



The Effect Of Teaching Management Techniques On Self-Regulated Learning In Online Learning In Chinese University

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Abstract

With the increasing use of online teaching, especially since the outbreak of COVID-19, the demand for online education and research is growing rapidly. Based on self-regulated learning and related theories, This main research goal is to analyze different teaching management techniques that can help in incorporating self-regulated learning which affects online learning behaviors and outcomes in a Chinese university. Teaching management techniques are considered to be significant in the context of changing students' behaviors in classrooms, the definition of key terms such as teaching management techniques, online learning, self-regulated learning, learning behaviors, and learning outcomes will also be enlightened in this research. In this research teaching management techniques (TMT) and Self-Regulated Learning (SRL) is described in general terms in an exploratory study. It emphasizes the importance of training college students in China for success in online learning since classroom teaching was primarily assessed before the COVID-19 pandemic. To analyze the data, SPSS was employed. Descriptive statistics were used to look at the student population's demographics. Using canonical correlation, the link between TMT and SRL was examined using TMT as the independent set of variables and SRL as the dependent set of variables.

Keywords

Teaching Management Techniques (TMT), Self-Regulated Learning (SRL),
Online Learning Behaviour, Learning Outcomes

Introduction

Online courses have become increasingly popular among universities all

over the world, but the COVID-19 outbreak has had a huge impact on how education is delivered in recent years. In several countries, learners are increasingly enrolling in total courses online for the first time. For instance, conventional classroom teaching was the main mode of training delivery in Chinese institutions before the advent of the COVID-19 pandemic [1]. In the developing change from classroom to entirely online schooling in response to the epidemic, an overwhelming of Chinese college students were pushed to experience the online training mode before preparation. This stress arising may make their virtual education strategies more challenging. Children must develop a sense of autonomy in learning that is self-regulated, particularly in online situations [2]. To put it another way, since online teaching is independent of time form, students must have self-regulated learning (SRL) tools so they may autonomously plan and manage their learning. According to previous research, learners with good SRL think online learning can increase their expertise and training. These pupils can interact with their course materials and complete their learning goals. Although using SRL techniques would enhance the quality of education, many adolescents perceive struggling to stay dedicated to their studies. One argument is that virtual learners might unable to succeed in online courses and able to locate SRL tasks demanding and challenging in a situation where they must independently decide how and when they will engage with the instructional content. As a result, how well students good applied SRL strategies which affect online behaviors and online outcomes would depend on how well teachers applied to teach management techniques [3]. Due to the pandemic, all previous courses at Chinese colleges across the nation are now entirely available online. Since face-to-face instruction has traditionally been the preferred learning method [4], it is projected that the vast majority of students will have trouble managing their learning. Due to a lack of crucial SRL mechanisms, previous studies have shown that learners struggle in online learning environments [5]. Figure 1 depicts the teaching management techniques.

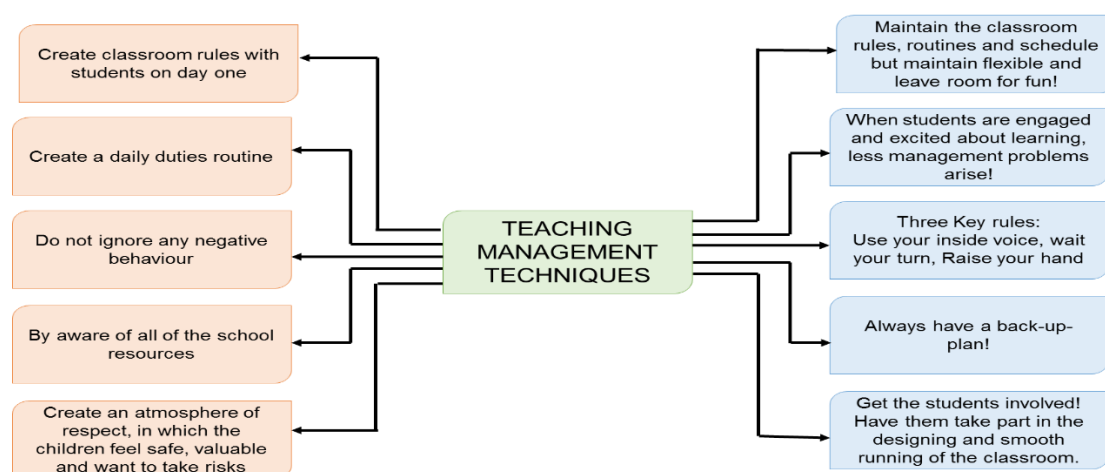


Figure 1: Teaching management techniques

Effective teaching management has long been recognized as a key component of teaching that yields positive results in terms of student learning.

Management of the classroom is often understood to include everything a teacher does to keep students focused and on task throughout the class. One factor that has gotten little attention so far is the influence of instructional management tactics on students' motivation. In this context, it is frequently stated that learning settings typified by a high degree of instructional management may have harmful impacts, especially when educational goals other than academic accomplishment are important [6]. In the next section, we'll discuss the importance of efficient teaching management to the overall standard of education. Next, we discuss the value of students' enthusiasm as a learning outcome. Effective teaching management may affect students' interest, and we discuss this possibility in light of research highlighting the significance of student agency in the learning process. We argue that the extent to which a teacher's methods of classroom management affect their students' motivation depends on a variety of factors, including the specifics of the student's individual classroom experiences [7].

Research has also shown that SRL procedures help students learn effectively in online settings. The strong correlation between SRL tactics and performance in TMT. Research questions found that the relationship between SRL and learner engagement and the accomplishment of individual learning objectives exist in MOOCs. Therefore, offering learners SRL support is likely to result in improved TMT.

Contributions to the study

The primary purpose of this study is to investigate the influence of self-regulated learning on students' attitudes, actions, and performance while pursuing higher education in China online.

To analyze the data, SPSS was employed. Descriptive statistics were used to look at the student population's demographics.

Using canonical correlation, the link between TMT and SRL was examined using TMT as the independent set of variables and SRL as the dependent set of variables.

The remainder of the paper is broken down as follows: Section 2 contains the literature; Section 3 describes the proposed methodology; Section 4 details the results and Discussion, and Section 5 provides a conclusion.

Literature Review

Self-Regulated Learning (SRL)

With this study [8], they want to answer the problem of how to combine the conventional top-down strategy of using validated self-reporting instruments with the novel bottom-up technique of mining behavioral patterns. They analyzed the fine-grained behavioral traces of 3,458 students enrolled in three MOOCs and used process mining to identify interaction sequences. They found six different sequences of interactions. We did this by associating various SRL approaches based

on a theory with various patterns of interaction sequences. In this research [9], they compared the impact of two distinct SRL prompts on students' participation, motivation, and overall success in massive open online courses (MOOCs). Participants were randomly assigned to receive either questions promoting SRL, questions promoting SRL followed by suggestions, or neither. Learner actions in massive open online courses were analyzed by analyzing log data. An accurate assessment of learners' self-regulated learning and a person-centered knowledge of self-regulated learner profiles in MOOCs are foundational to the design of self-regulated learning scaffoldings. This research [10] clustered learners based on characteristics from each stage of self-regulated learning and used a two-parameter item response theory model to correctly assess online students' self-regulated learning in massive open online courses. Figure 2 shows the structure of SRL.

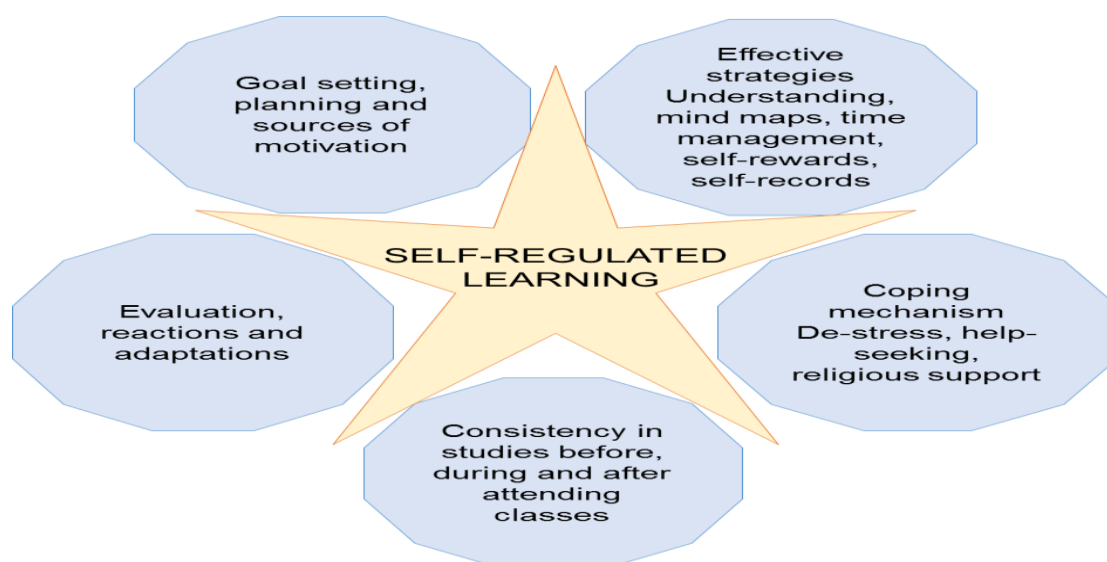


Figure 2: Self-Regulated Learning

The author [11] investigated whether there is a correlation between individual variances in SRL and how students behaved while taking a massive open online course. Understanding this connection might lead to better SRL assistance for students and a deeper appreciation of the effect SRL has on behavior, as well as an explanation for the observed diversity in online student behavior. Learners that score highest on the SRL scale are said to be "comprehensive," or "all-around," since they put in extra effort to fully comprehend the material being taught. Target learners are those who have a lesser SRL profile than comprehensive learners and hence must strategically engage with certain topics to succeed on exams. Finally, students with the weakest SRL characteristics are placed in a separate group for use in random samples. The behaviors of these students tend to be more unpredictable and less focused. Overall, online SRL is a crucial factor influencing students' success and motivation in online classes.

Online Learning (OL)

Preparing students for success in online learning includes providing them with the resources they need to perform in an online classroom. It reflects several factors, such as how well one adapts to studying with a computer, how well one uses self-regulatory techniques, and how well one feels part of a supportive learning community. The concept of student online learning (SOL) has been linked to the achievement of students in virtual classrooms. Students have also benefited greatly from online learning orientations. This study [12] evaluated the effectiveness of an orientation program by administering a pre-and post-test to a single study group over many years. The intervention, which was a self-paced introduction to Canvas as a learning management system, was described in depth. The SOLR questionnaire, with its 20 questions, was chosen for use as both a diagnostic and a diagnostician's assessment tool. Following the pilot cycles, they invited 2,590 students to attend the 2017 orientation and complete a pre-and post-test. The researcher was able to utilize 445 pre-tests and 624 post-test datasets because of the independent distribution and collection of permission forms at each step. Improved SOLR skills were shown to be statistically significant based on an independent samples t-test. The purpose of this research [13] is to investigate how preparedness for e-learning affects students' ability to self-regulate, as well as their level of happiness with and success in online versions of traditional university courses. The situation is analyzed, and a structural equation model is presented based on the findings of the existing research. The literature is consulted to evaluate and debate the suggested model. Seven hundred forty-nine undergraduates from a public institution in Turkey volunteered for the research. The researchers gathered information using a satisfaction survey, a self-regulated online learning scale, and a preparedness for e-learning scale. As a result of this study, a comprehensive structural model is proposed for examining the connection between students' perceptions of online learning, their level of preparation for it, their level of success in online courses, and their level of happiness with those courses. About three hundred fifty-six Taiwanese undergraduates taking an asynchronous online general education course across campuses volunteered to fill out a questionnaire. Figure 3 depicts the goals of online learning.

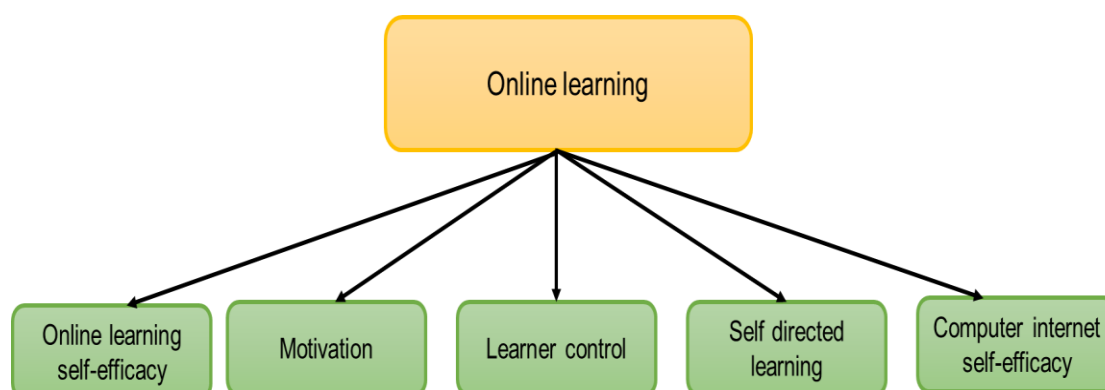


Figure 3: Online learning (OL)

Structural equation modeling analysis [14] showed a favorable correlation

between students' levels of computer/Internet self-efficacy and drive to learn, their performance in online discussions, and their overall happiness with the course. This study investigated the differences in students' motivation to learn, readiness to learn, and confidence in their ability to learn to live online during the coronavirus outbreak, accounting for differences in students' backgrounds and experiences at the sub-degree (SD), undergraduate (UG), and graduate (PG) levels. Instead of relying on students' traditional levels of internet fluency or online confidence, we used an alternative measure—technology readiness—to assess their preparedness for live, online instruction. Through the use of confirmatory factor analysis, the hypothetical model was verified (CFA). No statistically significant differences between sexes were seen [15]. Overall, students' perceptions of their computer and Internet skills, their ability to collaborate with instructors and classmates, their general impressions of online courses, and their general readiness for online learning all play a role in their level of satisfaction with online learning as a whole. More research is needed to determine how course satisfaction affects students' attitudes toward and preparedness for online education, as shown by the aforementioned studies.

OL and SRL

Studies examining the connection between OL and SRL have shown that students' self-regulation skills are strongly connected with their belief in their competence in the use of OL technologies like teaching Management Systems (LMSs). A more recent study [16] examined the connection between 88 college students' self-efficacy in using e-learning platforms, SRL tactics, and performance in online classrooms. The LMS self-efficacy of students was shown to have a positive and statistically significant link with SRL. According to Landrum, students who have faith in their competence with the LMS and with online learning are more inclined to embrace and apply tactics and methods in their online courses. There were also found to be significant correlations between students' communication skills and their use of online SRL. Using paired samples t-tests and in-person interviews, the authors of this article (17) investigated 94 college students' SRL skills, online socialization, and commitment to online education. Their research showed that the relationship between students' self-regulated learning and their purpose to learn online is mediated by their interactions with others online. Previous research had also shown that students' academic preparedness had a role in how well SRL was used in the classroom. For instance, in a sample of 86 Malaysian graduate students, we tested whether or not preparedness was a factor in the students' adoption of SRL. They show that a student's preparedness for learning may result in the use of SRL techniques. Numerous research has shown a favorable association between OL and SRL, with the results suggesting that OL may serve as a springboard for SRL and ultimately result in substantial knowledge gains. In a more recent analysis [18], researchers in Turkey looked at the correlation between "OL and self-regulation, learning satisfaction, and academic progress

among 749 college students". Research on the relationship between SRL and student performance and OL led to the development of a structural equation model. Furthermore, [19] investigated how OL influences students' SRL and their propensity to learn in virtual settings. Findings from a survey taken by 223 university students in Iran revealed that OL had a favorable effect on SRL and behavioral tendencies for online learning, with motivating beliefs serving as a mediator. As a result, OL is a crucial aspect that would affect students' SRL and, by extension, their academic success in an online environment.

Motivation in learning (ML)

One of the most important factors in modern student achievement is intrinsic motivation. Unfortunately, little is known about how students' motivation changes in practice. Students' levels of motivation have been shown to affect their mindset, motivation, and performance in the classroom. Theorists of student motivation who focused on the role of context, socialization, and individual beliefs cited practices like role modeling, guidance, providing adequate options, reinforcing positive behavior, fostering enthusiasm, and inducing interest in learning as examples of how to increase students' motivation. By doing so, a classroom atmosphere is created that stimulates students' desire to study and fosters their sense of academic optimism. Many students' academic endeavors benefit greatly from a dose of intrinsic motivation [20].

Present study

Consequently, there is both theoretical and applied value in investigating TMT's impact on SRL. To begin, illuminating the connection between these two groups of variables would enrich the existing body of work on the link between TMT and SRL. Furthermore, there is a dearth of research that applies to real-world situations and investigates how various aspects of TMT influence students' adoption of SRL techniques. Prior research has mostly focused on assessing students' technical competence concerning taking online classes. While proficiency in technical abilities is a prerequisite for SRL, it is not a guarantee of its implementation. Therefore, it is important to consider students' ability to self-regulate their online learning by considering their level of preparedness for online learning in terms of communication skills, computer literacy, and social skills. Furthermore, considering that before the epidemic in China, conventional face-to-face learning was the dominant learning style, we may assume that this is still the case. Most Chinese college students may struggle with self-regulation of their learning because they aren't ready for an online learning environment. This research aims to aid professionals in higher education in better understanding the online learning profiles of Chinese college students so that they may better assist the students' education in completely online learning environments by examining the link between TMT and SRL.

Methodology Used

TMT was analyzed concerning nine SRL techniques: “metacognition, time management, effort control, critical thinking, elaboration, rehearsal, organizations, requesting assistance, and peer learning. The analysis of 12 trials indicated that SRL had a positive impact on teaching metacognition, time management, effort control, and critical thinking, but no effect on teaching management strategies overall”. They only looked at nine SRL techniques; therefore it's possible that other SRL strategies that support academic performance online exist. But the findings back up the idea that SRL contributes to TMT. Previous research suggests that students who are not provided SRL help when studying difficult subjects online do not develop proficient self-management of learning skills or conceptual understanding.

Participants and Techniques

In this investigation, convenient sampling was employed. To A university in Northern China that has a potential of 262 participants, an email invitation was sent along with a link to an anonymous survey. We selected this institution as a result of the fact that it is a public multidisciplinary institution that admits candidates from across the nation, sometimes in ways, that illustrate the variety of the college student population in China. The survey was also distributed through a third party because one of the writers is connected to this university's faculty. To ensure sample diversity, students from a variety of majors—covering the state sector, politics, banking, linguistics, biology, technology, computer programming, legal study, etc.—were sought. The poll was completed by 206 students overall (response rate of 78.6%), with a mean age of 20. These students were divided into 64 (31.1%) men, 138 (68.3%) women, and four (1.9%) who did not identify their gender. The Institutional Review Boards (IRBs) of the universities attended by both authors approved the current investigation.

Instrument

Questionnaire for SRL and TMT

Students' online SRL was assessed using the 24-item Online Self-Regulated Learning Questionnaire (OSLQ).

Data analysis

The texts were translated from the original English into Chinese. A common translation and back-translation process were utilized to ensure the accuracy of the Chinese version of the metric. The data were examined using SPSS. Descriptive statistics were used to examine the students' demographics. The link between TMT and SRL was examined using canonical correlation, with TMT serving as the

independent set of variables and SRL serving as the dependent set of the variable. The alpha level was fixed at .05. Evaluation of the canonical correlation premise.

Result And Discussion

Approximately 78.6 percent of the target sample of 262 students responded to the survey questionnaire used in this study. The effects of various online learning management strategies on students' abilities to engage in the self-directed study are summarised in table 1.

Table 1: Outcomes of the research

Self-regulated learning (%)	
Goal setting	88
Environment structuring	82
Task strategies	86
Time management	91
Help seeking	83
Self-evaluation	93
Teaching Management in online learning (%)	
Time management	98
Fearless conversation	92
Flexible lesson plans	95
Courses with video support	93
SRL in Online Learning (%)	
Technical competencies	93.38
Social competencies with teacher	90.2
Social Competencies with classmates	82.28
Communication competencies	96.87

Students' abilities, more than their technical or social skills, are the strongest indicator of their SRL in virtual learning environments. Further analysis of the SRL variables reveals a favorable correlation between students' communication competence and time management skills, as well as self-evaluation techniques. In the meanwhile, this capability is marginally correlated with students' capacity to create goals, complete tasks, structure their environments, and ask for assistance. Students' technical ability is only somewhat associated with their self-evaluation, task approaches goal setting, help-seeking abilities, and environmental skills, and strongly positively related to their time-management skills. Finally, all SRL techniques are marginally associated with students' social skills with the teacher and peers. Our research explores further the interplay between TMT's many components and SRL, uncovering that the communication skills of distance learners are the most consequential to their success and achievement. Figure 4 depicts the research outcome of self-regulated learning.

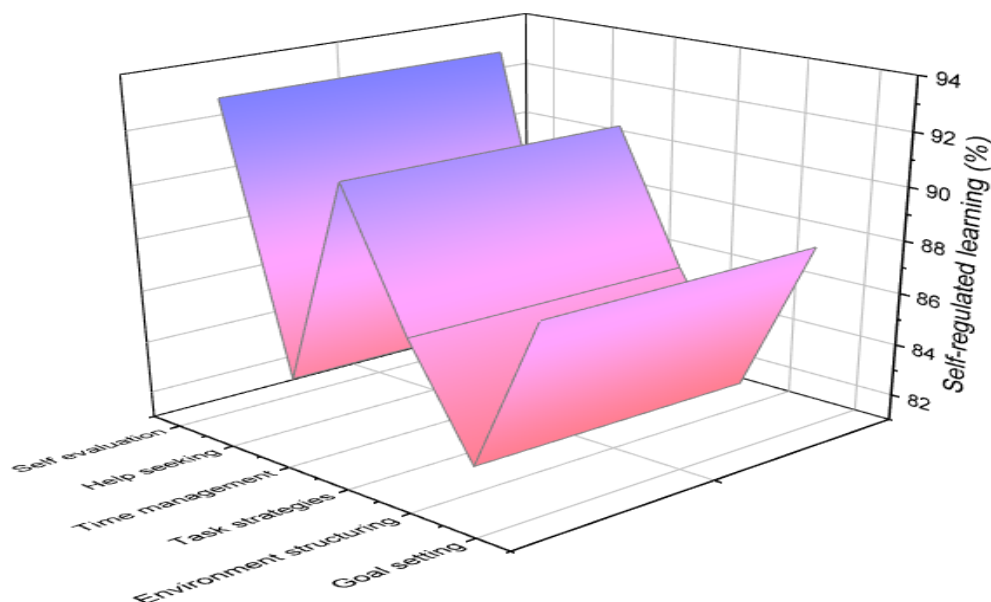


Figure 4: Self-regulated learning

Students with "the capacity to display awareness of the socially acceptable communicative conduct in a particular circumstance are more likely to use a variety of SRL techniques when studying online. The second most important element impacting Chinese college students' usage of SRL methods in online learning settings is students' technical abilities or self-efficacy in technology." To estimate how well students would do in an online course, it was determined that students needed a certain level of technical proficiency. Based on our research, we know that students who are more technically proficient are more likely to use SRL methods while engaging in online education. Finally, the term "social competencies" was coined to refer to the set of abilities and personality one needs to successfully navigate social interactions and develop and keep friendships. The level of success and academic accomplishment that students have with online learning is generally strongly correlated with the amount of interaction they have with both the teacher and their fellow students. Our findings corroborate this assertion by showing that students who have developed stronger social competencies with both their teacher and classmates are more likely to use SRL methods in their online education. It was also shown that Chinese university students who scored highest in both communication and technical skills had the best time management and self-evaluation practices related to their online education. That is, in an online setting, students who are comfortable with and proficient in the use of technological tools for study, who can effectively assimilate new information, and who can apply that information in a variety of contexts are more likely to prioritize their learning, allocate sufficient time and effort to each activity, and to conduct regular self-evaluations of their progress. Figure 5 represents the outcomes of SRL in online learning.

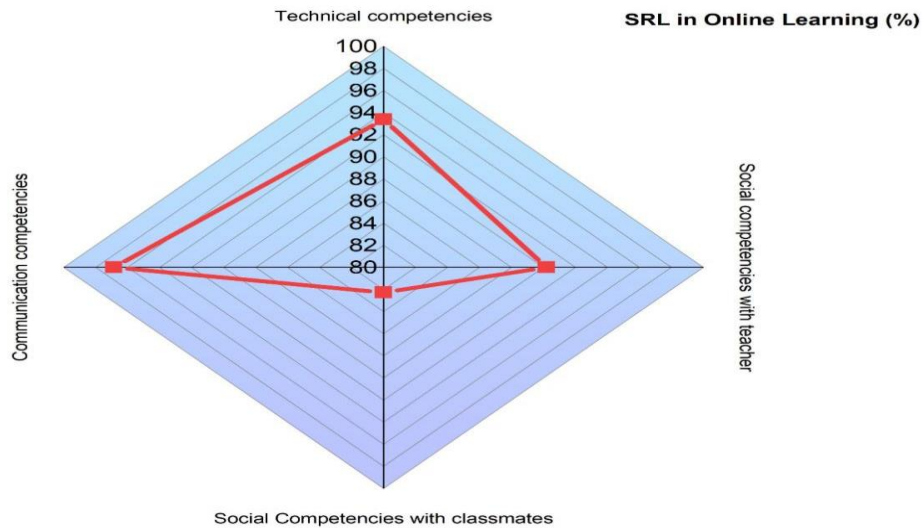


Figure 5: SRL in online learning

Therefore, the cost, allocation, and use of teachers, as well as their motivation and performance, are all impacted because of how effectively they are managed. There has to be a worldwide, unified, and prospective strategy implemented to deal with the many problems faced by emerging nations. An efficient education system relies on well-managed teachers, who are essential to its success. This means that administrators must put in place a system that allows for careful planning of staffing needs, effective recruitment, training, remuneration, deployment, and career policies, as well as a reliable monitoring and information system and suitable rules, structures, and procedures. Finally, to expand and enhance the quality and equality of the schools on offer and allow their implementation while reducing public expenditure, teaching management must be at the center of the approach. Figure 6 depicts teaching management in online learning.

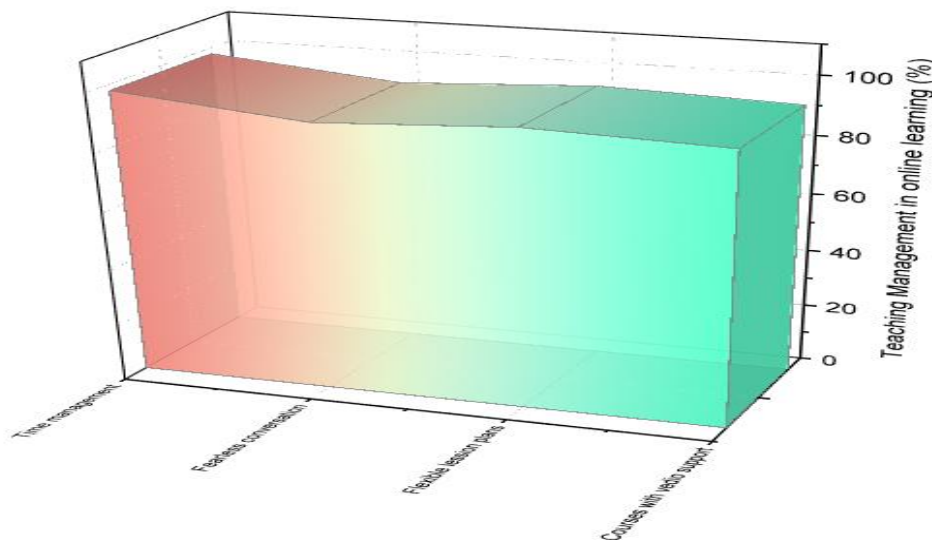


Figure 6: Teaching management in online learning

Discussion

Recent research confirms the favorable correlation between TMT and SRL shown in earlier studies. This finding is supported by the current study. Preparing students for success in an online learning environment may have a positive effect on their self-regulated learning. Students' varying levels of prior knowledge and experience are likely to have a major impact on their success and endurance in online classes. A good way for institutions to gauge their students' preparedness for online learning is to have them fill out questionnaires about their prior experiences with online courses. Colleges and institutions may use this profile to tailor online learning workshops and presentations to their students' needs. As a bonus, when instructors have access to students' profiles, they may better tailor their lessons to each student's needs as they transition to online education. "To encourage students' communication and social abilities within the online learning environment, teachers might design activities like online discussion boards, online presentations, and group projects". Teachers might also use this opportunity to introduce students to the range of online pedagogical aids at their disposal. Finally, teachers may have students who have taken online classes previously talk to those who haven't about their experiences. Teachers may boost their students' self-assurance for online learning by giving them positive evaluations and helpful hints verbally. Instructors should provide more than just technical and physical support for students having trouble with online courses; they should also make available resources linked to counseling services. On the other hand, students who plan on doing most or all of their schoolwork online should make good use of the many tools made available to them by their professors and institutions. Online learning requires regular self-evaluation so that students may fine-tune their study strategies. Since this is the first time that entirely online courses are being given on a large scale at Chinese colleges, everyone involved students, teachers, and administrators need to put in some work to make it work.

Finally, this research contributes theoretically by revealing the link between TMT and SRL, specifically the influence of TMT on SRL and among the Chinese college student population, two variables that have typically been studied independently among online students. Germany, South Korea, and the United States are only a few examples of nations where online education is mature and extensively utilized; these are where the TMT and SRL have been implemented. As a result, our research contributes to the existing literature by providing empirical evidence of the association between these two sets of variables among online students, with a focus on China, where full-scale online education was implemented in response to the COVID-19 health emergency. The research does have certain caveats. We started with a handy sample from a single Chinese institution for our research. Convenience sampling is a kind of non-probability sampling in which researchers choose their sample at random. As a consequence, it's clear that not all Chinese distance education college students are included in these findings.

Participants in future research should be sought out from a wider range of Chinese institutions. In the meanwhile, colleges and institutions in states with a larger economy may offer more online courses and resources. Accordingly, it is important to attract students from economically depressed areas to test the waters of online education in the United States. Second, without categorizing online courses by kind, this research looks at how students' OLR relates to their online SRL among Chinese university students (i.e., synchronous, asynchronous, and blended). The outcomes may vary depending on the course format. As a result, further research into the effects of different course styles on online learning is warranted. Moreover, students may have varying degrees of online learning preparation depending on factors such as their prior experiences with attending online courses, which in turn may affect how they use SRL methods. So, to further explore these connections, future research should include students' prior experiences with online courses. The study's limitations aside, it's noteworthy that Chinese college students put in the time and effort to be ready for online courses, which has a positive impact on their capacity to self-regulate their online learning.

Conclusion

The purpose of this exploratory research was to examine whether TMT influences students' adoption of SRL practices within the setting of a Chinese institution. According to the results, students' level of readiness for online learning has a substantial effect on their SRL. More specifically, SRL techniques for online learning are most effective when students have a high degree of proficiency in the use of digital tools and the ability to effectively communicate with the learning material, teacher, and peers. Therefore, it is crucial to properly prepare students for online study, motivating them to self-regulate their learning and to achieve better outcomes. With the potential for the rapid and unpredictable global spread of COVID-19 and related ailments, online education, which adheres to the social isolation principle, is nevertheless considered a viable option as more universities have been prepared to reopen. There don't seem to be any imminent medical emergencies that would prevent universities from exploring the possibility of offering a range of online instructional formats shortly. Our findings mirror this trend by highlighting the need of preparing college students for success in online learning settings, particularly in countries like China where face-to-face education was traditionally employed. It is hoped that this research will help educators at all levels, as well as university administrators and students, recognize the need to develop online learning competencies in order to keep up with the times.

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