

Technology for Learning and knowledge (TLK)

Code: 101656
ECTS Credits: 6

Degree	Type	Year	Semester
2500260 Social Education	OT	3	2
2500260 Social Education	OT	4	0
2500261 Education Studies	OT	4	0
2500797 Early Childhood Education	OT	4	0
2500798 Primary Education	OT	4	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

Name: María Alejandra Bosco Paniagua
Email: Alejandra.Bosco@uab.cat

Use of Languages

Principal working language: spanish (spa)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: Yes

Prerequisites

No specific requirements

Objectives and Contextualisation

General purposes:

- Provide a learning environment that encourages participation and takes decision-making by students.
- Promote the use of technological resources in teaching and learning situations, based on the educational decisions
- Allow students to become familiar with the complexity of the processes of planning, development, application and evaluation of technological resources
- Develop the professional criteria in order to facilitate decision making on the use, design and evaluation of textual and audiovisual digital media in a variety of contexts of teaching and learning

Specific purposes:

- Reflect on the concepts of Educational Technology and information and communication technologies in the service of learning, knowledge, and its social and educational impact.
- Provide a broad view of the possibilities of use of ICT in the context of formal and non-formal education and in the work.

- Analyze, evaluate and eventually to design technological resources for the education-develop projects that integrate the use of ICT in different educational contexts.

Competences

Social Education

- Generate innovative and competitive proposals in research and professional activity.
- Use ICT to learn, communicate and collaborate in educational contexts.

Education Studies

- Generate innovative and competitive proposals in research and professional activity.
- Incorporate information and communications technology to learn, communicate and share in educational contexts.

Early Childhood Education

- Incorporate information and communications technology to learn, communicate and share in educational contexts.
- Know about international experiences and examples of innovative practices in infant education.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.

Primary Education

- Incorporate information and communications technology to learn, communicate and share in educational contexts.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Critically analyse and incorporate the most relevant issues of today's society affecting education: social and educational impact of audiovisual languages and screens.
3. Demonstrate an understanding of the evolution of the educational implications of information and communications technologies to learn about and apply the same to the classroom.
4. Demonstrate an understanding of the evolution of the educational implications of the information and communications technology to know them and apply them in the classroom.
5. Propose new methods or well-founded alternative solutions.
6. Propose new ways to measure the success or failure of the implementation of innovative proposals or ideas.
7. Understand and apply effective and efficient innovative experiences to facilitate learning processes and knowledge construction among pupils.

Content

1. Information and Communication Technologies as a means of teaching and learning. Different approaches to Educational Technology. Technological vision and critical vision. The digital competence of teachers and learners. Learning and building knowledge with ICT. Implications for educational innovation.

2. Analysis of innovative experiences. Policies, experiences and educational projects on the digital textbook, Internet, online programming, digital manufacturing and e-learning among others.

2.1 Design, development and evaluation of educational proposals that integrate ICTs as a means of teaching and learning. Analysis, evaluation and creation of digital resources.

2.2. New challenges and opportunities for the improvement of education, new roles for teachers, students, family and the social environment. Contributions of ICT. Policies and projects that promote the improvement and educational change through the integration of ICT.

Methodology

The activities planned for the treatment of the contents include lectures, seminars, laboratories, workshops and tutorials as well as activities considered autonomous work (readings and practices).

In general terms the sequence intended for the treatment of the issues is as follows:

- 1) discussion of the main concepts and, eventually, presentation of the teaching staff of critical aspects of the subject matter
- 2) Provision of resources provided both by teachers as per the student: video on the topic, preferred article, related experiences, etc. (seminarios, laboratorios y talleres)
- 3) Individual reading by the student (autonomous work)
- 4) Practice oriented group. Activity directed face-to-face with orientation in class (seminars and laboratories) and eventually out of it in tutoring (activity supervised). In some cases suggests its public presentation in seminars or laboratories or talleres.
- 5) Practical self-reflective individual especially the work done by each issue (autonomous work).

In this subject a class attendance of at least 75% is recommended.

The teaching methodology and the evaluation of proposals may undergo some modification depending on the res attendance imposing bt government.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratories	20	0.8	2, 7, 3
Lectures	5	0.2	2, 7, 3
Seminars	20	0.8	2, 7, 3

Type: Supervised

Tutoring and evaluation	30	1.2	2, 7, 3
Type: Autonomous			
Examen preparation	25	1	2, 7, 3
Preparation of evaluation project	25	1	
Work on learning portfolio	25	1	2, 7, 3

Assessment

The evaluation consists of three activities:

Activity 1: work of formative evaluation in the development of a digital learning portfolio (individual), to be developed during the course of the subject in order to guide the learning process. It requires continuous work from the beginning until the end of the course. There will be different types of activities to be developed from type 1. Analysis of an educational project that integrates the use of digital technologies; 2.comparison between different types of educational software, 3) productions with different types of software, etc. A minimum of between 3 and 5 activities will be established for their evaluation. First delivery: 16/11. Final delivery: One week before the end of the course.

Activity 2: design and public presentation of a project (group activity). Features: with this work, students should reflect what they have learned in the course through the design of a project to integrate into an educational proposal some computer application developed during the subject. The project must integrate the fundamental and pertinent contents worked in the subject, and it will be presented through an on line resource/multimedia document. Their public presentation will feature a digital presentation. Delivery: 18/1

Activity 3: test (activity individual). Date: 11/1. REcovery: 25/1. To qualify for recovery, you must have at least 3.5.

Characteristics: written exercise of integration of contents.

The three activities must be approved with a minimum of 5 (five).

To pass this course, it is necessary for the student to also show good general communicative competence, both orally and in writing (Spanish and Catalan). In all activities (individual and group), therefore, linguistic correction, writing and formal aspects of presentation will be taken into account. Students must be able to express themselves fluently and correctly and must show a high degree of understanding of academic texts. An activity can be returned (not evaluated) or suspended if the teacher considers that it does not meet these requirements.

Copying or plagiarism will be penalized with a 0 as a grade for the subject, losing the possibility of recovering it, whether it is an individual or group work (in this case, all members of the group will have a 0). If during the performance of an individual work in class, the teacher considers that a student is trying to copy or some type of document or device not authorized by the teacher is discovered, it will be scored with a 0, with no option recovery, and therefore, the subject will have failed. A work, activity or exam is considered to be "copied" when it reproduces all or a significant part of the work of one / another colleague. A work or activity will be considered "plagiarized" when a part of an author's text is presented as one's own without citing the sources, regardless of whether the original sources are on paper or in digital format.

The proposed teaching methodology and assessment may undergo some modification depending on the attendance restrictions imposed by the health authorities.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Design of a project	30%	0	0	2, 7, 3, 4
Learning Portfolio	40%	0	0	2, 1, 7, 3, 4, 5, 6
Test	30%	0	0	2, 7, 3, 4

Bibliography

Basic bibliography

AlFarah, M. & Bosco, A (2018) Los Usos de Facebook y WhatsApp en la Reconstrucción de la Educación en Zonas Afectadas por Conflictos Armados: El Caso de Siria. REICE: Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación, 16, 4, pp. 45-62. URL: <https://revistas.uam.es/index.php/reice/article/view/9956/10063>

Aparici, R. & Silva M. (2012) Pedagogía de la interactividad, Comunicar, 38, XIX, pp. 51-58. URL: <https://www.revistacomunicar.com/>

Domingo .M.; Bosco Paniagua, A. Carrazco, S. & Sánchez, J.A. (2020) Fomentando la competencia digital docente en la universidad: Percepción de estudiantes y docentes, Revista de Investigación Educativa, 38(1), pp.167-782. URL: <https://revistas.um.es/rie/article/view/340551>

Bustillo-Bayón, J.; Vizcarra-Morales, M. T. & Aristuzabal Llorent, P. (2014) Análisis del proceso formativo de un grupo de reclusos en un taller de Scratch, Revista Latinoamericana de Tecnología Educativa RELATEC, 13, 1, pp.37-49. URL: <https://relatec.unex.es/article/view/1279/859>

Capell, N.; Tejada, J. & Bosco, A. (2017) Los videojuegos como medio de aprendizaje: un estudio de caso en matemáticas en Educación Primaria. Pixel-Bit, 52, pp. 133-150. URL: <https://idus.us.es/handle/11441/62678;jsessionid=97F2E9C95D411975C4917B1A8DEDFAC3>

Cepeda Romero, O.; Gallardo Fernández, I.M. & Rodríguez J. (2016) La evaluación de los materiales didácticos digitales, Revista Latinoamericana de Tecnología Educativa RELATEC, 16,2, pp. 79-95.URL: <https://relatec.unex.es/article/view/3055>

Fariña, E.; González, C.S. & Area, M. (2013). ¿Qué herramientas utiliza el profesorado universitario en el campus virtual? RED, Revista de Educación a Distancia, 35. URL: <https://www.um.es/ead/red/35/>

Fernández Alex, M. D. (2016) Modelo Educativo emergente en las buenas prácticas TIC, Revista Fuentes, 18,1, pp. 33-47. URL: <https://revistascientificas.us.es/index.php/fuentes/article/view/2813>

Gisbert Cervera, M.; Gónzález Martínez, J. & Esteve Mon, F. (2016) Competencia digital y competencia digital docente: una panorámica sobre el estado de la cuestión, Revista Interuniversitaria de Investigación en Tecnología Educativa (RIITE), nº 0, pp.74-83. URL: <https://revistas.um.es/riite/article/view/257631>

Sancho Gil, J.M. (2019) De la tecnología para aplicar a la tecnología para pensar: implicaciones para la docencia y la investigación, Revista Latinoamericana de Tecnología Educativa RELATEC, 18, 1, pp. 9-22. URL: <https://relatec.unex.es/article/view/3392>

Complementary Bibliography

Adell Segura, J. y Castañeda Quintero (2010) Los entornos personales de aprendizaje: una nueva manera de entender el aprendizaje. En Roig Vila, R. y Fiorucci, M. (Eds) Claves para la investigación en innovación y calidad educativas. La integración de las Tecnologías de la Información y la Comunicación y la Interculturalidad educativas. Alcoy: Marfil - Roma TRE Universita degli Studi. URL: https://cent.uji.es/pub/sites/cent/files/Adell_Castaneda_2010.pdf

- Alonso, C.; Bosco, A.; Corti, F. & Rivera, P. (2014): Prácticas de enseñanza mediadas por entornos 1 x1: Un estudio de casos en la educación obligatoria de Cataluña. Profesorado. Revista de currículum y formación del profesorado, Vol. 18, 3, pp. 99-118. URL: <http://www.ugr.es/~recfpro/rev183ART6.pdf>
- Area, M. & Adell, J. (2009) E-learning: enseñar y aprender en espacios virtuales. En DE PABLOS, J. (Coord.) Tecnología Educativa. La formación del profesorado en la era de Internet. Málaga: Ediciones Aljibe. Pp.391-424.
- Area, M. & Pessoa, T. (2012) De lo sólido a lo líquido: las nuevas alfabetizaciones ante los cambios culturales de la web 2.0., Comunicar, 38, XIX, pp.13-20. URL: <https://www.revistacomunicar.com/>
- Barroso-Osuna, J.; Cabero-Almenara, J. & Gutiérrez-Castillo, J.J. (2018) La producción de objetos de aprendizaje en realidad aumentada por estudiantes universitarios, Revista Mexicana de Investigación Educativa, Vol. 23, nº79, pp 1261-1283. URL: <https://www.tecnologia-ciencia-educacion.com/index.php/TCE/article/view/221>
- Bosco, A.; Sánchez Valero, J.A. & Sancho Gil, J.M. (2016) Teaching practice and ICT in Catalonia: Consequences of educational policies. KEDI Journal of Educational Policy. 13 (2). p 201-220. URL: https://www.researchgate.net/publication/314464856_Teaching_practice_and_ICT_in_Catalonia_Consequences
- Cobo Romani, C. & Pardo Kuklinski, H. (2009) Un esbozo de ideas críticas sobre la Web 2.0. En Planeta web 2.0. Inteligencia colectiva o medios "fast food". E-book de acceso gratuito. URL: <https://www.ecuaderno.com/2007/09/10/libro-planeta-web-20/>
- García, J.M. (2015) Robótica Educativa. La programación como parte de un proceso educativo. RED-Revista de Educación a Distancia. Vol 46 (8). URL: <https://www.um.es/ead/red/46/garcia.pdf>
- González Patiño, J.; Esteban Guitart, M. Y San Gregorio, S. (2017) Participación Infantil en la Transformación de sus Espacios de Aprendizaje: Democratizando la Creación mediante un Proyecto de Fabricación Digital en un Fablab. Revista Internacional de Educación para la Justicia Social,6 (1), 137-154.URL: <https://revistas.uam.es/riejs/article/view/7658/7947>
- Gewerc Barujel, A. (2009) Políticas, prácticas e investigación en Tecnología Educativa. Barcelona: Ediciones Octaedro
- Gewerc, A., Montero, L. & Lama, M. (2014) Colaboración y redes sociales en la enseñanza universitaria. Comunicar, 42, XXI, pp. 55-63. <https://www.revistacomunicar.com/>
- Marin, V., Negre, F. & Pérez, A. (2014) Entornos y redes personales de aprendizaje (PLE-PLN) para el aprendizaje colaborativo, Comunicar, 42, XXI, pp.35-43. <https://www.revistacomunicar.com/>
- Minelli-De-Oliveira, J., Camacho-i Martí, m. y Gisbert-Cervera, M. (2014) Explorando la percepción de estudiantes y profesor sobre el libro de texto electrónico en Educación Primaria. Comunicar, 42, 87-95. URL: <https://www.revistacomunicar.com/indice/articulo.php?numero=42-2014-08>
- Sancho, J. M. (2008) De TIC a TAC, el difícil tránsito de un vocal. Investigación en la escuela, 64, pp.19-30. URL: <https://revistascientificas.us.es/index.php/IE/article/view/7165>
- Valverde, J. (2014) MOOCs: una visión crítica desde las Ciencias de la Educación, Profesorado. Revista de Currículum y formación del profesorado, Vol. 18, nº1. (enero-abril), pp. 93-111. URL: <http://www.ugr.es/~recfpro/rev181ART6.pdf>
- Villalustre Martínez, L. y Del Moral Pérez, E. (2015) Gamificación: Estrategia para optimizar el proceso de aprendizaje y la adquisición de competencias en contextos universitarios, Digital Education Review, 27, junio 2015, pp. 13-31.URL: <https://revistes.ub.edu/index.php/der/article/viewFile/11591/pdf>

Software

Blogger

Google drive

Moodle

Scratch

Mblock

Tinkercad

Mentimeter

Gennially

Canva

Exelearning

Google Classroom

CoSpaces Edu

MakeyMakey

Padlet

Powtoon

Notebookcast