lack of protection against plagiarism in private educational institutions and a lack of educational work on academic integrity with teachers and students. To confirm this assumption, the same survey was conducted among students of state educational institutions (10 people). Nine students noted that they are familiar with the concept of "plagiarism" and 8 respondents are familiar with the concept of "hybrid pedagogy", 2 – doubt the answer. 7 students were aware of the relationship between plagiarism and hybrid pedagogy. Such results indicate a high level of student awareness of plagiarism and hybrid education. Plagiarism was found in the papers of only 4 out of 10 state college students surveyed. Six students were familiar with the responsibility for plagiarism, and 3 more doubt the answer. Eight students of a state educational institution believed that plagiarism is punishable in their educational institution. Six respondents witnessed punishment for plagiarism in their educational institution, which may demonstrate the presence of control over academic integrity in public educational institutions. All 10 students indicated that they had information about anti-plagiarism systems, and 9 out of 10 students surveyed independently used them to check their student papers. Among those respondents who used anti-plagiarism systems in their work (9 people), all students corrected their work according to the results of the plagiarism test. Seven people noted that they know the consequences of using plagiarism.

Ten respondents from Chinese public colleges know what academic integrity is. Eight students understand the importance and necessity of academic integrity in the educational process, and 2 – doubt the answer. Seven students noted that their educational institution promotes academic integrity. Nine students note that teachers have repeatedly communicated with them on the topic of plagiarism and academic integrity. Of the 10 students of a Chinese public educational institution surveyed, 9 scored more than 15 points according to the survey results, which shows a higher level of plagiarism among students of Chinese public colleges, compared to students of private colleges (Figure 2).
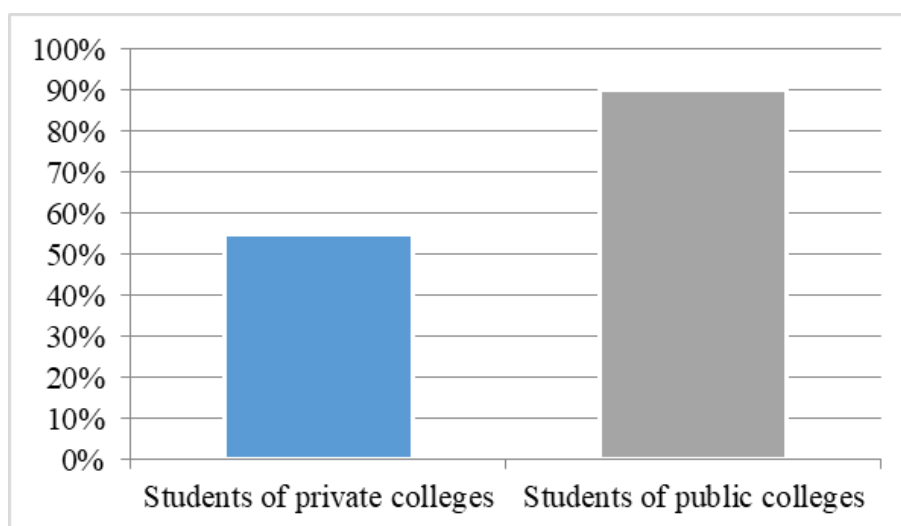
Figure 2. Number of students with a high level of plagiarism awareness and academic integrity in private and public colleges in China

Thus, students of Chinese public educational institutions are 35% more knowledgeable in the field of academic integrity and plagiarism than students of private educational institutions. This may be the result of the low involvement of private educational institutions in issues of academic integrity among students, lack of comprehensive work with teachers and students, and lack of educational activities. However, there is a possibility that the level of student awareness depends on the year of study: first-year students may be less knowledgeable than final-year students. At the same time, senior students may know how to circumvent anti-plagiarism systems and avoid

controlling their student work, while first-year students may show greater academic integrity. To confirm or refute these assumptions, the results of a survey of students of private Chinese colleges of the first year of study (6 people aged 17-18 years) and the final year of study (5 people aged 21-23 years) were analysed. The survey was also conducted among first-year students of state Chinese colleges (5 people aged 17-18) and final-year students (5 people aged 21-24) (Table 3).

Table 3. Comparative analysis of awareness of academic integrity and plagiarism among the first and final year students of private and public colleges in China

Questionnaire items	Private college students						Public college students					
	17-18 years old (6 people)			21-23 years old (5 people)			17-18 years old (5 people)			21-24 years old (5 people)		
	Y	N	D	Y	N	D	Y	N	D	Y	N	D
1	3	3	-	5	-	-	4	-	1	5	-	-
2	1	2	3	4	1	-	3	-	2	5	-	-
3	2	4	-	3	-	2	2	-	3	5	-	-
4	2	2	2	4	-	1	2	3	-	2	3	-
5	1	2	3	4	-	1	2	-	3	4	1	-
6	3	1	2	-	4	1	4	-	1	4	1	-
7	-	4	2	-	5	-	2	3	-	4	1	-
8	4	2	-	-	5	-	5	-	-	5	-	-
9	3	3	-	2	3	-	4	1	-	5	-	-
10	2	3	1	-	5	-	4	1	-	5	-	-
11	2	3	1	3	-	2	3	-	2	4	-	1
12	3	1	2	3	-	2	5	-	-	5	-	-
13	2	1	3	4	-	1	3	-	2	5	-	-
14	2	3	1	1	4	-	2	-	3	5	-	-
15	2	2	2	1	4	-	4	-	1	5	-	-

Note: "Y" – Yes; "N" – No; "D" – I doubt the answer.
Source: developed by the authors.

The results of students of different years of study showed that there is a difference between the perception of academic integrity and plagiarism in the first year of study and in the final year. However, the results of students from public colleges were again higher than those of students from private colleges. First-year students of public educational institutions are more aware of plagiarism than first-year students of private educational institutions. The assumption was confirmed that senior students know ways to circumvent the plagiarism check, and are also confident in their impunity, especially for students of private colleges. First-year students of private colleges believe that plagiarism is punishable in their educational institution, while senior students know that they will not receive a penalty for plagiarism. Moreover, senior students are sure that their educational institution does not have systems for checking for plagiarism, and none of the senior students changed their work in accordance with the results of checking anti-plagiarism systems, which confirms the lack of control over academic integrity in private colleges or concealment of plagiarism facts. Senior students of state educational institutions demonstrated greater awareness in the field of plagiarism than first-year students, but the results demonstrate the presence of educational work on academic integrity starting from the first years of study.

To confirm the results obtained, students of private colleges (11 people) were asked to complete interviews and give open answers to the questions posed:

1. What is plagiarism in hybrid pedagogy? During the interview, students identified plagiarism most often as: passing off someone else's work as their own, copying elements of someone else's work in their work and paraphrasing elements of someone else's work in their work without quoting, mixing several other people's works, borrowing the idea of someone else's work, copying experimental data of another person or partially borrowing them, writing the work by another person. Less often, plagiarism was defined by students as: sending answers to classmates during a test paper or exam online, searching for answers on the internet during a test or exam. However, students did not identify the use of materials from hybrid platforms (for example, from MOOC platforms) as plagiarism, which still demonstrates a lack of ideas about plagiarism within the framework of hybrid pedagogy. Moreover, students did not identify as plagiarism the use of other people's materials in a foreign language translated into their own language and the use of fictitious information, which indicates the need for educational work on academic integrity.

2. Why do students use plagiarism in their work? Among the reasons for plagiarism, students most often identified: lack of teacher control, easy access to other people's materials via the Internet, the desire to get a high grade, the desire to save time and effort, insufficient knowledge of plagiarism and hybrid pedagogy, lack of punishment for plagiarism, lack of educational work on academic integrity, lack of knowledge and skills in specific subjects. Less often, students highlighted the rigour of teachers and a strict assessment of their work, a lack of understanding of the topic and task. Most often, students explained the use of plagiarism by a lack of understanding of the topic, lack of ideas and a desire to get a high grade, believing that their knowledge is not enough to complete the work with a high score, and students consider academic success to be the basis of their successful future. This

demonstrates the need for comprehensive student support and assistance during the educational process.

3. How can the problem of plagiarism in hybrid pedagogy be solved? Most students believe that an effective method of solving this problem may be the presence of penalties for plagiarism. Some students noted that this factor contributes to the problem of plagiarism, because feeling their impunity and lack of control, some students (especially senior students) take advantage of it. Students also mentioned individual tasks: according to students, if each student has an individual task, it will reduce the percentage of plagiarism.

Private college students focused on the lack of educational work on academic integrity, the lack of tools for checking for plagiarism, and the lack of punishments. Respondents noted that even if plagiarism was detected during the educational process, no further instructions or tools were provided for processing the work. Students did not have the tools to check their work for plagiarism on their own and did not know what and in what quantity they

should correct. Students also noted the inefficient system of student assessment in private colleges within the framework of hybrid pedagogy. Respondents believe that teachers do not check the integrity of tasks by giving grades, which demotivates those students who actually completed tasks honestly and independently. This demonstrates the need for an educational institution to control the educational process and the integrity of completing tasks, as well as the need to provide students with tools to check their work for plagiarism. The analysis of the survey and interviews confirmed the lack of understanding by students of private colleges of the basics of academic integrity, lack of knowledge about plagiarism and its forms, demonstrated the lack of tools for self-checking their papers for plagiarism and necessitated the development of a special model to protect against plagiarism. However, to make the developed model more effective, it is advisable to compare students' experience in building academic integrity and protecting against plagiarism in Asia, Europe, Africa, and the USA (Table 4).

Table 4. Comparative analysis of anti-plagiarism methods

Region	Causes of plagiarism	Methods of plagiarism protection
Asia	– lack of motivation of students to study and independently complete tasks, which is conditioned by a lack of student support; – concealment of plagiarism facts.	– educational work; – activities of libraries and librarians; – use of anti-plagiarism systems.
Europe	– ignorance of the rules for writing student papers; – disinterest of an educational institution in monitoring academic integrity; – insufficient penalties for plagiarism; – fear of getting a bad grade; – desire to simplify the execution of tasks.	– publishing instructions for students, especially first-year students; – placement of samples of student papers; – consulting services on the basis of an educational institution; – activities of libraries and librarians; – student writing courses; – use of anti-plagiarism systems by both teachers and students.
Africa	– lack of motivation to learn; – desire to get a high grade; – inability of students to perform student work; – desire to simplify the process of writing a paper.	– use of anti-plagiarism systems; – ACT model (activated class model), which includes techniques aimed at encouraging the use of modern technologies (for example, the same anti-plagiarism systems); this model also includes pedagogical supervision, conversations with students, correction of student behaviour, that is, educational work.
USA	– lack of control over academic integrity by teachers and management of the educational institution; – pressure on students; – lack of motivation.	– availability of the International Centre for Academic Integrity (ICAI).

Source: developed by the authors based on F. Mansoor et al. [15], E. Maierová [16], S. Mahomed et al. [17], K.A.A. Gamage et al. [18].

The results of the comparison showed that the problem of plagiarism is relevant all over the world, but the methods of dealing with it differ, as do the causes. However, common reasons for plagiarism are the lack of educational activities, lack of motivation among students, disinterest of the educational institution and teaching staff in monitoring academic integrity, and the inability of students to perform student work. Common methods of protection against plagiarism are educational work, the use of anti-plagiarism systems, the creation of special courses or consulting services where students can learn how to perform student

work and gain knowledge about academic integrity [19]. The results of the study showed that students of Chinese private colleges need knowledge about academic integrity and plagiarism, support of teachers in the process of performing student work and acquiring knowledge about academic integrity, and tools to protect against plagiarism. Analysis of the problem of plagiarism in different countries helped to make the model of protection against plagiarism more effective. Based on the obtained data, a three-component Knowledge-Support-Defence (KSD) model was proposed as a method of developing academic

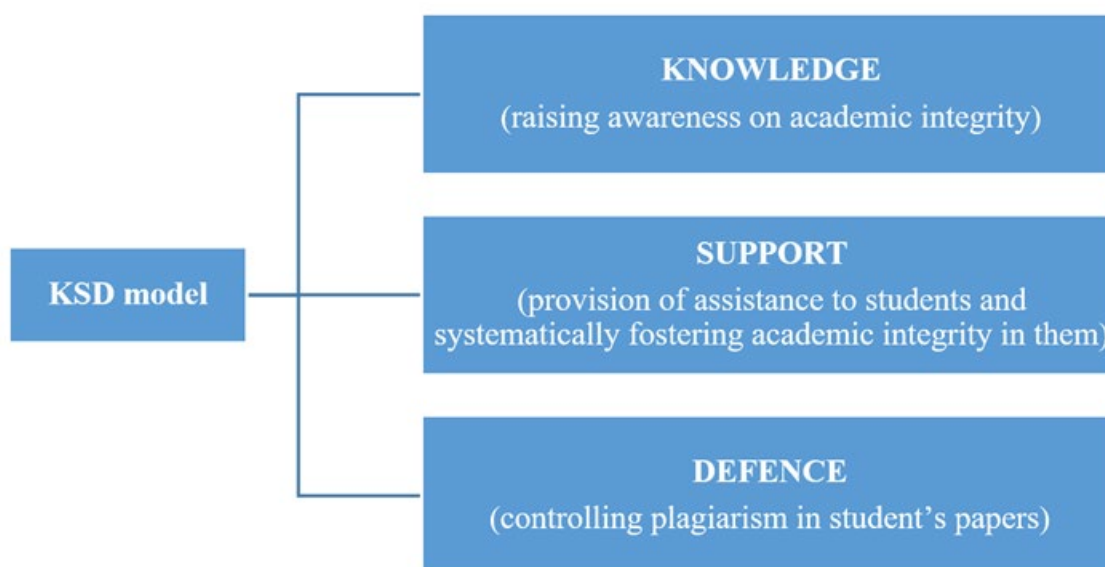integrity among students and as a method of countering plagiarism (Figure 3).

Figure 3. KSD model

The essence of the model is to provide students with knowledge about academic integrity and plagiarism, establish communication with students, provide them with comprehensive support, cultivate academic integrity in them, and strengthen protection against plagiarism within and outside the educational institution. The basis for countering plagiarism is the acquisition by teachers and students of knowledge about academic integrity, actions that violate it, consequences and methods of prevention. The acquisition of knowledge by teachers and students is possible by conducting educational work, which may include: conducting conversations with the staff of the educational institution and students, creating special courses of the academic standard or conducting trainings, inviting specialists from related industries to conduct lectures and conversations on academic integrity, systematic training and explanation of hybrid pedagogy. After acquiring the knowledge, students will need to receive support in their practical application. At this stage, the key role is assigned to teachers who should pay attention to the education of academic and scientific abilities of students of private colleges. It is important to support students in completing assignments, writing papers, and providing feedback [20].

A significant component of the KSD model is plagiarism protection. To protect academic integrity in an educational institution, it is appropriate to establish an effective mechanism for scientific control and reform the mechanism for evaluating students within the framework of hybrid pedagogy. To carry out scientific control, it is advisable to create a repository of scientific papers, based on which the degree of originality of student papers will be controlled. It is advisable to involve librarians and other employees of the educational institution in the work of the repository. One of the mechanisms for monitoring students' independent performance of work can also be an interactive assessment [21]. To check the independence of the work, teachers can use interactive oral conversations based on the work performed: clarifying questions about

the work; asking the student to explain their opinion, to substantiate the feasibility of the research methods used, to describe the sources used.

Reforming the assessment mechanism within the framework of hybrid pedagogy is an important stage in protecting academic integrity, because in the online format, it is difficult to identify the degree of independence of students' work. For a fair assessment in hybrid pedagogy, in addition to the aforementioned interactive assessment, it is possible to use secure browsers, live video streams, and time limits [12]. Secure browsers only allow students to be on one educational platform, which means that there is no possibility of finding answers on third-party resources or using materials from them. Live video streams include turning on the camera and the teacher monitoring students, while the ability to turn off the video or switch to another app may be limited. Time constraints can put pressure on students on the one hand, but on the other hand, they can be a guarantee of independent completion of tasks. Plagiarism has become a significant threat in hybrid pedagogy, which can affect students' perception of their responsibilities as students and lead to the depreciation of student papers and academic activities in general, and the KSD model is a fairly comprehensive method for eliminating or reducing the likelihood of plagiarism in Chinese private colleges and other educational institutions in China and around the world.

Results
The problem of plagiarism is quite relevant in Asian countries, as evidenced by Y. Zhang et al. [22] in their study of academic integrity in Asia and Africa. Researchers note that the problem of plagiarism is more common in densely populated regions, which include most Asian countries, in particular China. However, in this study, it was determined that the problem of plagiarism has become more relevant due to the COVID-19 pandemic, which was confirmed in their study of the culture of academic integrity by J. van As and M. Kluyts [23]. Researchers

came to the conclusion that online learning provoked by the pandemic created a high cognitive load on students, and access to devices and data on the Internet became uncontrolled, which was aggravated by a lack of understanding of the basics of academic integrity (especially for first-year students, which is consistent with the results of this study). An additional factor may be the availability of scholarships: if students want to receive a monetary reward, they are willing to use any methods, even if they are not fair or fair. Experts also note that students come to higher education institutions with different training, different levels of knowledge and skills, and different experience in academic integrity, which should be considered when developing strategies to protect against plagiarism.

The impact of online learning on the use of plagiarism is also confirmed by D.Y.P. Sugiharto et al. [24], investigating the impact of consulting services on academic integrity. Researchers suggest that during the rapid development of modern technologies, it is difficult for students to cultivate academic integrity and completely avoid plagiarism, which is a problem of modern higher education. The results of the study showed that the causes of plagiarism are most often: lack of control of teachers, easy access to other people's materials via the Internet, insufficient knowledge of plagiarism and hybrid pedagogy, lack of punishment for plagiarism, lack of educational work on academic integrity.

Investigating the features of online fraud caused by the COVID-19 pandemic, E. Bilen and A. Matros [25] note that online learning is really characterised by a lack of control, complexity of checking and evaluating tasks, because teachers do not have full confidence in students' independent performance of work. Researchers also note that academic dishonesty should be stopped at the initial stage or not allowed at all, because even one student can become an example for others. Students will borrow other people's best practices for the reason that other students do the same, which means that they may not see the point in spending time and effort on self-study of tasks. S. Wamuziri [13], investigating the code of honour as a method of forming academic integrity, agrees that students' perception of other students' behaviour and its reproduction may be the cause of plagiarism. Additional reasons include a lack of awareness of plagiarism and academic integrity, pressure from teachers, and lack of knowledge and skills in subjects, which is also consistent with the results of this study.

The first component of the proposed KSD model is knowledge. This component is based on educating students about the negative consequences of plagiarism and the importance of academic integrity. The need for this is confirmed by D.Y.P. Sugiharto et al. [24], investigating the role of orientation and counselling services in shaping academic integrity. These services should be aimed at developing students' perceptions, learning about their living environment, and, as a result, comprehensive support, which is the second component of the KSD model. Investigating the features of using the code of honour as a method of forming the foundations of academic integrity among students, S. Wamuziri [13] notes that the foundation of the code of honour is a supportive approach that is consistent with an element of the KSD model – support,

that should be provided to students at all stages of learning and at all stages of building academic integrity. One of the problems present in private colleges and the cause of plagiarism is the lack of punishment for violating academic integrity. However, J. van As and M. Kluyts [23], whose research on the culture of academic integrity has already been mentioned, notes that the concept of punishment is not always effective, but the concept of student support and assistance in the educational process may be more effective, which also echoes the element of the KSD model described in the study. L. Laka and P.E.I. Nyoman Paska [26], describing the model of developing academic integrity as a method to improve the mental state of students, also highlighted support as an important element of their model. The researchers concluded that students who receive more support from teachers are more motivated to learn, complete tasks independently, and less prone disruptive behaviour, which scientists have attributed to a violation of academic integrity.

The third component of the KSD model is defence. This study suggests the use of artificial intelligence to protect against plagiarism, which is evidenced by C.M. Rodríguez Chávez et al. [27], who studied the impact of artificial intelligence on the development of academic integrity in students. According to the researchers, artificial intelligence can really be an effective method both in teaching students and in evaluating student work by teachers. Currently, artificial intelligence is not a powerful tool for checking for plagiarism, but even at this stage, students can use it to improve the uniqueness of their work, working with a large number of sources, getting information about their correct use and citation. Teachers can use artificial intelligence to check those sections of student work that they doubt their independence. However, at the same time, artificial intelligence can negatively affect academic integrity, because students have software that can not only find the necessary information, but also complete tasks/write a paper instead of students. D.O. Eke [28], investigating the impact of artificial intelligence on academic integrity, agrees that this software can be both a danger to educational institutions and an incentive for development, depending on the work of the educational institution in this area. According to the researcher, the main task of the educational institution is to work with students on academic integrity and its role in obtaining education and professional activities, and to develop its own software that will consider the possibility of using artificial intelligence for dishonest purposes.

An important role in the implementation of the KSD model is assigned to the management of the educational institution and teachers. A. Amigud and D.J. Pell [29], who conducted research among teachers in Europe, America, and Asia on academic integrity and strategies for its development, also concluded that any models of plagiarism control can only be effective if the management of the educational institution, teachers and staff are involved. S.E. Eaton [30] presented its model of academic integrity, which can be effective in developing students' ideas. This is the complex academic integrity model, which includes 8 components: everyday ethics, institutional ethics, ethical leadership, professional and collegiate ethics, academic ethics, student academic behaviour, research ethics, and publication ethics. This model is based on the idea that

academic integrity should cover all students' academic activities, as well as go beyond it and include all aspects of students' lives.

Thus, the problem of plagiarism has really become relevant due to the COVID-19 pandemic and the emergence of hybrid pedagogy. Researchers agree that access to the Internet and its resources is currently uncontrolled, and the presence of modern technologies, such as artificial intelligence, can contribute to plagiarism. However, according to experts, Internet resources and artificial intelligence can become the basis for improving the quality of the educational process, if the management of the educational institution promotes educational activities on academic integrity, which minimises the use of innovations for dishonest purposes. Researchers agree with the effectiveness of the KSD model, because students need knowledge and support to develop academic integrity, and higher education institutions should provide effective methods of protection against plagiarism. However, in the study, one of the reasons for plagiarism is the lack of penalties for academic dishonesty. Some researchers suggest that punishment is not an effective method of combating plagiarism; instead, it is better to support students and conduct effective work with them according to the chosen model, which will develop a positive attitude towards academic integrity.

Discussion

The problem of plagiarism is quite relevant in Asian countries, as evidenced by Y. Zhang et al. [22] in their study of academic integrity in Asia and Africa. Researchers note that the problem of plagiarism is more common in densely populated regions, which include most Asian countries, in particular China. However, in this study, it was determined that the problem of plagiarism has become more relevant due to the COVID-19 pandemic, which was confirmed in their study of the culture of academic integrity by J. van As and M. Kluyts [23]. Researchers came to the conclusion that online learning provoked by the pandemic created a high cognitive load on students, and access to devices and data on the Internet became uncontrolled, which was aggravated by a lack of understanding of the basics of academic integrity (especially for first-year students, which is consistent with the results of this study). An additional factor may be the availability of scholarships: if students want to receive a monetary reward, they are willing to use any methods, even if they are not fair or fair. Experts also note that students come to higher education institutions with different training, different levels of knowledge and skills, and different experience in academic integrity, which should be considered when developing strategies to protect against plagiarism.

The impact of online learning on the use of plagiarism is also confirmed by D.Y.P. Sugiharto et al. [24], investigating the impact of consulting services on academic integrity. Researchers suggest that during the rapid development of modern technologies, it is difficult for students to cultivate academic integrity and completely avoid plagiarism, which is a problem of modern higher education. The results of the study showed that the causes of plagiarism are most often: lack of control of teachers, easy access to other people's materials via the Internet,

insufficient knowledge of plagiarism and hybrid pedagogy, lack of punishment for plagiarism, lack of educational work on academic integrity.

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according to the chosen model, which will develop a positive attitude towards academic integrity.

Conclusions

This paper examines the issues of protection against plagiarism in the context of hybrid pedagogy and the view of students of Chinese private colleges on the causes of plagiarism and methods of protection against it. The advantages of hybrid pedagogy are the creation of several environments in which students can gain knowledge and develop according to their needs, the use of modern technologies, and the ability to adapt the educational process to the needs of each student. However, along with this, the results of the study showed that it is hybrid pedagogy that contributes to the appearance of plagiarism in student papers due to lack of control and unlimited access to Internet resources.

To analyse the state of academic integrity, a survey was conducted among 21 students of Chinese public and private colleges in the first and final years of study. The results showed that plagiarism is still a problem in private colleges, while in public educational institutions, the awareness of plagiarism is higher, and the percentage of its presence is much lower than in private institutions. The results of the first-year and final-year students were compared. First-year students of public colleges are more aware of plagiarism than first-year students of private colleges, while final-year students of private colleges show greater academic dishonesty, as they know that the management of their educational institutions does not control this process. The reasons for the discrepancy between the results of students of private and public colleges are the lack of awareness of the former about plagiarism and the lack of educational work in the field of academic integrity. Private colleges are untenable and not always willing to punish their students for plagiarism, unreasonably evaluate hybrid pedagogy, and are exposed to unhealthy social biases. Students of private colleges were interviewed for more detailed information about their views on the essence of plagiarism, its causes and methods of combating it, and it was determined that students of private colleges are not fully familiar with the forms of plagiarism, and among the reasons for plagiarism they see a lack of educational work, support from teachers, lack of knowledge, lack of penalties for plagiarism, and lack of tools to check their papers for plagiarism. This indicates the need for a more proactive approach to protecting against plagiarism and maintaining academic integrity in private educational institutions.

Based on the analysed sources and on the results of research, a model of protection against plagiarism in the context of hybrid pedagogy KSD was proposed, which is based on the formation of students' knowledge about plagiarism and academic integrity, on providing students with comprehensive assistance and education of their academic and scientific skills, as well as on the protection of academic integrity in an educational institution, by establishing mechanisms of scientific control and reforming the mechanism for evaluating students within the framework of hybrid pedagogy. In the case of implementation of the proposed model at all levels, complex work of the teaching staff and the management of the educational institution, the KSD model can be an

effective method of protection against plagiarism and reform of academic integrity within the framework of hybrid pedagogy. The area of future research may be to experimentally test the effectiveness of the proposed anti-plagiarism protection model.

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Модель KSD для захисту від плагіату в гібридній педагогіці: Погляд студентів приватного коледжу

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Анотація

Актуальність. Гібридна педагогіка стала новою нормою вищої освіти у зв'язку з пандемією COVID-19. Однак досі існує проблема виявлення плагіату в гібридній педагогіці та відсутність методів боротьби з ним, що зумовлює необхідність більш детального дослідження цього питання.

Мета. Мета дослідження - виявити погляди студентів китайських приватних коледжів на знання, причини та методи вирішення проблеми плагіату та запропонувати ефективну модель захисту від плагіату.

Методологія. Для досягнення поставленої мети було використано методи аналізу та синтезу, порівняння та узагальнення, а також методи анкетування та інтерв'ю.

Результати. Дослідження виявило, що гібридна педагогіка може сприяти плагіату через відсутність контролю над студентами та вільний доступ до інтернет-ресурсів. Було проведено опитування серед студентів китайських приватних і державних коледжів, яке показало більшу обізнаність щодо плагіату серед студентів державних коледжів. Результати опитування та інтерв'ювання респондентів були порівняні та визначили, що студенти приватних коледжів Китаю більш схильні до порушення академічної доброчесності, ніж студенти державних коледжів. Результати дослідження показують, що в приватних коледжах немає ні методів покарання за плагіат у студентських роботах, ні методів боротьби з ним. Для створення ефективної моделі захисту від плагіату було проведено порівняння методів моніторингу академічної доброчесності у вищих навчальних закладах Азії, Європи, Африки та США.

Висновки. У дослідженні запропоновано та описано модель Knowledge-Support-Defence (KSD) як метод боротьби з плагіатом у китайських коледжах. Результати дослідження можуть бути використані керівництвом вищих навчальних закладів для розвитку академічної доброчесності серед студентів і дослідників, а також викладачами для справедливого оцінювання студентських робіт.

Ключові слова: вища освіта; авторське право; запобігання копіювання; академічна доброчесність; копіювання тексту.