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Exploring the Factors Affecting the Learning Effectiveness in Music Training Industry: Evidence from Students' Perception

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Abstract: *Music training industry as an emerging effort in the knowledge-based economy has broadly created the market prospects and rapidly expanded its influence and attracts more and more learners' attention. This paper mainly applied the theory of technology acceptance model (TAM) by empirically explore and analysis the key factors affecting students learning effectiveness among music training institutions in China. Survey data were collected from 395 students in music training intuitions. The results showed that the key factors that affect music professional learning can be divided into the cognitive load, time cost, perceived usefulness and perceived ease of use. This study deepens understanding of the learning effect of music professional learners in music training institutions and direct institutions to improve the quality of teaching.*

Keywords: *Knowledge economy, Music training industry, learning effectiveness, Technology Accept Model*

1. Introduction

The music curriculum, as an important way to develop the overall quality of individuals in a knowledge-based economy, is currently not performing well in the Chinese teaching environment. Florida found that a vibrant musical life is a key factor in attracting creative people to settle in communities [1]. a study by Katz for Pennsylvania, USA, also showed that creative workers want to live in vibrant and diverse communities, and that arts and culture are key elements in attracting and retaining creative workers [2]. It is easy to see that music plays a crucial role in the lives of creative people and innovation-driven development strategies. Music education is both an important part of quality education and a proven way to implement quality education. And music education training is a supplement to school music education and echoes school music education [3].

According to the Notice of the General Office of the Ministry of Education on the Enrollment of Secondary Vocational Schools in 2021 issued by the Ministry of Education of China, in order to improve China's vocational education system and to improve the enrollment rate and quality of enrollment in secondary vocational colleges, the ratio of vocational to general education at the high school level should be kept roughly equal (Ministry of Education of the People's Republic of China, 2021). This means that in the future, 50% of Chinese students may enter vocational colleges directly after completing junior high school to study and train in vocational technology, but not to go to university. In China, vocational high schools are generally poorly managed, which has led to some resistance from families to vocational high schools. Chengdu's music training industry is also riding the wave of the knowledge economy and the new education policy.Xiao pointed out that there are many management problems in music education and training institutions in Chengdu, the efficiency and quality of student learning is low, and the overall development of students is adversely affected [4].Guo found that the local music education training institutions had uneven training quality and chaotic management training institutions [5]. Music training institutions in China have a single curriculum and the music courses focus too much on professional skills and not enough on music theory and music culture [6]. At the same time, students' learning self-restraint is insufficient, and their learning persistence is poor, which is more likely to result in lower learning outcomes by allowing students to learn and improve only on their own [3]. Poor teaching effectiveness comes from the lack of complete and clear knowledge of the teaching laws and principles of the music curriculum by the teaching staff [7]. Students' creative abilities do not meet the expected

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goals because of the lack of teaching resources due to the lack of attention to artistic quality education by the leadership and management in music training institutions [8]. In addition, due to the general tendency of "test-taking", students tend to ignore the knowledge itself. Music education needs to aim at jointly improving students' learning and creative abilities [9].

Most of the literature stops at discussing and analyzing the management style or teaching methods of training institutions in the context of the current state of the industry, and most of the research stops at theory, with few empirical studies combined with theoretical models. Therefore, in this paper, by compiling the literature and models related to learning effectiveness, we collect and analyze the factor variables that affect students' learning effectiveness in the music training industry in Chengdu and combine them with empirical analysis to verify and propose theoretical suggestions. Therefore, the research questions in this paper are divided into the following three main points.

2. Related literatures

In the context of the knowledge economy, society needs people as social individuals to have creative ideas and skills, so that knowledge occupies a more important economic role in economic development than low-skilled labor such as natural resources and physical capital [10]. Music education should serve to cultivate high-quality talents and serve the coordinated development of the economy and society [11]. Mass higher education in the new situation is a comprehensive quality education oriented to the growing educational requirements, and the cultivation of students with all-round development of morality, intellect, physique, and aesthetics should be its fundamental goal [12]. Music training institutions, different quality of personnel, students' interests and other factors reduce the quality and efficiency of students' learning and hinder students' overall development [13]. Art education is an important means to develop students' intelligence in a comprehensive way, and it is of great significance to enlighten and developing students' intellectual development [14]. There are two main measures of teaching efficiency, one can be recognized from students' time investment. Secondly, it can be measured by the learning effect, where less time means more efficiency for the same learning result [15]. Similarly, it is effective to measure teaching efficiency in terms of the ratio of "input" to "output" [16].

Reasonable teaching evaluation can provide teachers with clear feedback on the effectiveness of teaching and students' learning; it can also facilitate managers to deal with classroom problems properly. A diversified and optimized assessment method can stimulate students' interest in learning and thus enhance their learning efficiency [17]. The establishment of a good music curriculum evaluation system is great significance to guarantee and improve the quality of education and teaching [18]. Music teaching evaluation should take music emotion as the ultimate goal and focus on the cultivation of students' musical ability and creative thinking [19]. Students' participation in school evaluation activities can help them develop good character and personality, develop their overall abilities, and help them develop a rational and objective view of things. At the same time, it also allows students to learn about their learning and promotes their all-round development [20]. All colleges and universities in North America use Student Evaluation of Teaching (SET) to assess the effectiveness of their faculty [21]. This way has a disproportionate impact on student learning outcomes. Students do not learn more from professors with higher SET ratings, and schools that truly care about their students' academic are considering whether to abandon SET as an evaluation criterion [22]. Thus, scientifically sound instructional evaluation has far-reaching implications for the topic of exploring the factors that influence student learning effectiveness. self-efficacy can influence people's emotions during activities, making them more enthusiastic and cheerful, and emotionally full [23]. Based on this theory, we believe that students' attitudes toward learning are also influenced by their sense of self-efficacy. Students' self-efficacy toward learning or towards a course is also the important.

Affective attitudes are the perceptual part of attitudes, the specific emotional perceptions that individuals have about behavioral activities. All people are not fully rational, and in matters concerning individual attitudes, individuals find a balance between rationality and emotionality. If a behavioral activity makes the individual feel comfortable and favorable, then the individual will have a more positive attitude toward the behavior [24]. The total amount of cognitive resources, i.e., the total amount of energy expended, that a person expends on learning or task. Therefore, this definition will be adopted as the conceptual interpretation of cognitive load in this study [25]. College graduate with strong musical expertise is often considered a professional and outstanding student, so music majors, especially those majoring in musical instruments and dance, often need to spend a lot of time and energy practicing their vocal, instrumental, and dance performance skills during their time in the music major[26].

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3. Results

The results show that the alpha coefficients of all the above latent variables are within the acceptable range greater than 0.75. Table 1 indicates that the reliability of the data collected in this study is good and has reliable internal consistency.

Table 1: Reliability test results

Variables	Cronbach's Alpha
Overall Reliability	0.960
Cognitive load	0.879
Learning Time Cost	0.859
Perceived ease of use	0.847
Perceived usefulness	0.867
Behavioral attitude	0.842
Behavioral Intentions	0.820

The following factor model adaptation analysis was conducted, and the results are as follows: Perceived usefulness, perceived ease of use, behavioral attitude, and behavioral intention. Its variance contribution rate was 66.246%. mental effort, task difficulty, study time, and practice time, and the relevant study variables are cognitive load and study time. Its variance contribution rate was 9.858%. self-efficacy and teaching evaluation, and the relevant research variable is cognitive load. Its variance contribution rate was 3.304%.

Table 2: KMO and Bartlett's test

KMO and Bartlett's test

KMO The number of sample suitability measures.		.963
Bartlett's sphericity test	Approximate cardinality	5100.740
	Degree of freedom	91
	Significance	.000

The results of the test for correlation between variables in this study are shown in Table 2 and Table 3, and from the data, we can see that the correlation between the study variables is significant.

Table 3: Correlation analysis

		Cognitive load	Study time	Perceived ease of use	Perceived usefulness	Behavioral attitude	Behavioral Intentions
Cognitive load	Pearson Correlation	1	.846**	.774**	.744**	.725**	.694**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	389	389	389	389	389	389
Study time	Pearson Correlation	.846**	1	.692**	.612**	.600**	.564**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	389	389	389	389	389	389
Perceived ease of use	Pearson Correlation	.774**	.692**	1	.821**	.830**	.789**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	389	389	389	389	389	389
Perceived usefulness	Pearson Correlation	.744**	.612**	.821**	1	.875**	.850**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	389	389	389	389	389	389
Behavioral attitude	Pearson Correlation	.725**	.600**	.830**	.875**	1	.849**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	389	389	389	389	389	389
Behavioral Intentions	Pearson Correlation	.694**	.564**	.789**	.850**	.849**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	389	389	389	389	389	389

**. Correlation is significant at the 0.01 level (2-tailed).

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From the test results in Table 4, we learned that the factors affecting students' learning effectiveness in music training institutions in order of their importance are behavioral attitudes, perceived usefulness, perceived ease of use, cognitive load, and learning time.

Table 4: Regression coefficients

Models		Unstandardized coefficient		Standardization factor	t	Significance
		B	Standard error	Beta		
1	(Constant)	.378	.094		4.005	.000
	Cognitive load	.070	.054	.071	1.300	.194
	Study time	-.053	.042	-.059	-1.276	.203
	Perceived ease of use	.155	.051	.154	3.033	.003
	Perceived usefulness	.376	.053	.386	7.067	.000
	Behavioral attitude	.367	.055	.367	6.702	.000

a. Dependent variable: behavioral intention

Perceived ease of use has a positive effect on behavioral attitudes. This relationship has been validated many times in previous TAM models, and this study is no exception. Ultimately, according to the data, in a music training institution, perceived ease of use has a positive effect on learners' behavioral attitudes. Perceived usefulness has a positive impact on learners' behavioral attitudes. Learners' perceived usefulness when learning in music training measures whether the content they learn in music training institutions is sufficiently useful. By examining the results, this paper concludes that perceived usefulness has a positive effect on learners' attitudes toward use. Cognitive load has a negative effect on users' attitudes toward use. Cognitive load is a factor that has gone largely unnoticed in previous research. Cognitive load measures the number of effort students put into their studies, and although this variable may seem very difficult to measure, this paper uses the findings of previous studies to measure the cognitive load of college students when they are studying professionally, in terms of both mental effort and task difficulty. Based on the results, it is argued that it is to some extent the ease and less difficulty of learning in music training institutions compared to traditional courses that lead to students' continued enthusiasm for learning in training institutions. Study time has a negative effect on attitude toward use. music majors, study time is an influential factor that cannot be ignored.

This paper argues that study time is a very important variable in the process of music major learning to measure whether learning can have a satisfactory effect, but there is little research on this influencing factor in previous studies. This paper measures study time at two levels: course study time and after-school practice time. Based on the results of the study, it is argued that it is because learners can use and plan their study time more effectively and shorten their study and practice time that individuals find music study less difficult and thus increase their propensity to study professionally in music training institutions. Perceived usefulness has a positive effect on behavioral intention. As an extended product of traditional music teaching, it is believed that learners will not hesitate to choose professional music learning effectiveness in music training institutions if they can truly provide everything that traditional teaching can offer. Therefore, the future development of music training institutions needs to focus more on whether they can provide sufficient learning utility for their participants. Specifically, learners need to be able to learn something truly useful through the training institution. Attitude toward use has a positive impact on intention to use.

According to the above analysis, professional learning by learners requires a high degree of student autonomy on the one hand, and on the other hand, music training institutions need to improve the usefulness and acceptability of their courses. The results of the data test also confirm these points. On the one hand, a smaller cognitive load and shorter learning time imply higher behavioral intentions, and on the other hand, perceived usefulness and perceived ease of use have a positive effect on students' attitudes toward use, which in turn affects learners' behavioral intentions.

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4. Conclusions

Theoretically, this study will be based on the integrated model of TAM, exploring the factors influencing the learning behavior of students in music training institutions from four dimensions, based on Huang Long's research, expanding the application discipline of his TAM model [3]; verifying and further improving the influencing factors of music teaching effectiveness proposed by Cha Zongli [27]; It also verified the results of the study on the evaluation method of music teaching by Zhang Meishu, [28]; Starting from the influencing factors proposed by Wang Xiaoyong, a more specific quantitative and empirical study was conducted on them [13]. At the same time, this study also breaks the research on music training institutions that mostly focuses on theoretical discussion, lacks the gap of empirical research, and is more specific than the previous related research, starting from the learning behavior of students, and discussing the factors affecting students' learning effectiveness in intensive training schools. The previous research focused on the management and teaching aspects of intensive training schools, ignoring the specific factors affecting the learning effectiveness of students. Through analysis, this paper believes that in order to improve the enthusiasm of students in music training institutions for music professional learning, measures can be taken from the cognitive load of professional knowledge, the time of professional learning, the perceived usefulness of individual students, and the perceived ease of use. According to the results of the study, music training institutions can improve the skills of course design in the future, making music professional courses more acceptable. The time spent on music majors also needs to be optimized for the design of after-school practice assignments. In addition, this study also has certain practical significance. On the one hand, the data of this study deepen understanding of the learning effect of music professional learners in music training institutions for the construction and development of the music training industry in education management and decision-making departments; On the other hand, this study can provide a reference direction for teachers to improve the quality of university teaching and provide learning reference experience for learners in music training majors.

References

[1] Florida R. The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life [M]. New York: Basic New York: Basic Books, 2002.

[2] Katz, B, Liu A, Jennifer v, Kurt S, and Damon J. Back to Prosperity: a Competitive Agenda for Renewing Pennsylvania. W ashington, DC: Brookings Institution Center of Urban and M etropolitan Policy, 2003.

[3] Huang, L.. (2017). Research on the factors influencing college students' MOOC learning behavior based on TAM and learning efficiency (Master's thesis, University of Electronic Science and Technology). https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201801&filename=1018055986.nh

[4] Xiao Yijiao. (2018). Research on human resource management of small and micro music education and training institutions in Chengdu (Master's thesis, Xihua University). https://kns.cnki.net /KCMS/detail/detail.aspx?dbname=CMFD201901&filename=1018256823.nh

[5] Guo Shengjian, Chen Xiaomin & Wang Xiaoying. (2011). Research on the current situation of art training market in Guangzhou University City and countermeasures. Journal of Education Science, Hunan Normal University (03), 123-126.

[6] Zhao, T.. (2015). Research on music education reform in the context of knowledge economy. Northern Music, 35(21), 194-195.

[7] Cai Sheng-Ting . (2017).Problems and Improvement Measures of Music Training and Education in the New Era.Urban Tutoring (Second Half of The Month)

[8] Fu Linqing. Art Education and the Cultivation of College Students' Innovative Ability[J].Scientific Research ,2016:338.

[9] Wang, Xiaoyu. (2012). Analysis of the problems and countermeasures in teaching accounting English as an elective course in university. Journal of Science and Education (Upper) (19), 111-112. doi:10.16400/j.cnki.kjdks.2012.10.014.

[10] Zhao, T.. (2015). Research on music education reform in the context of knowledge economy. Northern Music, 35(21), 194-195.

[11] Liu, Dan. (2009). Reflections on the development of music education in the era of knowledge economy. Borderland Economy and Culture (05), 172-173.

[12] Zhao. (2011). Research on art education in general colleges and universities and the cultivation of aesthetic literacy among college students (Master's thesis, Lanzhou University).https://kns.cnki.net/ KCMS/detail/detail.aspx?dbname=CMFD2011&filename=1011140374.nh

[13] Wang, X.Y.. (2017). A study on the problems and countermeasures of industrialization of music entrance examination training - taking Fuzhou area as an example. Contemporary Music (11), 93-96.

ISSN 2663-8169 Vol. 4, Issue 8: 22-27, DOI: 10.25236/IJNDE.2022.040806

[14] Wang, Wenjian. (2008). Art education and comprehensive quality training of college students in general colleges and universities. Drama and Film Monthly (02), 141-142.
[15] Wang Guangming. Research on the efficiency of mathematics teaching [D]. Nanjing Normal University,2005
[16] Zhou Jing, Zhang Qinglin. A few thoughts on improving teaching efficiency [J]. Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition), 2003,(10):227-231
[17] Zhang, Jia. (2013). Using scientific assessment to improve learning efficiency. Chinese Journal of Science and Education Innovation (36), 131.
[18] Yan Yalin . (2017).“ Empirical Value Method for Evaluating the Effectiveness of Students' Music Learning. ,40.
[19] GUO Jian . (2012). Improve the efficiency of high school music teaching, pay attention to students' ability to learn music,221-222.
[20] Guo, Nana, Li, Baoqun & Yu, H. R.. (2018). An introduction to the influence of student evaluation system on teaching effectiveness. Modern Vocational Education (04), 170-171.
[21] Murray, H. G. (2005). Student evaluation of teaching: Has it made a difference? Presented at the annual meeting of the society for teaching and learning in higher education Retrieved from: https://www.stlhe.ca/wp-content/uploads/2011/07/ Student-Evaluation-of-Teaching1.pdf.
[22] Uttl, B., White, C. A., & Gonzalez, D. W. (2017). Meta-analysis of faculty's teaching effectiveness: student evaluation of teaching ratings and student learning are not related. Studies in Educational Evaluation, 54, 22-42. https://doi.org/10.1016/j.stueduc.2016.08.007
[23] Zhang Dajun. Educational psychology (second edition) [M]. Beijing: People's Education Press. 2003: 80.
[24] I. Ajzen, B.L. Driver. Application of the theory of planned behavior to leisure choice [J]. Journal of Leisure Research, 1992, 24(3): 207-224
[25] Sun, Chong-Yong. Measurement of cognitive load and its application in multimedia learning [D]. Soochow University,2012
[26] Xie, L.-H. (2016). Value conflicts and reflections behind the evaluation of professional music teaching. Northern Music (19), 93+95.
[27] Cha Zongli . (2006). A Brief Analysis of the Factors Affecting the Teaching Effect of Music Appreciation.Research on Teaching Curriculum Textbooks (Research on Chinese Teaching) ,23-24. doi:10.3969/j.issn.1003-8787-D.2004.03.011.
[28] Zhang, Meishu. (2017). Research on the construction of talent evaluation system of music education and music culture industry. Northern Music (11), 159.