

# USO DE VÍDEOS EN YOUTUBE EN LA ASIGNATURA SOFTWARE PARA ROBOTS PARA MEJORAR LA COMPREENSIÓN DE EJERCICIOS PRÁCTICOS

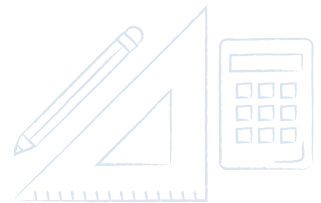
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USE OF YOUTUBE VIDEOS IN THE SUBJECT  
SOFTWARE FOR ROBOTS TO IMPROVE THE  
COMPREHENSION OF THE PRACTICAL EXERCISES

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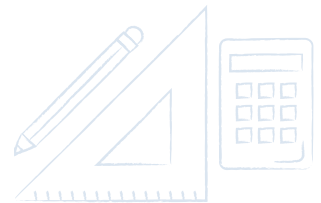


## RESUMEN

En este artículo, se presenta la investigación de un proyecto de innovación docente aplicado a la asignatura «Software para robots» del Grado en Ingeniería Informática del Software. Se detectó que había alumnos a los que les costaba comprender el ejercicio práctico a realizar, el cual se explicaba de manera escrita y de palabra, o que, debido a como pensaban, lo realizaban de una manera diferente a la propuesta, haciendo que les fuera más complicado o no alcanzaran a resolverlo. Por eso, se crearon vídeos con explicaciones paso a paso, de forma visual, verbal y con sus subtítulos correspondientes, del resultado final que tenían que obtener para así ayudar a la comprensión del ejercicio. Así, ellos se centraban en cómo resolverlo en base a la visión final que el ejercicio. La creación de los vídeos se hizo en prácticas no consecutivas y solo para los ejercicios obligatorios. Estos vídeos se han alojado en YouTube. Tras esto, se les realizó una encuesta para detectar su grado de satisfacción con el proyecto y les pareció todo correcto. Se detectó que los alumnos tenían menos dudas, realizaban los ejercicios con vídeo más fácilmente y ellos opinaron que los vídeos marcaban mucha diferencia.

## PALABRAS CLAVE

Software para robots, Informática, Vídeos, Redes Sociales, Educacional.

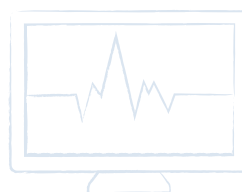
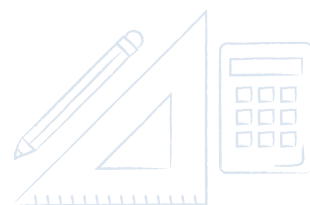


## ABSTRACT

*In this paper, it is introduced the research of a teaching innovation applied to the subject 'Software for Robots' in the Bachelor's Degree in Computer Science - Software Engineering. It was guessed that some students had difficult to understand the practical exercises, which were explain in a written and oral way. In other cases, because of their way of thinking, they though different and they made the exercise in a different way than the explanation, doing it more complicated or maybe not finishing it. Therefore, they were created videos which were uploaded to YouTube with step-by-step explanations, in a visual and oral way with subtitles, with the result of the exercise to improve its comprehension. Then, the students were focused in how to solve it based on the final view of the exercise. The creation of the videos was made in non-consecutive practical lessons with the compulsory exercises. Finally, they were surveyed to detect the grade of satisfaction about this research, which obtain a positive answer. It was detected that the students had less doubts, they made the exercises in an easiest way, and they believe the videos made a lot of difference.*

## KEYWORDS

*Software for Robots, Computer Science, Videos, Social Networks, Educational.*



## REFERENCIAS BIBLIOGRÁFICAS

**Abdillah, L. A.** (2017). *Enriching Information Technology Course Materials by Using Youtube*. August, 75–82. <https://doi.org/10.31227/osf.io/u7mjw>

**Berk, R. A.** (2009). Multimedia teaching with video clips: TV, movies, YouTube, and mtvU in the college classroom. *International Journal of Technology in Teaching & Learning*, 5(1), 1–21.

**Carlisle, M. C.** (2010). Using You Tube to enhance student class preparation in an introductory Java course. *Proceedings of the 41st ACM Technical Symposium on Computer Science Education - SIGCSE '10*, 470. <https://doi.org/10.1145/1734263.1734419>

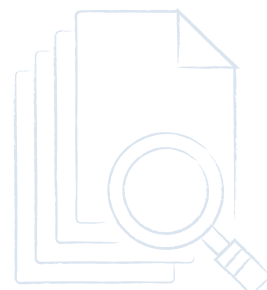
**Chen, C.-M., y Wu, C.-H.** (2015). Effects of different video lecture types on sustained attention, emotion, cognitive load, and learning performance. *Computers & Education*, 80(2), 108–121. <https://doi.org/10.1016/j.compedu.2014.08.015>

**Chtouki, Y., Harroud, H., Khalidi, M., y Bennani, S.** (2012). The impact of YouTube videos on the student's learning. *2012 International Conference on Information Technology Based Higher Education and Training, ITHET 2012*, 12–15. <https://doi.org/10.1109/ITHET.2012.6246045>

**Fleck, B. K. B., Beckman, L. M., Sterns, J. L., y Hussey, H. D.** (2014). YouTube in the classroom: Helpful tips and student perceptions. *Journal of Effective Teaching*, 14(3), 21–37.

**Gilroy, M.** (2010). Higher education migrates to YouTube and social networks. *The Education Digest*, 75(7), 18.

**González García, C.** (2017). *MIDGAR: Interoperabilidad de objetos en el marco de Internet de las Cosas mediante el uso de Ingeniería Dirigida por Modelos* [University of Oviedo]. <https://doi.org/10.13140/RG.2.2.26332.59529>



**González García, C., Meana-Llorián, D., G-Bustelo, B. C. P., y Lovelle, J. M.**

**C.** (2017). A review about Smart Objects, Sensors, and Actuators. *International Journal of Interactive Multimedia and Artificial Intelligence*, 4(3), 7–10. <https://doi.org/10.9781/ijimai.2017.431>

**Guo, P. J., Kim, J., y Rubin, R.** (2014). How video production affects student engagement. *Proceedings of the First ACM Conference on Learning @ Scale Conference - L@S '14*, 41–50. <https://doi.org/10.1145/2556325.2566239>

**Jones, T., y Cuthrell, K.** (2011). YouTube: Educational Potentials and Pitfalls. *Computers in the Schools*, 28(1), 75–85. <https://doi.org/10.1080/07380569.2011.553149>

**Lehman, C. M., DuFrene, D. D., y Lehman, M. W.** (2010). YouTube Video Project: A “Cool” Way to Learn Communication Ethics. *Business Communication Quarterly*, 73(4), 444–449. <https://doi.org/10.1177/1080569910385382>

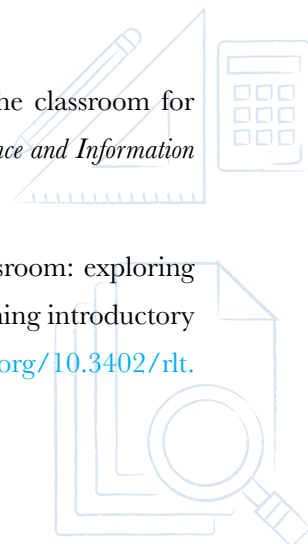
**Lloyd, S. A., y Robertson, C. L.** (2012). Screencast Tutorials Enhance Student Learning of Statistics. *Teaching of Psychology*, 39(1), 67–71. <https://doi.org/10.1177/0098628311430640>

**Pecay, R. K. D.** (2017). YouTube Integration in Science Classes: Understanding Its Roots, Ways and Selection Criteria. *Qualitative Report*, 22(4).

**Redondo, J. M.** (2018). Improving Student Assessment of a Server Administration Course Promoting Flexibility and Competitiveness. *IEEE Transactions on Education*, 1–8. <https://doi.org/10.1109/TE.2018.2816571>

**Roodt, S., y Peier, D.** (2013). Using YouTube in the classroom for the net generation of students. *Proceedings of the Informing Science and Information Technology Education Conference*, 473–488.

**Tan, E., y Pearce, N.** (2011). Open education videos in the classroom: exploring the opportunities and barriers to the use of YouTube in teaching introductory sociology. *Research in Learning Technology*, 19. <https://doi.org/10.3402/rlt.v19i3.7783>



**Zhang, D., Zhou, L., Briggs, R. O., y Nunamaker, J. F.** (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information and Management*, 43(1), 15–27. <https://doi.org/10.1016/j.im.2005.01.004>

