

Asian Journal of Education and Social Studies

7(1): 1-10, 2020; Article no.AJESS.55172

ISSN: 2581-6268

Use of Visual Arts in Facilitating the Speaking Skills of Students

Aida Duropan^{1*}

¹Digos City Central Elementary School, Davao del Sur, Philippines.

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/AJESS/2020/v7i130185

Editor(s)

(1) Dr. Ana Sofia Pedrosa Gomes dos Santos, Universidade de Lisboa, Portugal.

Reviewers:

(1) Deb Proshad Halder, Jessore Government Women's College, Bangladesh. (2) P. Moodley, South Africa.

(3) M. V. Chandramathi, India.

Complete Peer review History: http://www.sdiarticle4.com/review-history/55172

Accepted 27 February 2020

Received 20 December 2019

Original Research Article

arch Article Published 06 March 2020

ABSTRACT

Aims: This study examined visual arts activities as means of enhancing speaking abilities of students. It also explored how the participants find the use of visual arts activities as strategy; how visual arts activities in English class were conducted; and what suggestions the participants can offer to improve the conduct of visual arts activities.

Study Design: This study used the qualitative method particularly the phenomenological approach.

Place and Duration of Study: The study was conducted in Davao del Sur State College, Digos City. It was conducted during the first semester of 2019-2020.

Methodology: The 20 participants were purposively chosen. They were grouped into four focus groups. Interview guide-questionnaire based on the research questions was the main instrument used in obtaining the information.

Results: The use of visual arts in English language class was interesting and effective. The student-participants found the strategy interesting because they were able to express their ideas by looking at the images. They were able to formulate sentences instantly. Importantly, giving clear instructions on what to do and allocating appropriate time to gather their thoughts; learners were able to formulate ideas and confidently share their answers to the class. The learners suggested that speaking activities through visual arts strategy may be improved if language teachers use

^{*}Corresponding author: Email: arielsanjose74@gmail.com;

colorful arts; consideration of time to think; regular conduct of the strategy; allow brainstorm with other students before they are asked to speak; and everyone should be allotted time to speak. The suggestions imply that the students favor and willing the use of visual art in their speaking activities.

Conclusion: The appreciation of students on the use visual arts in enhancing their speaking abilities is a clear manifestation that visual arts is an effective tool in encouraging students to speak. The reason why students appreciated visual art is the motivation it provides. The visual effect of art to the students ignites and challenges them to formulate words. Thus, the use of visual art activities transform the students from uninterested to interested, from passive to active, from blunt to critical thinker. On the other hand, clear instructions to the students allow them to carry out the task according to the expected output. Moreover, time is a key element for learners to formulate well-thought answers. Hence, teachers may give provisions for time. Likewise, students clamor that visual arts should be colorful so that they could appreciate the art. However, they may not be relevant because the visual meaning does not depend on color. Interestingly, the results of study lead the English teachers to think of possible actions so that the conduct of speaking classes using visual arts may be improved. Authentic visuals arts which depict historical significance may be utilized. It may not only let the learners appreciate history but also develop cultural attitudes. Teachers may also provide and explain a speaking rubrics before the students do the task. This makes the learners informed and allows them to strategize. Lastly, teachers may also consider thematizing the visual arts so that learners become more interested and engaged.

Keywords: Visual art; speaking skills; Digos City; Davao del Sur.

1. INTRODUCTION

Speaking is one of the four macro skills to be developed as a means of effective communication in both first and second language learning context. The mastery of speaking skills in English is a priority for many second-language foreign-language learners. Boonkit [1] considered speaking as complicated act in general everyday conversation. Consequently, learners often evaluate their success in language learning as well as the effectiveness of their English course on the basis of how much they feel they have improved in their spoken language proficiency. Several authors [2,3] mentioned that there have been huge numbers of conversation and other speaking course books in the market: however, how best to approach the teaching of oral skills has long been the focus of methodological debate. Teachers and textbooks make use of a variety of approaches, ranging from direct approaches focusing on specific features of oral interaction such as turn-taking, topic management, and questioning strategies to indirect approaches that create conditions for oral interaction through group work, task work, and other strategies. Sosas San Jose [4] believed that speaking skill is a necessity in the modern society. If someone couldn't express themselves clearly; then, they will be lost. Despite this reality, to many, speaking in English seems to be a very challenging task.

Speaking is one of the most disregarded skills [5]. Speaking proficiency remains poor among despite the fact that English had been taught in school from elementary level [6]. [7] mentioned that the absence of authentic language learning situations influences learners' in obtaining oral proficiency. Bone and San [5] pointed out that the poor speaking proficiency may be attributed to the way the English teachers planned and delivered their lessons. The approach used may not fit the learners' level of abilities, interests, and needs. Thus, there is a need to innovate the strategies.

Numerous attempts have been made to classify the functions of speaking in human interaction. [8] made a useful distinction between the interactional functions of speaking, in which it serves to establish and maintain social relations. and the transactional functions, which focus on the exchange of information like talk as interaction; talk as transaction; talk performance. Each of these speech activities is quite distinct in terms of form and function and requires different teaching approaches. It has always been assumed that one of the fundamental skills students were expected to acquire at school was speaking and writing. Achievement in all areas of the curriculum hinges largely on the students' literacy abilities. Unfortunately, despite all the advances in education in the last few decades there seem to be an unabated number of cases of students

who have reached tertiary level without the basic literacy skills that allow them to access the various areas of the curriculum [9]. [10] stated that students' failure to cope with the demands of reading, writing, and speaking has extremely detrimental effect on their self-esteem, confidence, attitude, motivation and their ability to learn across the curriculum.

There has been the common attitude that literacy development was the sole responsibility of the English language teachers. Many of the English language teachers complain of students' reluctance to engage in speaking and writing activities. Persistent lack of success causes frustration, loss of motivation and diminished self-esteem. This in turn causes the student to disengage further from learning and to be resistant to help [10]. The students are very conscious of the fact that their literacy challenges prevent them from accessing what is offered in the curriculum prescribed for them. As a result, they shy away from school assemblies where they may be required to read and speak; become disruptive and difficult to manage in class; and even more seriously, engage in absence from classes where they are required to read, write, and speak [11,12].

In the context of the freshmen students of Davao del Sur State College, the researcher observed that students were timid during speaking. Most of them hesitate when called to answer questions. However, the researcher also noted the students had good writing skills but not speaking. They were afraid to commit mistakes because of the apprehension that their classmates might laugh at them. Thus, speaking lessons were most of the time boring. Interestingly, the researcher observed that the students were good at visual arts; hence, the researcher reflected on using those as tools in encouraging them to speak. It was on this ground that this research was conducted.

This research examined the use of visual arts activities as pathways to the development of verbal skills among freshmen students with difficulties. This action research was based on the proposition that learning English could be enhanced by integrating with other fields; that learning of speaking was not exclusive rather could be learned using other ways. [13] observed that literacy is often of high priority on the curriculum of most countries. As a result, visual arts are given little significance in the education system. Many students derived much enjoyment

from art activities; therefore the integration of art and literacy may prove to be a more natural attraction to students. The call for arts integration in the curriculum is often met by superficial attempts to intersperse a few art activities in the other subject areas. [14] explained that art integration is teaching and learning with other subjects may bring great success.

1.1 Purpose of the Study

This study proposed the use of visual arts activities in order to employ a more creative oriented pedagogy. Drawing, painting, and creative visual representations were considered natural means of communicating and had been used by early humans to express ideas and record experiences. With the understanding that art is another language of communication, this research supposed to create a better entry point into a less text based method of communication. The idea was not to create an alternative means of communication and replace writing but to design a more natural progression for the students with the hope that the students would develop two powerful means of communication art and text. Through the art activities, students would be able to explore art concepts and techniques and build on the limited art experiences they had in the primary and secondary school while facilitating opportunities that would create a desire in them to speak as form of creative expressions.

The use of the visual art is a more personal approach that allows the students to work at their levels. Through the visual art activities, the students could develop work that is more personal and meaningful for them and to intertwine the development of art with speaking. The strategy will not only facilitate a personal dialogue between teacher and students but also could present opportunities for sharing with the rest of the class as the students so desire, making this a comprehensive strategy.

1.2 Research Questions

This study examined visual arts activities as means for enhancing speaking abilities among freshmen students who were the second batch of K-12 program at Davao del Sur State College. The intention was to find a comfortable environment and a suitable educational approach to enrich students' learning experiences in visual arts while developing verbal literacy skills. The

researchers sought to answer the following questions:

- 1. How do the participants find the use of visual arts activities as strategy in facilitating the speaking skills?
- 2. How the visual arts activities in English class are conducted?
- 3. What are the suggestions of the participants to improve the visual arts activities to enhance further their speaking skills?

1.3 Theoretical Lens

This qualitative-action research was anchored to the principle of [15] on group work which states that learners should be given the opportunity to in hostile free environment. Group work engages the learners to interact with each other using the target language; thus, let them practice speaking without the teachers' guide. It is also anchored on [13] proposition that visual art is a valuable agency of support for the development of verbal literacy in the areas of reading, writing, and oral expression. He substantiated the connection between visual and verbal literacy development.

1.4 Significance of the Study

This study was conducted to appreciate the essence of visual arts in facilitating speaking skills among freshmen students who were hesitant to speak in the classroom. [13] mentioned that visual arts have vital link to speaking. What the students may not be able to express in text or even spoken words could be communicated via images. Thus, once the students begin to express themselves artistically through the art, there would be a greater desire to express themselves in writing and or speaking. Thus, this study would be beneficial to the following group of individual or individuals:

School Heads may recommend to their teachers the use of alternative strategies like the visual arts in learning language. They may also consider that language learning specifically speaking is not only learned in controlled setting but also in free and deconstructive manner.

Teachers may not limit their teaching of speaker in drills. The use of conversational English which is usually used in standardized language proficiency test like IELTS may also be considered. Moreover, they may also realize that learning speaking is best acquired if the

environment is not restricted. Thus, descriptive classroom may also be given a chance.

Future Researchers may consider the current study as reference for their future study in speaking. They may use similar procedures; however, they may apply them in the basic of secondary levels.

2. MATERIALS AND METHODS

2.1 Research Design

This action research utilized the qualitativephenomenological method. [16] mentioned that qualitative research involves a complex, holistic analyzing narratives framework bv observation. Moreover, [17] averred qualitative research dealt with verbal and visual than numeric form. [18] explained that qualitative method uses coding process, interpreting the analyzed text and attributing meaning to the themes. Likewise [19] opined that qualitative method gives attention on examining the person's character. On the other hand, phenomenology lends ears to individuals' personal narratives [20]; identifies the importance and meaning of the experience [16,21]; and finds the worth of the experiences of the persons [22].

The qualitative method was appropriate to this study because results were presented into narratives and it did involve statistics rather thematic analysis. Likewise, phenomenology was suitable for this study because it culled out the essence of the experiences of the participants in the use of visual arts in the English language classroom.

2.2 Research Participants

The research participants of this study were 20 purposively selected freshmen students in the Purposive Communication class. They were grouped into four with five member each group. The focus groups were consisted of both male and female students. The study was conducted for one semester. The interviews were conducted after the semester ended.

2.3 Collection of Information

In conducting this study, [23] offered the five-step procedures which were followed in this study. Firstly was asking permission. After crafting the

proposal, the researchers sought the permission of the Dean to conduct the action research. It was done through a formal letter. Secondly, the researchers wrote the letter of consent for the participants. Since all participants were 18 years, parents' consents were not made. Thirdly, the researchers explained to the participants the purpose; read to them the provisions found in the consent form; and followed the ethical protocols. the purpose of confidentiality, researchers requested the participants not to write their real names in the consent form rather Fourthly. pseudonyms. the focus interviews were conducted. The recorded information was then transcribed. After which the transcribed information were given back to the participants for self-verification and review of their answers. Lastly, the verified transcription was given to the data analyst for the thematic analysis and interpretations.

2.4 Analysis Procedure

In the conduct of data analysis, the data analysis went through the transcribed information and made the memoing. In memoing, the gists of the information were formulated. After the memoing, the data analysis conducted the coding, where similar ideas were marked. Then, the thematic analysis followed. This process was repeatedly done to make sure all information was included.

2.5 Trustworthiness

Trustworthiness is a quality achieved in a study when the data collected is generally applicable and consistent [24]. The threats to the validity of the study were few with the major drawback being that the conclusion of the research was limited to a specific school and there is no guarantee that the same results of this action research are applicable in other schools or situations. Additionally, the research was not designed to include a selected control group and so the conclusions do not lend it to any comparisons in order to confirm the findings.

2.6 Limitation of the Study

This study only dealt with the use of visual arts to enhance the speaking skills of the students. The three other macro skills such as reading, writing, and listening were not involved. Moreover, qualitative-phenomenology was used; thus, only the experiences of the student-participants were

involved. Notably, the results of the study cannot generalize the entire freshmen. The results were only applicable to those who were involved. A quantitative study may be conducted to find out the claim of this study.

3. RESULTS AND DISCUSSION

This study involved three issues. The first issue involved the reaction of the participants about the strategy used by the teachers. The second issue was how the teacher conducted the said strategy. Lastly, were the suggestions of the students on how the visual arts strategy could be improved.

3.1 Participants' Views

Generally, the participants believed that the use of arts in English language class was interesting and effective. They found it interesting because they were able to express their ideas by looking at the images present in the poster. It was at the same time effective because they were able to formulate sentences instantly. Moreover, they were to reflect first before they speak. Likewise, they could revise their sentences immediately if they mistakenly describe the art. This implies that through the images presented, students are able to activate not only their speaking but also their other abilities. These findings coincide with [25] who mentioned that research in education over the years has established the connection between image and word. Expressions through art allow students to connect sensory images with multiple literacy skills and knowledge.

On the other hand, [26] pointed out that learning experiences in the arts contribute to the development of academic skills, including reading speaking, and writing. [13,27] mentioned that arts nurture a motivation to learn by emphasizing active engagement, disciplined and sustained attention, persistence and risktaking among other competencies. Moreover, [28] said that art-based program resulted in improved performance in six categories of literacy and critical thinking skills. Likewise, [29,30,31] found that integration of arts in English subjects can create a healthy communication between the students and teacher. However, [32] lamented that while art is a natural language for meaning making, thinking, developing, expressing and even recording ideas, pictures have become a second class citizen in today's classroom.

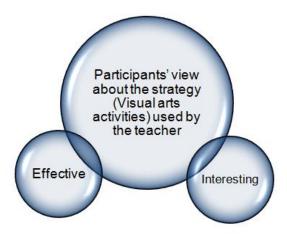


Fig. 1. Participants' view on the strategy (Visual arts activities) used by the teacher

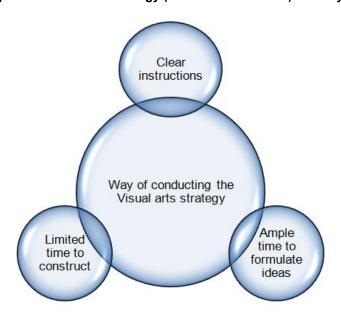


Fig. 2. Way of conducting the visual arts strategy

3.2 Ways in Conducting Visual Arts Strategy

Teachers have vital roles in the classroom. They are the ones who facilitate the learning of the students. Thus, giving clear and appropriate instructions are necessary. Moreover, teachers need also to allocate enough time for the students to formulate their ideas so that they can confidently share their answers to the class. Fig. 2 reveals that instructions were clearly given to the students before the tasks were done. The teacher explains properly what to do. However, the participants clamored that enough time should be given for them to gather their thoughts before they were allowed to speak. [33] said that

effective delivery of instruction is an essential part of teaching practice; however it is a learned skill that is often overlooked in teacher training. Moreover, [34] mentioned that clear and organized instruction has direct link to faculty interest in teaching, students' motivation and students' academic engagement. On the other hand, [35] pointed out that if teachers wanted to good task results, clear instruction must be given utmost importance.

Consequently, giving students enough time allows opportunities to elaborate their ideas [36]. Further, Several authors [37,38,39] believed that time allows critical thinking to occur and makes students develop substantial views.

3.3 Suggestions for Improvement

Fig. 3 reveals the suggestions and comments of the participants in order to improve the conduct of speaking activities using visual arts. Based on the results, it seems that visual arts develop the speaking skill of the students. Generally, the participants suggested that teacher may use colorful arts so that they could appreciate its beauty. [40] said that colorful arts stimulate learners' senses. Likewise, [41] found that color can induce feelings and or the perception of some affordances. Further, [42] said that colorful art catches attention. Thus, art color keeps the interest and motivation of the viewers. [43] said that art color create complex metaphors which provoke the viewers to make deep reflections.

Moreover, other participants suggested that they should be given enough time to think, conduct regular speaking activity with using art, the school may conduct speaking activities for the students, have brainstorm with other students before they are asked to speak, and everyone should be allowed to speak. All these suggestion indicate that the students favor the use of art in their speaking activities. It showed the participants' willingness and interest to the activities. [44] noted that images are used in

evaluating the speaking skills because art in general ignites interest to all. In the same note, [45] found in using art images in the classroom students showed constructive attitudes. Students expressed that that the use of art was favorable, enjoyable, unusual and beneficial. On the other hand, giving chance for other students to speak is a challenge that the teachers need to address. Other students may not speak because of they have nothing to say or they are hindered by their inability to speak the target language.

In the use of art in the classroom, [46,47] reiterated that art is not to be used as a 'quick fix' for deficits in the general curriculum but suggests that its real benefits are derived from ongoing use. He hypothesized that arts develop certain faculties of the brain to facilitate learning in general; that visual arts have strong positive cognitive, emotional, social, collaborative and neurological effects; and that arts allow better retention, greater student confidence and more independent thinking. The literature suggests strongly that educational value may be derived from simultaneous development of visual and verbal literacy though art activities. This research proposes an integrated approach to learning that would dispel the confusion that students experience as a result of excessive dichotomies in the delivery of instruction.



Fig. 3. Comments and suggestions of the students to improve the visual arts activities in facilitating speaking skill

4. CONCLUSION

The appreciation of students on the use of visual arts in enhancing their speaking abilities is a clear manifestation that visual arts is an effective tool in encouraging students to speak.

The pictures ignite and challenge them to formulate words. Thus, the use of visual art transform the students from uninterested to interested, from passive to active, and from blunt to critical thinker. On the other hand, clear instructions allow students to carry out the task according to the expected output. Moreover, time is a key element for learners to formulate wellthought answers. Hence, teachers may give provisions for time. Likewise. students clamor that visual arts should be colorful so that could appreciate the art more. However, they may not be relevant because the visual meaning does not depend on color.

The results of this study may lead English teachers to think of other possible actions to improve the conduct of their speaking classes using visual arts. Authentic visuals arts which depict historical significance may be utilized. It may not only let the learners appreciate history but also develop cultural attitudes. Teachers may also provide and explain a speaking rubrics before the students do the task. This makes the learners informed and allows them to strategize. Lastly, teachers may also consider thematizing the visual arts so that students become more interested and engaged.

5. IMPLICATION

The results of this study could provide essential concept to innovate the English curriculum. Curriculum designer may consider the value of visual arts in motivating students enhance their oral skills. This research could also encourage educators to embrace the idea of integration rather than holding on to insular approaches to their individual subject areas. It will help advance the view that in a multi-media, multi-global, 'multieverything' kind of environment, integrated learning is more realistically based than isolated instruction. Finally, this study could facilitate the students to think creatively through visual arts. It could measure how deep their ideas are in analyzing a certain visual arts.

CONSENT AND ETHICAL APPROVAL

To address the research ethics, the researchers followed protocols in handling qualitative method. Confidentiality of the participants' identity and the information obtained were strictly observed. Consent letters before the conduct of the study were sought. Further, the objectives, length of interviews, and confidentiality and withdrawal clauses were also presented to the participants. Also, the participants were assured that the information obtained was used for research purposes only.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

- Boonkit K. Enhancing the development of speaking skills for non-native speakers of English. Procedia-social and Behavioral Sciences. 2010;2(2):1305-1309.
- 2. Richards JC. Developing classroom speaking activities: From theory to practice. Guidelines-Singapore-periodical for Classroom Language Teachers then Magazine for Language Teachers. 2006;28(2):3.
- 3. Richards JC. Teaching listening and speaking. Cambridge, England: Cambridge University Press; 2008.
- Sosas RV, San Jose AE. Narratological as an approach in teaching speaking. International Journal of Recent Scientific Research. 2016;7(4):10610-10615.
- Bone JC, San Jose AE, Concepcion MGR. Improving English speaking abilities of ESL learners through communicative taskbased instruction. International Journal of New Economics and Social Sciences. 2019;1(9).
- San Jose AE. Dialectal variations in English: Its effect on speaking proficiency. UIC Research Journal. 2011;17(1).
- Alharbi HA. Improving students' English speaking proficiency in Saudi Public Schools. International Journal of Instruction. 2015;8(1):105-116.
- 8. Brown G, Gillian B, Brown GD, Yule G. Teaching the spoken language. Cambridge University Press. 1983;2.
- 9. Kern R. Literacy and language teaching. Oxford University Press; 2000.

- Westwood PS. What teachers need to know about teaching methods? Aust Council for Ed Research; 2008.
- Wright WE. The effects of high stakes testing in an inner-city elementary school: The curriculum, the teachers and the English language learners. Current Issues in Education. 2002;5.
- Mendenhall M, Bartlett L, Ghaffar-Kucher A. If you need help, they are always there for us: Education for refugees in an international high school in NYC. The Urban Review. 2017;49(1):1-25.
- Naitram D. Developing visual and verbal literacy through visual arts activities among grade seven students; 2013. (Retrieved August 25, 2019)
 Available:http://www.nwp.org/cs/public/prin t/resource/958
- Richardson K. West side story: Success within special education through arts integration; 2018.
- Nunan D. Practical English language teaching. New York: McGraw Hill. 2003;54. (Retrieved October 15, 2019)
 Available:file:///E:/PHD%20SUBJECTS/tea ching%20strategy/speaking/Bab%202.pdf
- Creswell JW. Quality inquiry and research design. Thousand Oaks London New Delhi. SAGE Publications. 1998:114.
- 17. Bryman A. Social research methods (2nd Edition). Oxford: Oxford University Press; 2004.
- 18. Charmaz K. Constructing grounded theory: A practical guide through qualitative analysis. Sage. 2006;11.
- Wallen NE. How to design and evaluate research in education. New York: McGraw-Hill: 2006.
- Clandinin DJ, Connelly FM. Personal experience methods. [in] Denzin N.K., Lincoln Y.S., (Eds.), Handbook of qualitative research. Thousand Oaks, CA, US: Sage Publications, Inc. 1994;12:413-427.
- Rossman GB, Rallis SF. Learning in the field: An introduction to qualitative research. Sage; 2011.
- 22. San Jose AE, Bahket R, Ali Alsalhi H. Teach us the way we want: Teaching approach for special needs students. European Journal of Special Education. 2017;2(6).
- San Jose AE. We need your help: An evaluation of students' tutorial experiences in mathematics and science. Journal of

- Humanities and Social Sciences Invention. 2019;1(1):1-7.
- 24. Thomas JR, Nelson JK, Silverman SJ. Research methods in physical activity. Human Kinetics; 2015.
- Olshansky B. Picturing writing: Fostering literacy through art and image-making within the writing process; 2008.
 (Retrieved July 01, 2019)
 Available:http://www.picturingwriting.org/combined.html
- 26. Ruppert SS. How the arts benefit student achievement. Critical evidence. National Assembly of State Arts Agency & Arts Education Partnership; 2006. Available:www.nasaaarts.org/Research/Key-Topics/Arts.../critical-evidence.pdf
- Izadi D. Arts in science education. Canadian Journal of Physics. 2017;95(7).
- Kennedy R. Guggenheim study suggests arts education benefits literacy skills. The New York Times, 27, E1; 2006.
- Hall, JK, Walsh M. Teacher-student interaction and language learning. Annual Review of Applied Linguistics. 2002;22: 186
- Rabkin N, Redmond R. The arts make a difference. The Journal of Arts Management, Law and Society. 2006;36(1):25-32.
- 31. Martinez D. Integration of the arts into English language arts in kindergarten. Doctoral Dissertation, California State University San Marcos; 2018.
- Olshansky B. Making magic: Bring words and pictures together. Talking Point. 2008;20(1).
 (Retrieved July 03, 2019)
 Available:www.picturingwriting.org/publish edarticles/pdf/talking-points.pdf
- Sowell J. Good instruction-giving in the second-language classroom. In English Teaching Forum. US Department of State. Bureau of Educational and Cultural Affairs, Office of English Language Programs, SA-5, 2200 C Street NW 4th Floor, Washington, DC. 2017;55(3):10-19.
- 34. Roksa J, Trolian TL, Blaich C, Wise K. Facilitating academic performance in college: Understanding the role of clear and organized instruction. Higher Education. 2017;74(2):283-300.
- 35. Vansteenkiste M, Aelterman N, Haerens L, Soenens B. Seeking stability in stormy educational times: A need-based perspective on (de) motivating teaching grounded in self-determination theory.

- Motiv. Educ. Time Glob. Chang. 2019;20:53-80.
- Raba AAA. The influence of Think-Pair-Share (TPS) on improving students' oral communication skills in EFL classrooms. Creative Education. 2017;8(1):12-23.
- 37. Liu OL, Mao L, Frankel L, Xu J. Assessing critical thinking in higher education: The Heilghten™ approach and preliminary validity evidence. Assessment & Evaluation in Higher Education. 2016;41(5):677-694.
- 38. Beavers E, Orange A, Kirkwood D. Fostering critical and reflective thinking in an authentic learning situation. Journal of Early Childhood Teacher Education. 2017;38(1):3-18.
- Afshar HS. TEFL postgraduate students' perception of critical thinking. Thinking Skills and Creativity in Second Language Education: Case Studies from International Perspectives. 2019;172.
- Arntzen E, Mensah J. On the effectiveness of including meaningful pictures in the formation of equivalence classes. Journal of the Experimental Analysis of Behavior; 2020.
- Chen M, Fadel G, Xue C, Wang H, Mata I, Chen Y. Evaluating the cognitive process of color affordance and attractiveness

- based on the ERP. International Journal on Interactive Design and Manufacturing (IJIDeM). 2017;11(3):471-479.
- 42. Bissonnette-Maheux V, Dumas AA, Provencher V, Lapointe A, Dugrenier M, Straus S, Desroches S. Women's perceptions of usefulness and ease of use of four healthy eating blog characteristics: a qualitative study of 33 French-Canadian women. Journal of the Academy of Nutrition and Dietetics. 2018;118(7):1220-1227.
- Nakajima T, Lehdonvirta V. Designing motivation using persuasive ambient mirrors. Personal and Ubiquitous Computing. 2013;17(1):107-126.
- Royce T. Multimodality in the TESOL classroom: Exploring visual-verbal synergy. TESOL quarterly. 2002;36(2): 191-205.
- 45. Bayri G. The student perception of visual arts in the speaking classroom. International Journal of Arts and Sciences. 2010;3(11):166-180.
- 46. Jensen E. Arts with the brain in mind. ASCD; 2017.
- 47. Vanada DI. An equitable balance: Designing quality thinking systems in art education. International Journal of Education & the Arts. 2016;17(11).

© 2020 Duropan; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/55172