

Full Length Research Paper

Impact of Chinese university teachers' aesthetic experiences on their professional development

Weixin Lin^{1,2}, Yuan-Cheng Chang^{2*} and Peng-Fei Chen²

¹Department of Visual Communication Design, College of Design, Hainan Vocational University of Science and Technology, China.

²Department of Education Management, Chinese International College, Dhurakij Pundit University, Thailand.

Received 3 April, 2022; Accepted 18 May, 2022

The professional development of teachers is fundamental to educational reform and promotion, and such a development includes teachers' aesthetic experiences. This study aims to explore the impact of Chinese teachers' aesthetic experiences on their professional development and the differences between male and female teachers in terms of the impact of aesthetic experiences on professional development. In total, 500 teachers from 20 universities in Hainan and Guangzhou, China, were surveyed, and 488 valid questionnaires were collected. A multivariate regression analysis was conducted to examine the impact of each variable. The results of the study indicate that "aesthetic attitude," "understanding of beauty," and "full experience" all have a significantly positive impact on the professional development of both male and female teachers, whereas "pleasure of beauty" has no significant impact on teachers' professional development. The findings also demonstrate that no difference exists between male and female teachers in terms of the impact of aesthetic experiences on professional development, and the more practical conceptions of aesthetic experience have a direct impact on teachers' development.

Key words: Aesthetics, aesthetic experience, teachers' professional development.

INTRODUCTION

Higher education offers the potential to support global, national, and local development, and higher education establishments play an essential role in society, cultivating elites, pioneering achievements in sciences and humanities, and providing greater opportunities to contribute to social development (Chankseliani et al., 2021). Accordingly, teachers are key players in the development of universities, laying the foundation for talent cultivation and an improved quality of education. In

addition, teachers are also of crucial importance to the success of reform initiatives, as they are ultimately the ones responsible for enacting these initiatives within the classroom (Guskey, 2002). Consequently, the promotion of teachers' professional development is an important matter for their personal growth and the sustainable development of universities. However, Chinese university teachers have outdated concepts of professional competence development, and there exist problems

*Corresponding author. E-mail: yuan-cheng.cha@dpu.ac.th.

related to the teaching environment, such as large classes, a low level of competence, and instrumental motivation (Peng et al., 2014). The established syllabus and heavy workload for teachers are also influential factors, including correcting assignments and preparing lessons (Barkhuizen and Wette, 2008).

Ensuring that teachers are competent in their professional practice, proficient in collaboration and leadership skills, and equipped with the quality of integrity and the knowledge and skills related to education and social evolution is critical to the success of educational reform (Garet et al., 2001). In addition, schools are expected to provide more diversified classroom environments for all students to work equitably and effectively, thereby contributing to a better as well as more impartial and liberal society (Kaur, 2012). Nevertheless, numerous teachers require intensive guidance and support to be in a position where they can teach in line with the principles of innovation (Borko, 2004).

Smith et al. (2013) highlight the importance of teachers' professional development, including strengthening their continuous learning and evolution, allowing teachers to be resilient to changes and capable of tackling teaching challenges, improving teachers' professional knowledge and competence and social status, and diversifying the roles of teachers. Teachers' professional development is regarded as a key tool for enhancing teaching and, further, improving students' achievement; it is also a method used to introduce the curriculum and instructional development (Carr et al., 2000; Petrie and McGee, 2012). Effective professional development for teachers should continue with time, requiring reinforced learning experiences and contextualization (Garet et al., 2001). Opfer and Peder (2011) emphasize that a more comprehensive understanding needs to be considered in teachers' professional development, as it is likely to influence their career path and personal lives as well as their knowledge, competencies, and values.

Yuan et al. (2017) define professional knowledge and competence, professional development, teachers' beliefs, and teaching effectiveness as the main indicators of teachers' professional development, which can be achieved by fostering teachers' awareness and strengthening their motivation for such development. In the context of contemporary educational reform policies, teacher professional development is also faced with the limitations of various institutional conditions and diverse role expectations (Radovan, 2011). Nevertheless, it is important to improve teachers' literacy and further enhance their professional knowledge and competence through such development (Kose et al., 2011). It is essential for teachers to continue learning and receiving new knowledge, improve their teaching, and enhance their professional knowledge and competence in education (Glomo-Narzoles, 2013). Avalos (2011) states that the focus and the ultimate goal of teachers'

professional development should be students' learning and achievement and that education itself is about instructing students, with teachers playing an extremely crucial role.

Aesthetics is important to teacher professional development and practice (Attwood, 2020; Oreck, 2004). According to Eisner (2002), aesthetic experiences have the potential to be practiced in school education as long as the core values of education are transformed, and these transformations include the following: a greater emphasis on inquiry rather than discovery; more appreciation of wonderment rather than of static control; a greater focus on the emergence of distinctiveness and specificity as well as an allowance for differences rather than suppressive and uniform management; an increased usage of implicit language rather than simple literal interpretation; a greater focus on the process of transformation rather than on the existence of status quo; and a greater emphasis on imagination over fact, values over measurements, and the emotions that are experienced during the journey over the speed of arrival at the destination.

Thus, cognitive and noncognitive preferences are directly or indirectly related to environmental aesthetics, and experiencers transfer their experiences from the natural environment to everyday experiences, from which they can then form aesthetic experiences (Dewey, 2005). That said, aesthetic experience is an everyday activity that promotes positive emotions and is the best method to maintain subjective happiness, which is aligned with Melchionne's (2013) concept of everyday aesthetics, and the qualities of persistent, everyday routines are conducive to subjective well-being, as claimed by Carlson (2007). Scholars' research also accentuates the range of senses that underlie aesthetic experience and judgment as well as how the various senses shape aesthetic values of the natural world (Fisher, 1998; Prior, 2017).

Furthermore, Eisner (2002) suggests that educational establishments are the most appropriate places to teach art. However, if art education is leveraged as a tool for other purposes, it undoubtedly undermines the art experience, as the educational context is full of brief, bounded, difficult to evoke, and by no means continuous or predictable moments, and these factors make it difficult to have an aesthetic experience (Kerdeman, 2005). Therefore, these constraints and limitations, which exist in schools, must be broken to truly introduce aesthetics therein. The first step should be to include the concept of aesthetics in the cultivation of teachers, and school teachers should also enhance their own aesthetic literacy (Yang, 2014).

The conscious and subconscious experiences that individuals gain by viewing sources of beauty are called "aesthetic experiences" (Maquet, 1988). Moreover, beauty can play an archetypal role in imagery, and the subconscious mind will generate all the subliminal reactions in relation to mental connections, which serves

as an expression of creativity. Thus, the acquisition of aesthetic experiences can cultivate and inspire creativity (Richards, 2007). In other words, experiences such as the recollection of beautiful memories create an underlying energy that combines the conscious and subconscious mind to form a wellspring of innovation (Chang and Jaisook, 2020).

Fenner (2003) summarizes five criteria for judging the content of aesthetic experience. The first object is directness: in the context of the perceived or intended activity of the phenomenon, through the direction of the object's attributes, the individual's attention is drawn to what is going on or to what they are already engaged in; thus, the individual feels pleasure. Second, felt freedom is a feeling of release from the domination of previous stakes, a feeling of relaxation and harmony, and a sense of freedom of choice. The third criterion is detached affect, which is the goal of interest and entails keeping a certain emotional distance, namely, not feeling oppressed by dark and terrible things but, rather, engaging in appreciation with objectivity. Fourth, active discovery is when an individual is actively challenged by a variety of potentially conflicting stimuli, generating understandable feelings and delight. Finally, the fifth criterion is wholeness: a sense of integration and a recovery from the effects of fragmented and divisive emotions (such as distracting emotions of self-acceptance and self-inflation) to emotional wholeness, which ultimately produces a corresponding satisfaction.

Seel (2008) notes that aesthetic experience is an enhanced form of aesthetic awareness. Aesthetic awareness involves paying attention to what is happening at a given moment, a feeling of the moment, and generating an intensification and transfer of emotion; for example, an exciting soccer game or an imposing natural landscape can be an event of beauty. Aesthetic experience can occur anywhere and anytime, as long as the individual is emotionally engaged in the event. Thus, these characteristics can be found in practical, intellectual, and moral activities, and aesthetic experience can be a universal experience for the majority of people, with opportunities to gain it available everywhere in daily life. Averill et al. (1998) explain the aesthetic experience with its attributes, arguing that aesthetic experiences are not only pleasurable or enjoyable but can also encompass both unpleasant and pleasant feelings. The aesthetic experience is akin to a panacea for the wounds of the soul. For some, it is the innocence of the human mind; for others, it is positive morality or the value of society (Tomlin, 2008).

In his study, Attwood (2020) observes that aesthetic awareness is a literacy that can improve teachers' professionalism; therefore, teachers should be trained in aesthetic education to obtain relevant experience, and this education should be placed in an appropriate context and environment. Frawley (2013) also suggests that preservice teachers should include aesthetic education in

their preparation programs and emphasizes that courses on aesthetics should be a part of teachers' education. Oreck (2004) also finds, in his study of teachers' professional development, that aesthetics is important to teacher professional development and practice and should, thus, be included in teacher professional development programs. Aesthetics is not simply a curriculum; the context is also a part of it. Wiebe et al. (2007) also notes that supporting and extending the integration of fine arts engenders imaginative, flexible, and specific teaching practices, which can promote teachers' professional development.

To summarize, teachers' aesthetic experience development can be instrumental to their professional development. However, there are little empirical studies on this subject in China, and since aesthetic education is one of the important educational policies in the country, this study aims to investigate the impact of Chinese teachers' aesthetic experiences on their professional development and to analyze whether there are differences between male and female teachers in terms of the impact of aesthetic experiences on professional development. The study is expected to bridge the gap in the research related to teachers' aesthetic experiences and professional development in China and to provide a reference for future related research.

METHODOLOGY

Research framework

This study designs a research framework through the aforementioned literature review to explore the impact of Chinese teachers' aesthetic experiences on their professional development and the differences between male and female teachers in terms of the impact of aesthetic experiences on professional development. The aesthetic experiences are analyzed along four dimensions: "pleasure of beauty," "aesthetic attitude," "understanding of beauty," and "full experience." The framework is shown in Figure 1.

Research subjects

This study was conducted with university teachers in Hainan and Guangzhou, China, as subjects. 200 questionnaires were distributed to teachers as pretest questionnaires to perform a reliability analysis of the scale. In terms of the official questionnaire, 10 universities each in Hainan and Guangzhou, China, were surveyed. Thus, 500 teacher questionnaires were distributed to 20 universities, with 50 questionnaires issued to each university and 200 and 488 valid samples recovered from the pretest and formal surveys, respectively. The data collected were subsequently subjected to statistical analyses.

Research tools

Teachers' aesthetic experience scale

The aesthetic experience scale developed by Chang (2017) was adopted as the teachers' aesthetic experience scale for this study.,

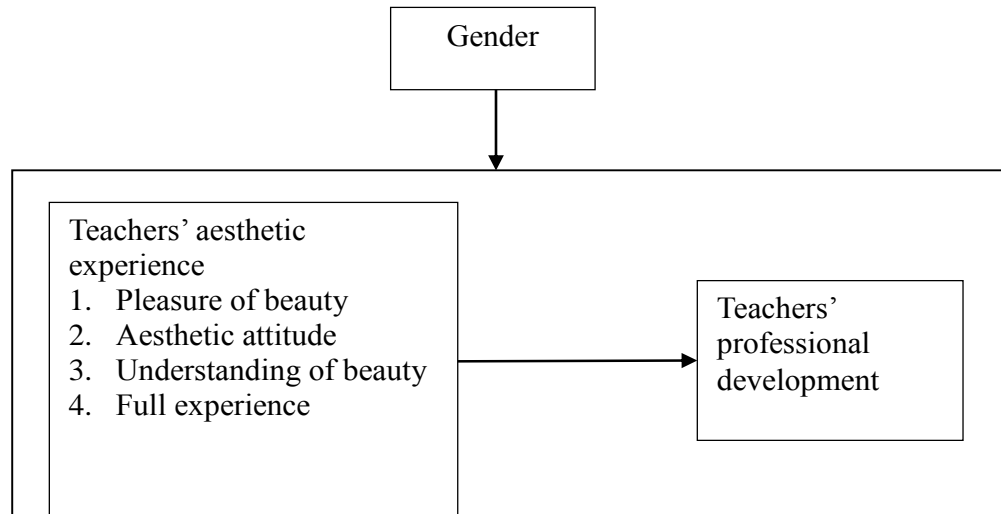


Figure 1. Research framework.

Table 1. Item-total correlation indices-stating.

Item	Corrected item-total correlation	Cronbach's α values after item deletion	t-values
C1	0.713	0.968	24.456***
C2	0.761	0.968	15.667***
C3	0.785	0.968	13.333***
C4	0.756	0.968	14.447***
C5	0.777	0.968	12.369***
C6	0.805	0.968	17.330***
C7	0.763	0.968	10.385***
C8	0.816	0.967	15.245***
C9	0.721	0.968	8.984***
C10	0.771	0.968	14.596***
C11	0.764	0.968	7.670***
C12	0.711	0.969	6.381***
C13	0.781	0.968	8.976***
C14	0.768	0.968	9.038***
C15	0.792	0.968	8.435***
C16	0.774	0.968	9.556***
C17	0.766	0.968	10.024***
C18	0.780	0.968	8.562***
C19	0.732	0.968	8.994***
C20	0.753	0.968	10.550***
C21	0.748	0.968	26.871***

containing six questions on “pleasure of beauty,” five questions on “aesthetic attitude,” five questions on “understanding of beauty” and six questions on “full experience.” First, a reliability analysis was conducted on the pretest questionnaires, with a Cronbach’s $\alpha = 0.969$ for the overall aesthetic experiences, Cronbach’s $\alpha = 0.952$ for “pleasure of beauty,” Cronbach’s $\alpha = 0.907$ for “aesthetic attitude,” Cronbach’s $\alpha = 0.936$ for “understanding of beauty,” and Cronbach’s $\alpha = 0.918$ for “full experience.” Further, the corrected item-total correlation, the Cronbach’s α values after item deletion,

and the t-values of the items all meet the criteria (Cuieford, 1965) (Table 1).

The formal scale was analyzed with validation factors to test its reliability, validity, and goodness-of-fit. The factor loadings for each dimension ranged from 0.712 to 0.829, and the construct reliability (CR) values for “pleasure of beauty,” “aesthetic attitude,” “understanding of beauty,” and “full experience” were 0.900, 0.863, 0.884, and 0.872, respectively, which all exceeded the assessment criteria value of 0.70. The average variance extracted (AVE) values

Table 2. Mean and Standard Deviation of Each Variable.

Variable	Total (488)		Female (275)		Male (213)	
	Means	SD	Means	SD	Means	SD
Teachers' professional development	4.005	0.579	3.971	0.603	4.050	0.546
Pleasure of beauty	4.270	0.629	4.274	0.649	4.266	0.604
Aesthetic attitude	4.180	0.612	4.183	0.649	4.175	0.562
Understanding of beauty	4.054	0.662	4.025	0.708	4.092	0.596
Full experience	4.158	0.609	4.143	0.638	4.177	0.571

of the four dimensions were 0.600, 0.558, 0.605, and 0.578, respectively, exceeding the assessment criterion of 0.50 (Fornell and Larcker, 1981), indicating a good reliability and construct validity. In terms of the goodness-of-fit index, $\chi^2/df = 2.816$, root mean square error of approximation (RMSEA) = 0.061 ($p < 0.00$), standardized root mean square residual (SRMR) = 0.038, goodness fit index (GFI) = 0.908, comparative fit index (CFI) = 0.949, incremental fit index (IFI) = 0.949, parsimony normed fit index (PNFI) = 0.805, parsimony goodness of fit index (PGFI) = 0.719, all meeting the criteria (Ullman, 2001; Hu and Bentler, 1999), signifying a good theoretical model fitness.

Teachers' professional development scale

The teachers' professional development scale was developed based on the questions in the teachers' professional development section of the Teaching and Learning International Survey (TALIS) (OECD, 2018), consisting of 12 questions on teaching practices, 9 questions on teaching beliefs, and 11 questions on professional attitudes, for a total of 32 questions. In terms of the reliability analysis on the pretests, Cronbach's $\alpha = 0.946$ for teaching practices, Cronbach's $\alpha = 0.923$ for teaching beliefs, Cronbach's $\alpha = 0.958$ for professional attitudes, all of which meet high reliability criteria (Cuieford, 1965). The loading factors for each dimension ranged from 0.636 to 0.801, with CRs of 0.931, 0.900 and 0.938 for teaching practices, teaching beliefs, and professional attitudes, respectively, exceeding the assessment criterion of 0.70; further, the AVEs were 0.528, 0.502, and 0.580, for teaching practices, teaching beliefs, and professional attitudes, respectively, surpassing the assessment criterion of 0.50 (Fornell and Larcker, 1981), representing good reliability and construct validity. In terms of the goodness-of-fit index, $\chi^2/df = 2.832$, RMSEA = 0.061 ($p < 0.00$), SRMR = 0.042, GFI = 0.884, CFI = 0.917, IFI = 0.917, PNFI = 0.816, and PGFI = 0.737, and all meet the criteria, denoting a good fitness.

RESULTS

Descriptive statistics

In this study, 500 questionnaires were distributed to university teachers in the Hainan and Guangzhou provinces of China, and 488 valid samples were collected, 213 from male and 275 from female teachers. Of these teachers, 195 teachers had less than 10 years of experience, 135 had 11–20 years of experience, and 158 had more than 20 years of experience. In terms of educational background, 22 teachers had a degree below a bachelor's, 152 held a bachelor's degree, 280 had a

master's degree, and 34 had a doctoral degree.

With respect to the means of aesthetic experiences and professional development among all teachers, male teachers, and female teachers, the results can be seen in Table 2. The 5-point Likert scale was used to assess the level of all variable on a scale of 1 to 5 points. Teachers as a whole have the highest mean for "pleasure of beauty" (4.270) and the lowest mean for professional development (4.005), both of which are higher than a score of 4. In terms of gender, male teachers have higher means for professional development, "understanding of beauty," and "full experience," than female teachers, whereas the latter have higher means for "pleasure of beauty" and "aesthetic attitude" than the former.

Correlation analysis

The results of the correlation analysis in Table 3 reveal that the correlation coefficients between the dimensions of aesthetic experience and teachers' professional development ranged from 0.615 to 0.749, and all of them were significant ($p < 0.001$), with the highest correlation being between the "full experience" in teachers' aesthetic experiences and professional development (0.710, $p < 0.001$). In addition, none of the correlation coefficients between the variables were greater than 0.8, indicating that there is no presence of collinearity. This also shows that there is a correlation between the variables, and a further regression analysis can be conducted to test the causal relationship between the variables.

Regression analysis

A regression analysis was used to examine the impact of each dimension of teachers' aesthetic experiences on their professional development for all teachers, male teachers, and female teachers. For all the teachers, Model 1 in Table 4 shows that their "pleasure of beauty" had no impact on their professional development ($\beta = 0.080$, $t = 1.743$, $p = 0.082$), whereas their "aesthetic attitude," "understanding of beauty," and "full experience" all had a significant and positive impact on their professional development, with $R^2 = 0.594$ after adjustment and an overall explanatory power of 59.4%.

Table 3. Correlation analysis of each variable.

Variable	Teachers' professional development	Pleasure of beauty	Aesthetic attitude	Understanding of beauty	Full experience
Teachers' professional development	1.000				
Pleasure of beauty	0.615***	1.000			
Aesthetic attitude	0.688***	0.744***	1.000		
Understanding of beauty	0.709***	0.643***	0.749***	1.000	
Full experience	0.710***	0.696***	0.744***	0.749***	1.000

*** $p > .001$.

Table 4. Regression analysis.

Variable	M1			M2 (women)			M3 (men)			Difference check
	Beta	<i>t</i>	<i>p</i>	Beta	<i>t</i>	<i>p</i>	Beta	<i>t</i>	<i>p</i>	t-statistic
Pleasure of beauty	0.080	1.743	0.082	0.058	1.020	0.309	0.145	1.850	0.066	0.889
Aesthetic attitude	0.190	3.614	0.000	0.161	2.321	0.021	0.225	2.773	0.006	0.679
Understanding of beauty	0.298	6.153	0.000	0.337	5.661	0.000	0.194	2.310	0.022	1.225
Full experience	0.290	5.830	0.000	0.343	5.228	0.000	0.229	3.002	0.003	1.104
F	179.060***			139.291***			49.562***			
Adjusted R ²	0.594			0.669			0.478			

* $p < 0.05$ ** $p < .01$ *** $p < 0.001$.

Model 2 represents the impact of the female teachers' aesthetic experiences on professional development. The female teachers' "pleasure of beauty" had no impact on their professional development ($\beta = 0.080$, $t = 1.743$, $p = 0.082$), while their "aesthetic attitude" ($\beta = 0.161$, $t = 2.321$, $p = 0.021$), "understanding of beauty" ($\beta = 0.337$, $t = 5.661$, $p = 0.000$), and "full experience" ($\beta = 0.343$, $t = 5.228$, $p = 0.000$) all had a significantly positive impact on their professional development, with $R^2 = .669$ after adjustment and an overall explanatory power of 66.9%.

Model 3 represents the impact of male teachers' aesthetic experiences on their professional development. The male teachers' "pleasure of beauty" had no impact on their professional development ($\beta = 0.145$, $t = 1.850$, $p = 0.066$), while their "aesthetic attitude" ($\beta = 0.225$, $t = 2.773$, $p = 0.006$), "understanding of beauty" ($\beta = 0.194$, $t = 2.310$, $p = 0.022$), and "full experience" ($\beta = 0.229$, $t = 3.002$, $p = 0.003$) all had a significant and positive impact on their professional development, with $R^2 = .478$ after adjustment and an overall explanatory power of 47.8%.

Finally, a comparison of the impacts of the dimensions of aesthetic experiences on professional development between the female and male teachers was conducted. The t-statistic results in Table 4 show that there is no significant difference between the female and male teachers in terms of the impact of each dimension on their professional development. This also indicates that for the female and male teachers, "aesthetic attitude," "understanding of beauty," and "full experience" had

positive effects on teachers' professional development and that there was no significant difference between female and male teachers.

DISCUSSION

The results show "pleasure of beauty" had no significant impact on professional development for all the teachers, the male teachers, and the female teachers in this study. This also demonstrates that the teachers' appreciation of beauty and feeling relaxed and delighted about beauty did not significantly contribute to their professional development. This is possibly because this dimension is merely the teachers' personal perception of beauty, which does not have a notably direct impact on a teacher's teaching and professional ability.

By contrast, "aesthetic attitude," "understanding of beauty," and "full experience" all had significantly positive impacts on the teachers' professional development. Thus, the male and female teachers who can accept diverse cultures and ideas, find beauty in difficulties and frustrations, analyze the style and reasons for the expression of beauty, discuss and share beauty with others, and recall relevant beautiful things when creating can achieve professional development in teaching practices, beliefs, and attitudes. In addition, concepts and approaches that concern aesthetic experiences but are more practical in nature, including "aesthetic attitude,"

“understanding of beauty,” and “full experience,” can clearly contribute directly to the development of teachers’ professional competence.

Furthermore, there was no difference between the male and female teachers in terms of the impact of “pleasure of beauty,” “aesthetic attitude,” “understanding of beauty,” and “full experience” on teachers’ professional development.

Although the standardized regression coefficients revealed that the impact of “pleasure of beauty” and “aesthetic attitude” on professional development was greater among male teachers than female teachers and that the impact of “understanding of beauty” and “full experience” on professional development was greater among female teachers than male teachers, no significant differences were found in the t-statistic comparison. This also shows that there was no difference in the impact of aesthetic experiences on teachers’ professional development between male and female teachers in Hainan and Guangzhou, China, and that aesthetic experiences were equally important for both male and female teachers’ professional development.

Recommendations

The cultivation of aesthetic awareness can contribute to teachers’ professional development. The results of the present study and the aforementioned discussion indicate that teachers’ “aesthetic attitude,” “understanding of beauty,” and “full experience” are all important in enhancing their professional development, demonstrating that substantive aesthetic experiences and concepts are of direct help to teachers’ professional development. Therefore, schools can incorporate these three categories into the development of aesthetic awareness when designing teacher aesthetic training programs. To elaborate, “aesthetic attitude” is the ability to accept and appreciate the diversity of cultures and ideas and to find the good in the bad or the difficult; “understanding of beauty” is the ability to discern the subtle or easily overlooked aspects of beauty as well as the ability to understand the concept of beauty and the reasons for which it is meant to be expressed; and, finally, “full experience” is the ability to recall beautiful aspects related to a work during its creation and the ability to discuss and share one’s own beautiful experiences and things with others.

There are few empirical studies on the relationship between aesthetic awareness and teachers’ professional development in China; by administering a questionnaire to Chinese teachers and analyzing the results thereof, the findings herein show that teachers’ aesthetic experiences have an impact on their professional development. Thus, future research should consider using aesthetic experiences to explore the relationship between aesthetic awareness and teachers’ development.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

- Attwood AI (2020). Contextualizing aesthetics as social engagement for teacher education. *Journal of Social Change* 12(1):19-31.
- Avalos B (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education* 27(1):10-20.
- Averill JR, Stanat P, More TA (1998). Aesthetics and the environment. *Review of General Psychology* 2(2):153-174.
- Barkhuizen G, Wette R (2008). Narrative Frames for Investigating the Experiences of Language Teachers. *System* 36(3):372-387.
- Borko H (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher* 33(8):3-15.
- Carr M, McGee C, Jones A, McKinley E, Bell B, Barr H, Simpson T (2000). The effects of curricula and assessment on pedagogical approaches and on educational outcomes. Ministry of Education.
- Carlson A (2007). The requirements for an adequate aesthetics of nature. *Environmental Philosophy* 4(1 & 2):1-14.
- Chang YC (2017). Construction on students’ aesthetics experience scale. *International Journal of Organizational Innovation* 10(1):110-130.
- Chang YC, Jaisook N (2020). Differences in the influence of aesthetic experience on the innovative behaviors of Thai students and Chinese international students. *Journal of Applied Research in Higher Education* 13(3):900-913.
- Chankseliani M, Qoraboyev I, Gimranova D (2021). Higher education contributing to local, national, and global development: new empirical and conceptual insights. *High Education* 81:109-127.
- Cuiford JP (1965). *Fundamental statistics in psychology and education* 4th(Ed.). McGraw-Hill.
- Dewey J (2005). *Art as experience*. Penguin.
- Eisner EW (2002). What can education learn from arts about the practice of education.. *Journal of Curriculum and Supervision* 18(1):4-16.
- Fenner DEW (2003). Aesthetic experience and aesthetic analysis. *Journal of Aesthetic Education* 37(1):40-53.
- Fisher JA (1998). What the hills are alive with: In defense of the sounds of nature. *Journal of Aesthetics and Art Criticism* 56(2):167-179.
- Fornell C, Larcker DF (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 25:186-192.
- Frawley TJ (2013). Aesthetic education: Its place in teacher training. *Art Education* 66(3):22-28.
- Garet MS, Porter AC, Desimone L, Birman BF, Yoon KS (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal* 38(4):915-945.
- Glomo-Narzoles DT (2013). Classroom communication climate and communicative linguistic competence of EFL learners. *Theory and Practice in Language Studies* 3(3):404-410.
- Guskey TR (2002). Professional development and teacher change. *Teachers and Teaching* 8(3):381-391.
- Hu LT, Bentler PM (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling* 6(1):1-55.
- Kaur B (2012). Equity and social justice in teaching and teacher education. *Teaching and Teacher Education* 28(4):485-492.
- Tomlin A (2008). Introduction. In R. Shusterman, & A. Tomlin, (Eds.), *Aesthetic experience*. New York: Routledge.
- Kerdeman D (2005). Aesthetic experience and education: Themes and questions. *Journal of Aesthetic Education* 39(2):88-99.
- Kose S, Savran GA, Gezer K, Erol G, Bilen K (2011). Investigation of undergraduate students’ environmental attitudes. *International Electronic Journal of Environmental Education* 1:85-96.
- Maquet J (1988). *The aesthetic experience: An anthropologist at the visual arts*. Yale University Press.

- Melchionne K (2013). The definition of everyday aesthetics. *Contemporary Aesthetics* 11(1):26.
- Organisation for Economic Co-operation and Development (OECD). (2018). Teaching and learning international survey (TALIS): Teacher Questionnaire.
- Oreck B (2004). The artistic and professional development of teachers: A study of teachers' attitudes toward the use of the arts in teaching. *Journal of Teacher Education* 55(1):55-69.
- Opfer VD, Peder D (2011). Conceptualizing teacher professional learning. *Review of Educational Research* 81(3):376-407.
- Peng WJ, McNess EM, Thomas SM, Wu XR, Zhang C, Li JZ, Tian HS (2014). Emerging perceptions of teacher quality and teacher development in China. *International Journal of Educational Development* 34:77-89.
- Petrie K, McGee C (2012). Teacher Professional Development: Who is the learner? *Australian Journal of Teacher Education* 37(2):59-72.
- Prior J (2017). Sonic environmental aesthetics and landscape research. *Landscape Research* 42(1):6-17.
- Radovan M (2011). The relation between distance students' motivation-Their use of learning strategies and academic success. *The Turkish Online Journal of Educational Technology* 10(1):216-222.
- Richards R (Ed.). (2007). *Everyday creativity and new views of human nature: Psychological, social, and spiritual perspectives*. American Psychological Association.
- Seel M (2008). On the scope of aesthetic experience. In R. Shusterman, & A. Tomlin, (Eds.), *Aesthetic experience* (98-105). Routledge.
- Smith KM, Wenderoth MP, Tyler M (2013). The Teaching Demonstration: What Faculty Expect and How to Prepare for This Aspect of the Job Interview. *CBE-Life Sciences Education* 12(1):12-18.
- Ullman JB (2001). Structural equation modeling. In B. G. Tabachnick, & L. S. Fidell (Eds.), *Using multivariate statistics*. Pearson Education.
- Wiebe S, Sameshima P, Irwin R, Leggo C, Gouzouasis P, Grauer K (2007). Re-imagining arts integration: Rhizomatic relations of the everyday. *The Journal of Educational Thought* 41(3):263-280.
- Yang CP (2014). H. Rolston's Environmental Aesthetics and Its Implications for Environmental Education. *Bulletin of Educational Research* 60(4):1-31.
- Yuan KS, Wu TJ, Chen HB, Li YB (2017). A study on the teachers' professional knowledge and competence in environmental education. *EURASIA Journal of Mathematics, Science and Technology Education* 13(7):3163-3175.