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Impact of the flipped classroom approach on self-regulation of learning in undergraduate tourism students

Impacto del enfoque de aula invertida en la autorregulación del aprendizaje en estudiantes universitarios de turismo

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Yessenia Solier Castro
https://orcid.org/0000-0002-1121-7112
unahcalidad@gmail.com
Universidad César Vallejo. Lima, Peru

Jessica Paola Palacios Garay
https://orcid.org/0000-0002-2315-1683
jpalaciosg@unmsm.edu.pe
Universidad César Vallejo. Lima, Peru

Anarella Uribe Tapahuasco
https://orcid.org/0009-0006-5305-7563
anna_yasir23@hotmail.com
Universidad Nacional San Cristobal de Huamang. Lima, Peru

Stefanny Miluska Jaime Ruiz
https://orcid.org/0000-0002-4851-3812
stefanny.jaime@uwiener.edu.pe
Universidad Norbert Wiener. Lima, Peru

Jorge Luis Escalante Flores
https://orcid.org/0000-0002-4942-5283
jorge.escalante@urp.edu.pe
Universidad Ricardo Palma. Lima, Peru

Anghye Lorena Fumachi Lozano
https://orcid.org/0000-0003-1409-0599
anghye.fumachi@unmsm.edu.pe
Universidad Nacional Mayor de San Marcos. Lima, Peru

Abstract

The COVID-19 health emergency caused the massive closure of face-to-face educational institutions, which limited the development of competencies and the use of traditional methodological strategies, giving way to an accelerated virtualization of the educational process. The purpose of the research was to analyze the influence of the inverted classroom methodology on the development of self-regulated learning. The study, of an applied type and quantitative approach, adopted a quasi-experimental design, implementing a program that allowed comparing the levels of self-regulated learning before and after the intervention, using the Lindner, Harris and Gordon questionnaire for its measurement. The sample consisted of 140 students from a public university. The survey technique was used, validated by expert judgment and pilot test, and the data were analyzed using statistical tests such as Kolmogórov-Smirnov and Mann-Whitney U test. The results show that the inverted classroom strategy significantly favors the development of self-regulated learning, promoting autonomy, commitment and the active use of technological resources, in accordance with previous research that highlights the positive impact of this methodology in university education.

Keywords: flipped classroom, self-regulated learning, teaching strategy.

Resumen

La emergencia sanitaria por la COVID-19 provocó el cierre masivo de las instituciones educativas presenciales, lo que limitó el desarrollo de competencias y el uso de estrategias metodológicas tradicionales, dando paso a una virtualización acelerada del proceso educativo. El propósito de la investigación fue analizar la influencia de la metodología del aula invertida en el desarrollo del aprendizaje autorregulado. El estudio, de tipo aplicado y enfoque cuantitativo, adoptó un diseño cuasi-experimental, implementando un programa que permitió comparar los niveles de aprendizaje autorregulado antes y después de la intervención, utilizando el cuestionario de Lindner, Harris y Gordon para su medición. La muestra estuvo conformada por 140 estudiantes de una universidad pública. Se empleó la técnica de encuesta, validada mediante juicio de expertos y prueba piloto, y los datos fueron analizados mediante pruebas estadísticas como Kolmogórov-Smirnov y U de Mann-Whitney. Los resultados evidencian que la estrategia del aula invertida favorece significativamente el desarrollo del aprendizaje autorregulado, promoviendo la autonomía, el compromiso y el uso activo de recursos tecnológicos, en concordancia con investigaciones previas que destacan el impacto positivo de esta metodología en la formación universitaria.

Palabras clave: aula invertida, aprendizaje autorregulado, estrategia didáctica.

Introduction

Following the COVID-19 pandemic, there was a noticeable negative impact on social interactions, health, and education globally. Various educational systems were affected; the closure of institutions and the abrupt transition from in-person to virtual learning led to immediate changes in teaching methods and materials, as well as in interactive and technological methodologies. Higher education was not exempt from this transformation (Cáceres, 2020).

According to the International Institute for Higher Education in Latin America and the Caribbean (UNESCO-IESALC, 2020), in Latin America, this disruption prompted over 1,500,000 higher education institutions (91.3%) to implement virtual classrooms, technological support platforms, and assistance for both students and educators. Furthermore, academic and administrative regulations were relaxed, and new strategies were designed, such as awareness and guidance campaigns directed at the university community.

In this context, the use of technological resources in remote classes became an urgent necessity. However, this modality facilitated a basic immediacy of learning but not a comprehensive one. The transition from the everyday environment to boredom, and then to ennui and despair, resulted in serious learning issues for students and new pedagogical challenges for educators (Salas et al., 2022).

In Peru, as in the rest of Latin America, the pandemic forced the search for new teaching methods. One of the main gaps was the unequal access to digital platforms and connectivity, which primarily affected students from public universities. Virtual education, often already precarious, revealed its methodological and administrative limitations, impacting more than 350,000 students (INEI, 2020). As Maneiro (2020) states, the primary challenge was to sustain the educational process through supportive policies, collaborative work, and the application of virtual methodologies, which had previously been merely supplementary but had now become essential.

Historically, classroom education has been the primary space for the teaching-learning process. However, it currently faces a different perspective, driven by a globalized society that demands the development of technologies applied to knowledge and information (Posthuma, 2018). The traditional paradigm, where the teacher teaches and the student learns, has been altered, as education now incorporates new realities, especially post-pandemic, adopting more active methodologies (Ventosilla et al., 2021).

One such methodological strategy is the flipped classroom, an educational model initially proposed by Barbara Walvoord and Virginia Johnson in 1998. According to Keengwe and Onchwari (2015), its main proponents, Bergmann and Sams (2016), suggest that this model inverts the learning environment, utilizing resources such as videos and audio to facilitate content access from home via virtual platforms.

Conceptualization of flipped classroom

According to Costa and García (2017), the theoretical model of the flipped classroom is based on challenge-based learning, aligning with Sergio Tobón (2017), who asserts that learning should be designed to address challenges in diverse sociocultural contexts. This form of learning relies on problem-solving from an integrative approach that encompasses knowing how to be, knowing how to do, knowing how to know, and knowing how to coexist.

This strategy promotes active participation from students through teamwork, time organization, collaboration, and continuous feedback (Jara, 2019). It also strengthens the teaching strategies of the educator,

who becomes a mediator that continuously motivates and researches to improve academic planning (Divjak et al., 2022). The key to this methodology lies in the learning that occurs prior to class, where the student processes content through planned and structured resources, supported by didactic and technological strategies (Inzunza-Mejía et al., 2022).

Conceptualization of self-regulated learning

Self-regulated learning involves the student adopting cognitive strategies from a psychopedagogical perspective, grounded in behaviorist, socioconstructivist, and sociocognitive theories. This type of learning is associated with motivation, self-regulation, and self-efficacy. Bandura (1977) describes it as a control process through which the student adapts their behaviors to the environment to achieve goals, manage emotions, and progress toward objectives.

Thus, it is a process in which the student takes control of their own learning, selects strategies to reach their goals, and constructs and consolidates their knowledge based on context and academic competencies (Domínguez et al., 2017).

In this framework, the objective of this research was to determine the influence of the flipped classroom methodology on the development of self-regulated learning. It was hypothesized that the implementation of the flipped classroom as a didactic strategy has a significant impact on this type of learning. This research responds to the need to explore active methodologies that foster student autonomy and engagement, considering the potential of the flipped classroom to transform the student's role, enhance individual responsibility, and leverage digital technologies as key tools for the self-management of knowledge.

Methodology

The design of this research was quasi-experimental, in which the independent variable—the flipped classroom—was implemented over 12 modules of interlearning in public speaking workshops, using the Google Classroom platform as technological support.

The study population consisted of 140 students from the Faculty of Sustainable Tourism Administration and Hospitality. For analysis purposes, two groups were structured: an experimental group, which received the intervention through the flipped classroom strategy, and a control group, each comprising 70 students. Participants were selected through intentional non-probabilistic sampling, ensuring the confidentiality and informed consent of all involved.

The intervention included the application of a pre-test and a post-test, allowing for a comparison of results between the traditional model and those obtained with the flipped classroom strategy. To assess self-regulated learning, the Self-Regulated Learning Inventory by Lindner, Harris, and Gordon (1992) was utilized in its SRLI 4.01 version.

The methodological process included the prior organization of the study and obtaining the necessary institutional permissions for the application of evaluation instruments. Data collection was carried out using digital forms distributed among students via WhatsApp. Subsequently, the information was processed and analyzed using descriptive and inferential statistical tools, employing SPSS software (version 26). This enabled the identification and analysis of variations in self-regulated learning levels following the implementation of the flipped classroom model.

Results

This section presents the most relevant findings obtained following the implementation of the flipped classroom methodology among university students. The analysis focused on comparing the scores obtained in the pre-test and post-test for both the experimental and control groups, with the aim of evaluating the effects of this strategy on self-regulated learning.

Firstly, the general level of self-regulated learning was assessed. The results indicated that the experimental group experienced a significant increase in their scores after the intervention, unlike the control group, which did not show any relevant changes. This difference evidences the positive impact of the flipped classroom as a pedagogical strategy to enhance learning self-regulation. In all cases, a statistically significant improvement was observed in the group that received the intervention.

Table 1
Comparison of self-regulated learning before and after the program (control vs. experimental group)

Group	Moment	N	Mean Rank	Sum of Ranks
Control	Pre-test	70	72,41	5068,5
Experimental	Pre-test	70	68,59	4801,5
Control	Post-test	70	35,5	2485
Experimental	Post-test	70	105,5	7385
Mann-Whitney U Statistics				
Comparison	**U**	**Z**	**p (Sig.)**	
Pre-test (Control vs. Exp)	2316,5	-0,557	0,578	
Post-test (Control vs. Exp)	0	-10,215	< 0,001	

The statistical test used was the Mann-Whitney U, which allowed for the identification of significant differences between the groups. In the overall analysis, the results indicated a statistically significant difference ($z = -10.215$; $p < .000$), leading to the rejection of the null hypothesis and allowing us to assert that the use of the Flipped Classroom positively influenced students' self-regulated learning.

Specific dimensions of self-regulated learning were also evaluated, yielding the following results:

Table 2
Executive dimension (control vs. experimental group)

Group	Moment	N	Mean Rank	Sum of Ranks
Control	Pre-test	70	73	5110
Experimental	Pre-test	70	68	4760
Control	Post-test	70	35,5	2485
Experimental	Post-test	70	105,5	7385
Mann-Whitney U Statistics				
Comparison	**U**	**Z**	**p (Sig.)**	
Pre-test (Control vs. Exp)	2275	-0,733	0,463	
Post-test (Control vs. Exp)	0	-10,227	< 0,001	

- **Executive dimension:** A significant difference was evident between the experimental and control groups ($z = -10.227$; $p < .000$), leading to the rejection of the null hypothesis and demonstrating that the program positively influenced this dimension.

Table 3
Cognitive dimension (control vs. experimental group)

Group	Moment	N	Mean Rank	Sum of Ranks
Control	Pre-test	70	69,13	4839
Experimental	Pre-test	70	71,87	5031
Control	Post-test	70	35,5	2485
Experimental	Post-test	70	105,5	7385

Mann-Whitney U Statistics			
Comparison	**U**	**Z**	**p (Sig.)**
Pre-test (Control vs. Exp)	2354	-0,402	0,688
Post-test (Control vs. Exp)	0	-10,222	< 0,001

- **Cognitive dimension:** The comparison of scores before and after the intervention also showed a significant difference (z = −10.222; p < .000), supporting the effectiveness of the program in developing cognitive skills related to self-regulation.

Table 4
Motivational dimension (control vs. experimental group)

Group	Moment	N	Mean Rank	Sum of Ranks
Control	Pre-test	70	73,5	5145
Experimental	Pre-test	70	67,5	4725
Control	Post-test	70	35,5	2485
Experimental	Post-test	70	105,5	7385
Mann-Whitney U Statistics				
Comparison	**U**	**Z**	**p (Sig.)**	
Pre-test (Control vs. Exp)	2240	-0,88	0,379	
Post-test (Control vs. Exp)	0	-10,224	< 0,001	

The Mann-Whitney U results demonstrate significant differences in both control and experimental groups before and after the program application (z = -10.224; p < .000), leading to the conclusion that the program positively influences the motivational dimension of the students.

Table 5
Environment control dimension (control vs. experimental group)

Group	Moment	N	Mean Rank	Sum of Ranks
Control	Pre-test	70	70,03	4902
Experimental	Pre-test	70	70,97	4968
Control	Post-test	70	35,5	2485
Experimental	Post-test	70	105,5	7385
Mann-Whitney U Statistics				
Comparison	**U**	**Z**	**p (Sig.)**	
Pre-test (Control vs. Exp)	2417	-0,138	0,89	
Post-test (Control vs. Exp)	0	-10,226	< 0,001	

- **Environment control dimension:** The results revealed a significant difference (z = −10.226; p < .000), leading to the rejection of the null hypothesis and concluding that the flipped classroom strategy positively impacted students' ability to manage their learning environment.

Overall, the results affirm that the flipped classroom methodology enhances self-regulated learning, promoting improvements in executive, cognitive, social, motivational functions, and behavior regulation, which is highly beneficial in university contexts.

Discussion

In alignment with the general objective of the study, a significant effect of the flipped classroom model on strengthening self-regulated learning among university students was evidenced. This type of learning involves the student taking an active role in planning, monitoring, and evaluating their own educational process, with metacognition being a central component in the development of executive, cognitive, motivational, and behavioral functions.

As Özcubat and Rüya (2021) indicate, metacognition allows students to consciously identify and apply their learning strategies, adapting them to their needs, cognitive style, and level of engagement. This self-regulation is not limited to task execution but involves profound reflection on how learning occurs and the extent to which academic goals are being achieved.

Elekaie et al. (2021) emphasize that self-regulation can be developed both explicitly and implicitly through the constant use of strategies that monitor one's own behaviors, especially when directed towards clear goals. In this regard, elements such as planning and organization of study are essential, particularly when considering individual particularities and the context in which the teaching-learning process takes place.

Furthermore, Uus et al. (2020) stress that the success of metacognitive strategies depends on continuous monitoring, critical evaluation, and the ability to adjust actions based on results. This requires appropriate guidance from the educator, who must play a role as a facilitator and guide, ensuring structured planning, continuous support, and the pertinent use of resources that promote self-regulation. All of this optimizes the development of key competencies in students, consolidating autonomous and meaningful learning.

The incorporation of the flipped classroom model as a methodological strategy in higher education has demonstrated its capacity to strengthen self-regulated learning processes, particularly in university contexts related to tourism management. This approach promotes a substantial shift in the student's role, transitioning from a passive position to an active one, allowing for greater control over their educational process. In this line, Ejubovic and Puska (2019) highlight that self-regulated learning involves not only content acquisition but also the ability to organize, plan, reflect, and evaluate one's own progress based on available resources, academic context, and social interactions.

From this perspective, the implementation of the flipped classroom enables students to identify what, how, when, with whom, and for what purpose they learn, thereby consolidating key metacognitive competencies. This ability is enhanced by the application of active teaching strategies that place the student at the center of the educational process, allowing for greater autonomy in decision-making regarding their learning. As Palacios and Olivares (2021) assert, the use of metacognitive strategies within innovative pedagogical models has a positive effect on the development of students' competencies, capabilities, and potentialities by fostering their conscious participation in the learning process.

Cognitively, the flipped classroom creates conditions for students to comprehend, organize, and apply information more deeply. Buchem and Hoelterhof (2020) underscore that this dimension not only strengthens understanding of content but also facilitates meaningful feedback, promoting emotional control, self-confidence, and collaborative links with peers. In this way, cognitive regulation emerges as a key element for the integration of knowledge and the development of complex skills.

The findings of this study are also supported by previous research, such as that of Ventosilla et al. (2021), who found significant improvements in the development of autonomous competencies following the implementation of the flipped classroom. Thus, this methodology presents itself as an effective tool for promoting the active construction of knowledge, overcoming the limitations of traditional models centered on lecture-based teaching.

Regarding the motivational dimension, the inverted approach appears to stimulate deeper student engagement, as they assume a leading role in their learning. Fernández and Quispe (2019) report that the use of digital resources in the flipped classroom fosters active and meaningful learning, enhancing intrinsic motivation. Similarly, Maluenda et al. (2021) conclude that active methodologies, such as the flipped classroom, promote a closer connection between academic goals and personal achievement emotions, reinforcing student commitment to their education.

Finally, control over the study environment is configured as a crucial factor in ensuring the effectiveness of the model. Blackmore et al. (2021) emphasize that the physical and temporal context in which learning occurs directly influences its quality. The ability to choose when and where to learn—a fundamental principle of the flipped classroom—fosters autonomy and allows students to adapt their environments to their individual needs, thereby promoting more effective and self-regulated learning.

Overall, the analyzed elements reinforce the validity of the flipped classroom as a methodological strategy that not only positively impacts academic performance but also promotes autonomy, motivation, cognitive

management, and contextual control of learning. These findings suggest the need to continue exploring and implementing this strategy in various educational contexts to consolidate its effectiveness and adaptability.

Conclusions

This study described the flipped classroom as a methodological proposal to foster self-regulated learning in higher education, particularly in the post-pandemic context. Under this scenario, education has transitioned to more flexible forms of the teaching-learning process, allowing for a shift from in-person to virtual modalities. Consequently, methodological strategies have evolved towards active, student-centered approaches, displacing traditional, monotonous, and exclusively disciplinary methods.

In this framework, the flipped classroom emerges as an innovative didactic strategy that is still in its initial stages of use, handling, and implementation by both educators and students. Virtuality provides a favorable scenario for the incorporation of this strategy at all educational levels, thanks to the use of interactive resources that stimulate student engagement through online materials.

The results obtained show that students develop cognitive learning models as a personal construct of their educational process, along with increasing autonomy in regulating their learning. This self-regulation manifests in their ability to organize knowledge, identify what they learn, how they do it, what resources they need, with what means they learn, and what aspects they must modify to continue learning—all based on their own order, pace, and learning spaces, supported by the use of social networks, virtual platforms, and technological resources both inside and outside the classroom.

Control over these learning rhythms is closely related to motivation and self-regulated behaviors, particularly those linked to self-evaluation processes that allow for measuring progress or setbacks in learning. While the flipped classroom is recognized as an innovative and comprehensive methodological proposal, its implementation requires specific conditions. It is necessary to have learning contexts and environments equipped with accessible Information and Communication Technologies (ICT) for the entire educational community, as well as adequate preparation for both educators and students in using this strategy.

References

Bandura, A. (1977). *Social learning theory*. https://www.asecib.ase.ro/mps/Bandura_SocialLearningTheory.pdf

Bergmann, J., & Sams, A. (2016). *Flipped learning for elementary instruction*. International Society for Technology in Education. https://iste.org/products/a1w1U000004LpDVQA0/Flipped-Learning-for-Elementary-Instruction

Blackmore, C., Vitali, J., Ainscough, L., Langfield, T., & Colthorpe, K. (2021). Review of self-regulated learning and self-efficacy: The key to tertiary transition in Science Technology, Engineering and Mathematics (STEM). *International Journal of Higher Education, 10*(3), 169–179. http://dx.doi.org/10.5430/ijhe.v10n3p169

Buchem, I., Tur, G., & Hoelterhof, T. (2020). The role of learner control and psychological ownership for self-regulated learning in technology-enhanced learning designs. Differences in e-portfolio use in higher education study programs in Germany and Spain. *Interaction Design and Architecture(s) Journal - IxD&A, 45*, 112–132. https://n9.cl/r8i4z

Cáceres, K. (2020). Educación virtual: Creando espacios afectivos de convivencia y aprendizaje en tiempos de COVID-19. *Ciencia América*, 9(3), 1–7. https://dialnet.unirioja.es/servlet/articulo?codigo=7746442

Canaza-Choque, F. A. (2020). Educación superior en la cuarentena global: Disrupciones y transiciones. *Revista Digital de Investigación en Docencia Universitaria, 14*(2), 1–10.

Chicaiza, M. (2023). Modelo de aula invertida para el aprendizaje del vocabulario en inglés. *Mendive. Revista de Educación, 21*(1), e2997. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1815-76962023000100004

Costa, O., & García, O. (2017). El aprendizaje autorregulado y las estrategias de aprendizaje. *Tendencias Pedagógicas, 30*, 117–130. https://dialnet.unirioja.es/descarga/articulo/6164822.pdf

Divjak, B., Rienties, B., Iniesto, F., Vondra, P., & Žižak, M. (2022). Flipped classrooms in higher education during the COVID-19 pandemic: Findings and future research recommendations. *International Journal of Educational Technology in Higher Education, 19*(1), 1–24. https://doi.org/10.1186/s41239-021-00316-4

Domínguez, J., Peragón, C., Vara, A., Jiménez, A., Muñoz, M., López, M., & Tamajón, B. (2017). Flipped Learning: Aplicación del enfoque Flipped Learning a la enseñanza de la lengua y literatura españolas. *Revista de Innovación y Buenas Prácticas Docentes, 2*, 1–23. https://doi.org/10.21071/ripadoc.v2i0.9614

Ejubovic, A., & Puska, A. (2019). Impact of self-regulated learning on academic performance and satisfaction of

students in the online environment. *Knowledge Management & E-Learning: An International Journal, 11*(3), 345–363. https://www.kmel-journal.org/ojs/index.php/online-publication/article/view/418
Elekaie, A., Tabrizi, H. H., & Chalak, A. A. (2021). Study into the impact of the choice of cognitive and meta-cognitive strategies and podcasts on vocabulary gain and retention levels in the Telegram-based e-learning context. *Teaching English with Technology, 20*(2), 98–117. https://eric.ed.gov/?id=EJ1253156
Fernández, N., & Quispe, P. (2019). Recursos de la Web 2.0 aplicados en el aula invertida en apoyo del proceso de formación profesional del psicólogo. *Hamutay, 6*(2), 69–84. https://doi.org/10.21503/hamu.v6i2.1776
Instituto Internacional para la Educación Superior en América Latina y el Caribe (IESALC). (2020). *COVID-19 y educación superior: De los efectos inmediatos al día después*. UNESCO. http://www.iesalc.unesco.org/wp-content/uploads/2020/04/COVID-19-060420-ES-2.pdf
Inzunza-Mejía, P., López-Carmona, A., & Rivera-Obregón, M. (2022). El enfoque de aula invertida como innovación en la educación superior ante el COVID-19. *Revista RedCA, 4*(12), 73–95. https://doi.org/10.36677/redca.v4i12.17166
Jara, O. (2019). ¿Por qué y para qué sistematizar las experiencias de extensión universitaria? *E: Revista Extensión Universitaria, 9*(11), 39. https://dialnet.unirioja.es/servlet/articulo?codigo=7216550
Keengwe, J., & Onchwari, G. (2015). *Handbook of research on active learning and the flipped classroom model in the digital age*. IGI Global. http://dx.doi.org/10.4018/978-1-4666-9680-8
Maluenda, J., Varas, M., & Chacano, D. (2021). Efectos del aula invertida y la evaluación auténtica en el aprendizaje de la matemática universitaria en estudiantes de primer año de ingeniería. *Educación, 30*(58), 206–227. http://dx.doi.org/10.18800/educacion.202101.010
Maneiro, S. (2020). ¿Cómo prepararse para la reapertura? Estas son las recomendaciones del IESALC para planificar la transición hacia la nueva normalidad. http://www.iesalc.unesco.org/2020/06/18/comoprepararse-para-la-reapertura-estas-son-las-recomendaciones-del-iesalc-para-planificar-latransicion-hacia-la-nueva-normalidad
Palacios, J. P., Olivares, P., Zavaleta, J., & Arellanos, O. (2021). A sala de aula invertida como estrategia didáctica para desenvolver a aprendizagem autorregulada em estudantes universitários. *Laplage Em Revista, 7*(3C), 187–199. https://doi.org/10.24115/S2446-6220202173C1515p.187-199
Posthuma, D. (2018). *The evolution of the classroom*. https://www.elbeducation.com/blog/the-evolution-of-the- classroom
Salas, R., Eslava, A., Rocha, I., & Martínez, S. (2022). Uso del aula invertida y las herramientas tecnológicas en la asignatura Gestión de Proyectos durante la pandemia COVID-19. *Revista Gestión de las Personas y Tecnología, 15*(43), 64–87. https://doi.org/10.35588/gpt.v15i43.5477
Tobón, S. (2017). *Methodology of socioformative evaluation*. http://dx.doi.org/10.24944/isbn.978-1-945721-26-
UNESCO-IESALC. (2020). *El coronavirus COVID-19 y la educación superior: Impacto y recomendaciones*. https://www.iesalc.unesco.org/2020/04/02/el-coronavirus-covid-19-y-la-educacion-superior-impacto-y-recomendaciones/
Uus, Õ., Seitlinger, P. C., & Ley, T. (2020). Cognitive capacity in self-directed learning: Evidence of middle school students' executive attention to resist distraction. *Acta Psychologica, 209*, 103089. https://doi.org/10.1016/j.actpsy.2020.103089
Ventosilla, D., Santa María, H., Ostos de la Cruz, F., & Flores Tito, A. (2021). Aula invertida como herramienta para el logro de aprendizaje autónomo en estudiantes universitarios. *Propósitos y Representaciones, 9*(1), e1043. https://doi.org/10.20511/pyr2021.v9n1.1043