

La educación universitaria en 2021: Un modelo para universidades públicas sudamericanas

University education in 2021: a model for South American public universities

Resumen

Los cambios tecnológicos ya habían impactado desde hace más de dos décadas en el aula de las universidades. Sin embargo, el crecimiento de las herramientas virtuales como soporte del proceso de enseñanza aprendizaje se acentuó a raíz de la pandemia provocada por el COVID 2019.

Este paper muestra una revisión de la literatura sobre el impacto de las nuevas tecnologías en la enseñanza de grado desde una doble mirada. Se analizan los aportes y experiencias anteriores, focalizadas en las pruebas acreditativas basadas en tecnología (computer based assessment), el impacto de las plataformas en la enseñanza de grado y los recursos audiovisuales mayormente utilizados.

Asimismo, se efectúa una mirada de los conocimientos sobre tecnología que requiere un docente, partiendo de la construcción de Lee Shulman en los 80 y las adaptaciones de Mishra y Koehler mediante el modelo TPACK.

El artículo finaliza con la propuesta de un modelo adaptado a la realidad de las universidades públicas sudamericanas.

Abstract

Technological changes have impacted the university classroom for more than two decades. However, the growth of virtual tools to support the teaching-learning process was accentuated because of the pandemic caused by COVID 2019. This paper shows a review of the literature on the impact of new technologies on undergraduate teaching from a double perspective. Previous contributions and experiences are analyzed, focused on accrediting tests (computer based assessment), the impact of platforms on undergraduate teaching and the most used audiovisual resources.

Also, a focus is made in the knowledge about technology that a teacher requires, starting from the construction of Lee Shulman in the 80s and the adaptations of Mishra and Koehler using the TPACK model. The article ends with the proposal of a model adapted to the reality of South American public universities.

Principales Referencias

Arozarena G. (1992). Reflexiones en torno a la educación a distancia y su aplicación. Centro Nacional de Capacitación Técnica del Comité Estatal de Colaboración Económica, p. 6-18.

Akçayır, G., & Akçayır, M. (2018). The flipped classroom: A review of its advantages and challenges. *Computers & Education*, 126, 334-345.

Asuaga, C; Golpe A y Hochsztain, E (2012): La evaluación universitaria en el marco de las tecnologías de la información. *Anales de las III Jornadas Académicas de la Facultad de Ciencias Económicas y de Administración*. Montevideo

Aşıksoy, G., & Ozdamli, F. (2017). The Flipped Classroom Approach Based on the 5E Learning Cycle Model - 5ELFA. *Croatian Journal Educational / Hrvatski Casopis Za Odgoj I Obrazovanje*, 19(4).

Awidi, I. T., & Paynter, M. (2019). The impact of a flipped classroom approach on student learning experience. *Computers & Education*, 128, 269-283.

Bassignana, J. R., & Asuaga, C. (2020). El recurso audiovisual como herramienta pedagógica en tiempos de covid-19: un análisis empírico sobre su eficiencia en la Universidad de la República, Uruguay. *Revista del Instituto Internacional de Costos*, (17).

Bishop, J., & Verleger, M. (2013): The flipped classroom: A survey of the research. In *ASEE national conference proceedings, Atlanta, GA* (Vol. 30, No. 9, pp. 1-18).

Bell, L., & Bull, G. (2010). Digital video and teaching. *Contemporary issues in technology and teacher education*, 10(1), 1-6.

Bugbee, A. C. (1996): "The equivalence of paper-and-pencil and computer-based testing" *Journal of Research on Computing in Education*, 28(3), 282-299.

Budiño, G. (2011). Gestión de comunidades virtuales. *Revista Quantum* 6(1), 4-11.

Buzetto-More, N., & Alade, A. (2006): "Best practices in e-assessment." *Journal of Information Technology Education*, 5, 251-269.

Cabral V. G. (2008). Elementos necesarios para una modalidad de educación a distancia en bibliotecología. *Investigación bibliotecológica*, 22(46), 59-89.

Cagiltay, N et al (2010): "How can we get benefits of computer-based testing in engineering education?" *Computer applications in Engineering education*. Publicado en línea en Wiley Interscience (www.interscience.wiley.com)

Clarke, J., & Dede, C. (2010). "Assessment, technology, and change". *Journal of Research on Technology in Education*, 42(3), 309-328.

Cochran, K. F., DeRuiter, J. A., & King, R. A. (1993). Pedagogical content knowing: An integrative model for teacher preparation. *Journal of teacher Education*, 44(4), 263-272.

Chick, R., Clifton, G., Peace,., Propper, B, Hale, D, Alseidi, A., & Vreeland, T. (2020). Using technology to maintain the education of residents during the COVID-19 pandemic. *Journal of Surgical Education*.

de la Fuente S, D., Solís, M. H., & Martos, I. P. (2013). El mini video como recurso didáctico en el aprendizaje de materias cuantitativas. *RIED. Revista Iberoamericana de educación a Distancia*, 16(2), 177-192.

Deutsch, T et al (2012): "Implementing computer based assessment - A web-based mock examination changes attitudes" *Computers & Education*. Volume 58, Issue 4, 1068–1075

Develin, M (2003): Advice on online assessment. en *Assessing learning in Australian universities: ideas, strategies and resources for quality in student assessment*. Ed. James, M et al. Centre for the Study of Higher Education. Melbourne.

Dorup J (2004): "Experience and attitudes towards information technology among first-year medical students in Denmark: longitudinal questionnaire survey" *J Med Internet Res* 6:e10

Haladyna, T. M., & Downing, S. M. (1993). "How many options is enough for a multiple-choice item?" *Educational and Psychological Measurement*, 53, 999–1010. Haladyna, T. M. (2004): *Developing and validating multiple-choice test items* (3rd ed.).Mahwah, NJ: Erlbaum

Gilboy, M., Heinerichs, S., & Pazzaglia, G. (2015). Enhancing student engagement using the flipped classroom. *Journal of nutrition education and behavior*, 47(1), 109-114.

Gretes, J.A., & Green, M. (2000). "Improving undergraduate learning with computer-assisted assessment" *Journal of Research on Computing in Education*, 33 (1), 46-54.

Gunawan, G., Suranti, N. M. Y., & Fathoroni, F. (2020). Variations of Models and Learning Platforms for Prospective Teachers During the COVID-19 Pandemic Period. *Indonesian Journal of Teacher Education*, 1(2), 61-70

Hochlehnert, A et al (2011): "Does Medical Students' Preference of Test Format (Computerbased vs. Paper-based) have an Influence on Performance?" *BMC Medical Education* 11:89

James W et al (2010): "Perspectives on the Integration of Technology and Assessment" *Journal of Research on Technology in Education* Volume 43 Number 2 119–134

Hochsztain, E; Asuaga, C. y Ramirez, R (2012). Incorporación de videoconferencia en cursos de grado, posgrado y actualización permanente. XIV jornadas de educación de la FCEA

Kalogeropoulos , N et al (2011): "Computer-based assessment of student performance in programming courses· *Computer applications in Engineering education*. Publicado en línea en Wiley Interscience (www.interscience.wiley.com);

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. *Contemporary issues in technology and teacher education*, 9(1), 60-70.

Koehler, M. & J., Mishra, P., & Cain, W. (2015). ¿Qué son los saberes tecnológicos y pedagógicos del contenido (TPACK)?. *Virtualidad, educación y ciencia*, 6(10), 9-23.

Kolcu, G., Demir, S., Gülle, K., Atay, T., Kolcu, M. İ. B., & Koşar, A. (2020). Evaluation of Transition to Distance Education in COVID-19 Pandemic. *Research Square Papers*

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for integrating technology in teacher knowledge. *Teachers College Record*, 108 (6), pp. 1017-1054.

Llorens, F., & Calderón, J. J. (2012). El bazar de los locos: the Twitter experience.

Mitkov, R & Karamanis, N (2006): "A computer-aided environment for generating multiple-choice test items". *Natural Language Engineering: Special Issue on using NLP for Educational Applications*, 12(2):177–194,

Morrison S, Free K.(2001): "Writing multiple-choice test items that promote and measure critical thinking." *J Nurs Educator*. 40:17-24

Moreno, R et al (2004): "Directrices para la construcción de ítems de elección múltiple" *Psicothema*. Vol. 16, nº 3, 490-497

Munni, B. E., & Hasan, S. M. (2020). Teaching English during COVID-19 Pandemic Using Facebook Group as an LMS: A Study on Undergraduate Students of a University in Bangladesh. *Language in India*, 20(6).

Naresh, R. (2020). Education after COVID-19 Crisis Based on ICT Tools. *UGC CARE Journal*, 31(37), 464-468.

Neumann, D. L., Jones, L., & Creed, P. A. (n.d.). The use of lecture recordings in higher education: A review of institutional, student, and lecturer issues. *Education and Information Technologies*, 22(1), 399–415.

Orta, M. E. O., & Barón, M. C. R. (2012). “Mito cuatro. Es moda”. En Villaega y Restreto (Eds) *Diez mitos sobre la educación virtual: una mirada intercultural*, Colección Académica EAFIT. 73.

Ortega, V. (2020). El reto de mantener las aulas abiertas de manera virtual en tiempos de coronavirus. *7^{mo} Congreso Internacional de Educación*

Pitt, M., Li, S., & Klein, M. (2020): Novel Educational Responses to COVID-19: What is Here to Stay? *Academic Pediatrics*. June

Plešec G. R., Bergmann, J. & Sams, A. (2017) Flipped Learning: Gateway to Student Engagement, International Society for Technology in Education: Eugene, Oregon and Washington, DC, 2014; 169 pp.: ISBN 978-1-56484-344-9. *Center for Educational Policy Studies Journal*, (3), 173.

Reidsema, C., Kavanagh, L., Hadgraft, R., & Smith, N. (2017). *The Flipped Classroom : Practice and Practices in Higher Education*. Singapore: Springer.

Roces J., Barassi P.M, Cravino J.M. & Castiglioni A.H. (2012), *Desarrollando Lideres*, Buenos Aires Argentina, Temas Grupo Editorial, Edición 1.

Rodés, V., Pintos, G., Pérez, A., Correa, N., Budiño, G., Peré, N. & Dos Santos, S. (2009). Análisis de procesos de cambio tecnológico y organizacional para la integración de TIC en la Universidad de la República. *XIII Congreso Internacional de Educación a Distancia. Cread–Udec/Mercosur/Sul*, Concepción, Chile.

Rodríguez, M. C. (2005). Three options are optimal for multiple-choice items: A meta-analysis of 80 years of research. *Educational Measurement: Issues & Practice*, 24,3-13.

Sáiz, M. C., Marticorena S, R., & Ochoa, J. (2020). Effectiveness of Using Voice Assistants in Learning: A Study at the Time of COVID-19. *International Journal of Environmental Research and Public Health*, 17(15), 5618.

Sexton, R. L. (2006). Using short movie and television clips in the economics principles class. *The Journal of Economic Education*, 37(4), 406-417.

Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15 (2), pp. 4-14.

Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57 (1), pp. 1-22.

Strelan, P., Osborn, A., & Palmer, E. (2020). The flipped classroom: A meta-analysis of effects on student performance across disciplines and education levels. *Educational Research Review*

Terzis, V & Economides, A (2011): "The acceptance and use of computer based assessment". *Computers & Education*. Volume 56, Issue 4, Pages 1032–1044

Toki, I. & Caukill, M. (2003). Prevalence of online assessment? Causative factors. *Bulletin of Applied Computing and Information Technology*, 1(2).

Tucker, B. (2012): The Flipped Classroom. Online instruction at home frees class time for learning *Education Next*. 12(1), 82-83.

UNESCO (2009) Comunicado. La nueva dinámica de la educación superior y la investigación para el cambio social y el desarrollo. Conferencia Mundial sobre la Educación Superior. París, Francia.

Uruguay, M (2012): Informe MoodleMoot Uruguay 2012

Young, J., & Donovan, W. (2020). Shifting to Online Learning in the COVID-19 Spring. Policy Brief. *Pioneer Institute for Public Policy Research*.

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