Virtual Environments for Learning and Written Expression: A Preliminary Study[1]

Entornos virtuales de aprendizaje y expresión escrita: un estudio preliminar

Jeni R. Ccorahua Laguna[2]
Id. Orcid: https://orcid.org/0000-0003-2665-2069

Wilfredo Carcausto-Calla[3]
Id. Orcid: https://orcid.org/0000-0002-3218-871X

Universidad César Vallejo, Perú

Abstract

Virtual learning environments (VLE) structure written learning through routes provided by virtual guides or teachers, this being a strict measure for interoperability with study participants. However, little is known about its interactive functionality among the participants who communicate on the platforms that configure these environments, for which, we investigated the effects that the VAS produced in the written expression of 30 subjects of secondary education in the capital of Peru. We design a research with a quantitative approach of a pre-experimental type, in which we use qualification sheets of the written production. The results report that the subjects participating in the experiment developed the capacity for written expression. This effect was developed in the largest number of subjects, who demonstrated improvements in the dimension of text adaptation and continuous evaluation of writing. The events witnessed allow us to argue that virtual learning environments grant freedom for creativity in writing, which has regulated in students the ability to write through social interactions exercised on the platforms in which they participated.

Keywords: Adequacy of the Text; Coherence of the Text; Cohesion of the Text; Communicative Interaction; School Writing; Virtual Learning Environments; Written Expression; Writing Evaluation; Writing on Virtual Platforms.

Resumen

Los entornos virtuales de aprendizaje (EVA) estructuran el aprendizaje escrito mediante rutas brindadas por los guías o docentes virtuales, siendo esta una medida estricta para la interoperabilidad con los participantes del estudio. Sin embargo, poco se conoce sobre su funcionalidad interactiva entre los participantes que se comunican en las plataformas que configuran estos entornos, por lo cual, indagamos los efectos que produjeron los EVA en la expresión escrita de 30 sujetos de educación secundaria de la capital del Perú. Diseñamos una investigación con enfoque cuantitativo de tipo pre experimental, en la cual, utilizamos fichas de calificación de la producción escrita. Los resultados reportan que los sujetos participantes en el experimento desarrollaron la capacidad de expresión escrita. Este efecto fue desarrollado en la mayor cantidad de sujetos quienes demostraron mejorías en la dimensión adecuación del texto y evaluación continua de la escritura. Los eventos presenciados permiten aducir que los entornos virtuales de aprendizaje otorgan libertad para la creatividad en la escritura, lo cual ha regulado en los estudiantes la capacidad para escribir mediante interacciones sociales ejercidas en las plataformas en que participaron.

I.   Introduction.

The pandemic context due to SARS-CoV-2 relative to the Peruvian territory has been mitigated according to the measures of the National Government, among which, the mandatory social isolation was determined to avoid the agglomeration of people (Supreme Decree No. 046-2020 - PCM), a measure by which it is also sought to prevent the spread of the virus. This has confined the educational processes towards remote education, which is why there are certain obstacles for teachers to carry out their teaching task in non-face-to-face media (Atarama, 2020), being so, in the educational sector this situation pushes us towards academic and emotional regulation in learning processes (Gualceiro & Avia, 2015). There is also some strict implication for using virtual environments as the main school measures to achieve personal and professional development in the future (European Commission, 2009; Garzón et al., 2020; Gualceiro & Avia, 2015; Pugacheva et al., 2020). Due to the communicative area, we find that students communicate among their most assiduous members in social networks through the use of their written expression. In this regard, the Ministry of Education of Peru (Minedu, 2016) has pointed out that the main components to achieve some effective written communication must be developed domains such as: (a) adaptation of the text to a communicative situation, (b) organization of the ideas in a coherent and cohesive way, (c) use of textual resources and (d) reflection of the written text.

Problematic in written expression

The problem of the study focuses on the fact that there are problems for written expression in moments of academic demand when there are low levels to use digital writing tools, precisely because there are problems to use the aforementioned domains (Bujanovil & Ilic, 2018; Olivier, 2019), which is why the world generally disapproves of the ability to argue through essays, whose characteristic is similar to that used by schoolchildren in social networks to generate criticism, comments or other texts of a socio-critical nature. Although learning in these environments, specifically about writing, has certain differences with non-digital writing, since it is assumed that virtual tools allow the development of personalized strategies, the use of everyday (non-formal) language as well as the use of virtual links to creativity (Tornese et al., 2011; Silva, 2011), which occurs is a very slow learning in writing on paper media. The competencies in individuals who use social networks to express themselves have certain differences with those who do so in writing (not digital). In this sense, the Peruvian educational service goes through different paths, without considering the particular learning paths that students use in their own virtual communication networks (Minedu, 2020).

It has been found that the problem of face-to-face education at the secondary level of Regular Basic Education in Peru is found around 97% of students who used to have obstacles to prepare texts (Chiclayo & Reyes, 2016), being that more than 30% of This population has problems in coherence, cohesion and spelling to express their ideas, although these are very valuable if we consider them from the creative aspect. The research focused on the analysis of an educational institution, with more than 700 students of this level who have problems communicating in writing in virtual media such as Meet, Hangouts, WhatsApp, and Facebook. Therefore, it was decided to address these

problems due to the use of strategies based on the use of virtual environments for learning (VLE). Therefore, it is important to ask: Are there influential effects of VLE on the written expression of secondary school students?

Findings in the written expression and in the approaches of the VLE

According to the works of Cassany and other researchers who followed the postulates of the generative grammar linguistics of Noam Chomsky (Cassany, 1995; Ong, 1994; Valery, 2000), writing has been established in the natural and biological process, by the which, the human being has developed communication systems with which to use meaning to transfer objectives, requests, and values. Although this position has already been further studied by structuralist and constructivist theorists of language learning (Bastons, 1993; Cassany, 2009; Hernández, 2011), who accept writing as the generated medium of human interaction, with which builds different types of information based transferred between peers to exercise visual communication. Written expression is already considered as the functionality of human communication, for which purpose, written language is used in its grammatical, lexical, morphosyntactic and pragmatic sense (Minedu, 2016). Because of considering them basic competences for the human being, they are dimensioned in: (a) adaptation of the text, (b) cohesion and coherence in the organization of ideas, (c) use of conventional language systems, (e) reflection and continuous assessment.

Some evidence in this regard shows that all dimensions must be developed at the same time, because they must be understood as concatenated elements, avoiding considering them as progressive levels (Atasoy & Temiskan, 2016), as well as, it has been found that if there are problems for control and develop basic skills, then the higher ones would present similar problems from the school stage (Díaz, 2018), especially in subsidized schools. On the contrary, given the need for students to develop these dimensions in parallel, we find evidence that contradicts these proposals, since it has been found that the major problem lies in the transfer of written content to another language, and in the capitalization of the text (generation of macro ideas) (Ratnaningsih, 2019), instead of the competences of cohesion, coherence, adequacy and reflection, although in the Latin American evidence there are coincidences on the parallel education of the dimensions of written expression (Atasoy & Temiskan, 2016; Sánchez & López, 2019). That is to say, parallel work of all dimensions is needed, both to organize, declare, unite and reflect while writing is going on, as opposed to promoting them one at a time, considering them levels of learning.

This could penetrate, with great significance, in the educational mentality that the Ministry of Education of Peru tries to transfer, through its home education proposal, since it is considered (implicitly) in the remote education approach, that students develop their writing in family life. This is questionable, in the sense that the written expression can be carried out in the virtual medium, but it is complex, due to the verification criteria that are needed and the control that must be applied in the network. Some studies have already investigated in relation to this competence that this capacity would be developing through the high consumption of data on platforms and devices that enliven the informational construction of the text (Britez, 2020). However: what will be the effects on the reflective and coherence / cohesion dimensions that student communication implies in these cyber-coexistence media?

There are many benefits from interacting with platforms, among which some research has reported that digital writing strategies are adopted in the writing process of young students (Adams, 2017; Alves et al., 2017), although there are other difficulties to pass the courses, typical of the substantial subject that involves taking an online course (Alves et al., 2017), but the participatory power

generated by the platforms in the search for the written interaction of the participants themselves is outstanding (Angoma, 2016). In these actions, students' writing is already compromised by naturalistic writing, rather than by academic pressure. On the other hand, the evidences of other authors (Castillo, 2019; Katerniak & Loboda, 2016), have declared that virtual environments generate almost half of school groups, the capacity for self-regulation or other similar variables that develop written expression, although another great part presents fears to communicate. The evidence up to this point still does not present strong indicators that support the effectiveness of virtual learning environments in the development of written expression as the communicative act of the human being.

For these reasons, the objective of the research is: to verify the influential effects of Virtual Learning Environments (VLE) on school written expression.

II.   Method.

The research presents the preliminary results derived from the approach to school writing through the application of a proposal based on the use of virtual learning environments, therefore, we structure these facts in the positivist approach, with a quantitative approach. The design is experimental, and explanatory level (Hernández et al., 2014). The study variables are of an independent type: Virtual Learning Environments (VLE), and of a dependent type: written expression.

Sample

The preliminary analysis suggested the pre-experimental implication with 30 subjects involved in the study, formulating an experimental group with pre and postest. The age range of the study subjects was 13 to 15 years ($SD = 0.23$). 53% were male and 47% female. All were from socioeconomic backgrounds C and D from the Carabayllo district in the city of Lima. The sampling was assigned in a non-probabilistic way by choosing third-grade high school students from a public educational institution. The participants joined the study after obtaining the permission of their parents, through the informed consent document.

Materials and procedure

The written expression appreciation technical sheet - FTAEE was used, which was administered for 30 minutes for the evaluation of the component, and for 25 minutes for its qualification. This was of a collective type, considering five structural elements of evaluation on the dimensions: (a) adaptation of the text, (b) cohesion and coherence in the organization of ideas, (c) use of conventional language systems, (e) reflection and continuous evaluation.

It should be noted that, to carry out the experiment, the methodological approach of the VLE program was organized for the students who received classes in the areas of communication and tutoring. This was previously coordinated with the directors of the educational institution addressed, as well as with the teachers in charge of sections A and B of the third grade of secondary school. Parents were asked for permission, after obtaining it, the activities of the VLE program were integrated into those of the short-term curricular plan that the teachers took with their students. We managed to camouflage all the activities among those that were carried out in the communication area, trying to avoid replicating those directed to the writing area, therefore, the activities related to the dimension "*is expressed in writing*" of the didactic units implemented in each section. These were replaced by the technical research team, whose purpose was to evaluate at the beginning of the program (pretest), and after its closure (postest). The students were prevented from deducing about

the participation of the technical team, in order not to alter the results obtained, due to the overexposure of influences before participating in the experimental activities.

III. Results and Discussion

Table 1 describes differences regarding the comparison of pretest scores with the pretest ($Rp_{(dif.)}$ = 8.96; $Sr_{(dig.)}$ = 53.95), which have been significant with respect to the intervention of the VLE proposal on written expression, being represented in more than half of the subjects involved in the study ($r_{(pos.)}$ = 27; $r_{(e.)}$ = 3; $p <.005$). Regarding the scores referring to each dimension, all of them established inferential differences (suitability of the text: $r_{(pos.)}$ = 29; $r_{(e.)}$ = 1; $p <.005$; cohesion and coherence in the organization of ideas: $r_{(pos.)}$ = 28; $r_{(e.)}$ = 2; $p <.005$; use of conventional language systems: $r_{(pos.)}$ = 28; $r_{(e.)}$ = 2; $p <.005$; reflection and continuous evaluation: $r_{(pos.)}$ = 26; $r_{(e.)}$ = 4; $p <.005$).

Table 1.

Pretest and postest scores in written expression.

Written expression*	Rp	Sr
Pretest	10.91	141.55
Postest	19.87	195.50

Source: Research database.
Note: *$p <.005$.
Rp = average range; Sr = sum of ranks.

According to these results, we can assume similarities to the investigations that have revealed benefits in the provocation of written production when students take control to generate macro-structures of the text with creativity and independence (Atasoy & Temiskan, 2016; Díaz, 2018), as applied through the intervention from virtual learning environments (VLE). Some results located in students who carry out written production through personal interactions have also reported that it corresponds to the interaction on digital platforms, allowing the power to participate in their creations as well as that of their peers as active contributors (Angoma, 2016; Katerniak & Loboda, 2016). The results presented so far have revealed that the intermediate high school student can adopt capacities to express what they obtain through interactions with others; therefore, the platforms have allowed them to introduce conversations, academic collaboration and academic collaboration into their writing. the relevance in the approach of ideas, with the simple fact of interacting, which is preliminary evidence that the written expression can be produced enjoying the content external to the person who writes, as long as it adopts the meanings of others as contributions, as well as contribution in the meanings that others generate through this communicative exchange.

Alves et al. (2017) had already mentioned up to this point that environments, through digital writing, open up initial evidence to present essential paths to students, with which, also allow the use of coherence and cohesion, the conventional sense of language to regulate their own learning and that of their peers. Therefore, this similarity to the program developed (VLE) in our study is an incentive to corroborate that the students managed to strengthen these dimensions, exercising in the particular way in which the participating subjects did, during the activities carried out, the mediators provided opportunities for them to young people could express their ideas regarding the successes

of themselves, in turn, the mistakes. This is opened by the program, through virtual objectives for inter-learning communication: chat, debate, conversational audio resources.
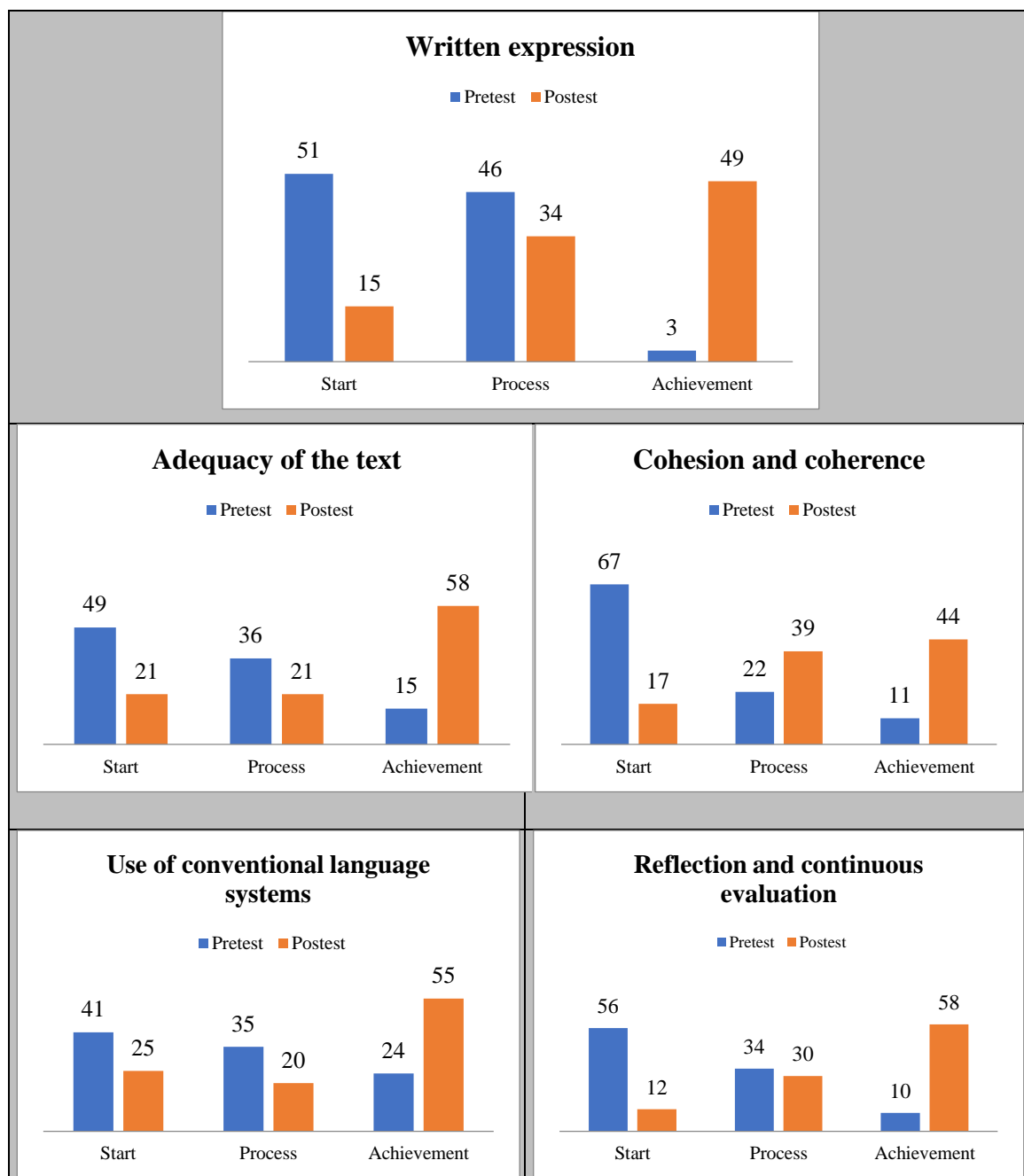

Figure 1. Percentages in written expression and its dimensions according to achievement levels.

Source: Research database.

According to figure 1, we can assume descriptive differences regarding the percentage in the level of achievement over the variable written expression (achievement = 46 %), the difference in the decrease in the percentage of subjects who responded at the initial level, was also preponderant (start = 36 %). In the levels of the text adaptation dimension, the increase in the level of achievement was 43% of the total number of students, the decrease in the starting level was 28 %. En relación a la dimensión cohesión y coherencia, el aumento fue del 33 %. The component of the use of conventional language systems also showed an increase in the level of achievement (31 %),

the decrease was 16 % in the total sample. The dimension reflection and continuous evaluation of writing presented an increase of 48% of the total of subjects who performed at the level of achievement after receiving the VLE program. The decrease in the starting level in this case was 44 % of the total of participants who reflected having this level in reflection and continuous evaluation to write.

The descriptive evidence allows us to deduce that the effect was more deeply rooted by the study participants regarding the capacities of adaptation of the text and of continuous evaluation and reflection, so that the virtual learning environments program produced activities that acted as enablers in students with few possibilities to plan the text, write it, and later self-evaluate its production. These evidences seem to come from the proposals on self-regulation for writing (Castillo, 2019; Katerniak & Loboda, 2016), so it can be admitted that the individuals who experimented with the VLE, modified the way in which they understand the text, imagining it as a means to communicate, instead of conceiving it as a way of academic expression. This has given the first evidence on the naturalistic proportion that the use of VLE´s implies when developing written expression, allowing it to be ignored as a schematizing means of writing, to conceptualize it as a free constructive way to develop coherent writing structures for human communication.

IV. Conclusions

The inferential evidence allowed deducing significant effects of change in written expression, produced by the virtual learning environments (VLE) program, which has been verified in the scores obtained in the experimental comparison. On the other hand, the dimensions also achieved positive differences, especially in the level of achievement.

The dimensions of adaptation of the text and continuous evaluation of writing were the ones that most people developed through this experiment, being represented at the level of achievement found and the significance at the inferential level. Although the percentage of subjects who were at the starting level in all dimensions was reduced, these figures being important.

Regarding the contribution, we can admit that virtual learning environments activate the sense of freedom in the initial processes of human writing, due to their properties of interaction added to the virtual objects that integrate it for academic achievement, but with greater For this reason, this sense of freedom appears in the objectives related to social interaction, those in which the participating subjects can discuss, speak, respond and make criticisms, which has been the main theoretical support for which, the VLE, developed the skills in the group of the experimental sample in which we carried out the study.

V.   References.

Adams, N. (2017). The Knowledge Development Model: Responding to the Changing Landscape of Learning in Virtual Environments. 14th International Conference on Cognition and Exploratory Learning in Digital Age (CELDA 2017). https://files.eric.ed.gov/fulltext/ED579456.pdf

Angoma, M. (2016). *Entornos virtuales y aprendizaje en la escuela profesional de administración y sistemas de educación a distancia de la Universidad Peruana Los Andes - sede La Merced 2015* (Tesis doctoral). Universidad Nacional del Centro del Perú. http://repositorio.uncp.edu.pe/handle/UNCP/3888

Atarama, T. (2020, 23 de abril). La migración a la educación virtual en tiempos de pandemia, *El Peruano*. http://udep.edu.pe/hoy/2020/la-migracion-a-la-educacion-virtual-en-tiempos-de-pandemia/

Atasoy, A. & Temiskan, M. (2016). Evaluation of Secondary School Students' Writing Fluency Skills. *Educational sciences: Theory & Practice*, 16(5) https://doi.org/10.12738/estp.2016.5.0353

Alves, P. Miranda, L. & Morais, C. (2017). The Influence of Virtual Learning Environments in Students' Performance. Universal Journal of Educational Research 5(3), 517-527. https://doi.org/10.13189/ujer.2017.050325

Bastons, C. (Coord., 1993). *Nuevas cuestiones de didáctica de la lengua en tiempos de Reforma*. P.P.U.

Britez, M. (2020). *La educación ante el avance del COVID-19 en Paraguay. Comparativo con países de la Triple Frontera*. Scielo Preprints. https://doi.org/10.1590/SciELOPreprints.22

Bujanovic, M. & Ilic, D. (2018). Determinants of elementary student's writing tool manipulation skills. *Research in Pedagogy*, 8(2), 214-225. https://doi.org/10.17810/2015.85

Cassany, D. (1995). *Describir el escribir. Cómo se aprende a escribir*. Paidós.

Cassany, D. (Comp.) (2009). *Para ser letrados. Voces y miradas sobre la lectura*. Paidós.

Castillo, E, (2019). *Aula virtual en expresión oral y escrita en estudiantes de pregrado* (Tesis doctoral). Universidad César Vallejo. http://repositorio.ucv.edu.pe/handle/20.500.12692/27118

Chiclayo, M. & Reyes, L. (2016). *Relación entre la competencia comunicativa de comprensión de textos continuos y producción de textos discontinuos* (Tesis de grado). Universidad Nacional de Trujillo. http://dspace.unitru.edu.pe/bitstream/handle/UNITRU/5144/CHICLAYO%20FULGENCIO-REYES%20VILCHEZ.pdf?sequence=1

Comisión Europea (2009). *Marco estratégico Educación y Formación 2020* (ET2020). España.

Díaz, C. (2018). La presencia de elementos de conexión en las producciones narrativas escritas en una muestra de escolares de Santiago de Chile. *Revista Signos. Estudios de Lingüística*, 52(101), 736-758. https://doi.org/10.4067/S0718-09342019000300736

Garzón, A.; Sola, M.; Ortega, M.; Marín, M.; & Gómez, G. (2020). Teacher Trainingin Lifelong Learning—The Importance of Digital Competence in the Encouragement of Teaching Innovation. *Sustainability Journal*, 12(7), 1-13. https://doi.org/10.3390/su12072852

Gobierno del Perú (2020). *Decreto Supremo N° 046-2020-PCM*. https://www.gob.pe/institucion/pcm/normas-legales/462244-046-2020-pcm

Gualceiro, O. & Avia, Ch. (2015). Aprender en Entornos Virtuales. Red Iberoamericana de comunicación y divulgación científica. https://www.oei.es/historico/divulgacioncientifica/?Aprender-en-Entornos-Virtuales

Hernández, V. (2011). Razones didácticas para fundamentar la expresión escrita, como proceso de competencia y actuación. *Integra Educativa*, 4(1) 205-218 http://www.scielo.org.bo/pdf/rieiii/v4n1/v4n1a12.pdf

Hernández, R.; Fernandez, C.; & Baptista, L. (2014). *Metodología de la investigación*. MCGraw-Hill.

Katerniak, I. & Loboda, V. (2016). Cognitive Presence and Effect of Immersion in Virtual Learning Environment. *Universal Journal of Educational Research* 4(11), pp. 2568-2573. https://doi.org/10.13189/ujer.2016.041109

Ministerio de Educación del Perú (2020). *Orientaciones para la evaluación de competencias de estudiantes de la Educación Básica en el marco de la emergencia sanitaria por COVID-19*. RV N°. 193-2020-MINEDU.

Ministerio de Educación del Perú (2016). *Currículo Nacional de Educación Básica*. Lima. http://www.minedu.gob.pe/curriculo/pdf/curriculo-nacional-2016-2.pdf

Olivier, J. (2019). Exploring Autonomography: The Development of a Selfdirected Writing Self-rating Scale. *Iranian Journal of Language Teaching Research* 7(1), pp.1-22. https://files.eric.ed.gov/fulltext/EJ1201781.pdf

Ong, W. J. (1994). *Oralidad y escritura. Tecnología de las palabras*. Fondo de Cultura Económica.

Pugacheva, N.; Kirillova, T.; Kirillova, O.; Luchinina, A.; Korolyuk, I.; & Lunev, A. (2020). Digital Paradigm in Educational Management: The Case of Construction Education Based on Emerging Technologies. *International Journal of Emerging Technologies in Learning*, 15(13), 96-115. https://doi.org/10.3991/ijet.v15i13.14663

Ratnaningsih, S. (2019). Error Analysis in the Descriptive Text Writing of Vocational High School Students. *Dinamika Ilmu. Jurnal Pendidikan*, 19(1), 175-186. http://doi.org/10.21093/di.v19i1.1364

Tornese, E.; Doglioti, C.G.; Mazzoglio, M.J.; Algieri, R.D.; Gazzoti, A.; Jiménez, H.N.; Rey, L.; & Gómez, A. (2011). Entorno Virtual de Enseñanza y Aprendizaje Aplicado como Recurso Instruccional Complementario en la Enseñanza de Neuroanatomía: Aspectos Poblacionales, Didácticos y Psicopedagógicos. *International Journal of Morphology*, 29(4), 1130-1135. https://dx.doi.org/10.4067/S0717-95022011000400010

Sánchez, L. F., & López, M. M. (2019). Analysing Mathematical Word Problem Solving with Secondary Education CLIL Students: A pilot study. Latin American. *Journal Of Content & Language Integrated Learning*, 12(1), 72-98. https://doi.org/10.5294/laclil.2019.12.1.4

Silva, J. (2011). *Diseño y moderación de entornos virtuales de aprendizaje* (EVA). Editorial UOC.

Valery, O. (2000). Reflexiones sobre la escritura a partir de Vigostky. *Revista Educere* 3(9), 38-43. https://www.redalyc.org/pdf/356/35630908.pdf