



SUGERENCIAS PARA LA GESTIÓN DE ARCHIVOS QUE ACOMPAÑAN LOS ARTÍCULOS

VII JORNADAS DE ACTUALIZACIÓN PARA PERSONAS EDITORAS DE REVISTAS
ACADÉMICAS 2021

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ARCHIVOS QUE ACOMPAÑAN A LOS ARTÍCULOS

- Artículo completo (PDF, Docx, Html, Epub, Mp4,...)
- Comprensión sobre la integralidad del artículo.
- Tipos de archivos
 - De texto: txt, doc, docx, etc.
 - De imagen: jpg, gif, bmp, png, etc.
 - De vídeo: avi, mp4, mpeg, mww, etc.
 - De ejecución o del sistema: exe, bat, dll, sys, etc.
 - De audio: mp3, wav, wma, etc.
 - De archivo comprimido: zip, rar, tar, etc.
 - De lectura: pdf, epub, azw, ibook, etc.
 - De bases de datos comunes incluyen .DB, .accdb, NSF, y .fp7.

COMPLEMENTOS (SUPLEMENTOS)

- Diferencia clara de los anexos
- Integralidad de los documentos
- Independencia de documentos
- Regulación de la documentación
- Respeto a los tipos derechos de los responsables de los documentos (e.g., mapas)

PARA QUÉ

- Aprovechamiento de recursos
- Generación de distintos tipos de recursos
- Verificabilidad y construcción de conocimiento como “equipo”
- El principal tema asociado... Ciencia abierta (creación y gestión de datos).

DÓNDE SE DEBEN COLOCAR

- Se recomienda definir un protocolo en cada revista (gestión editorial)
- Valorar con el equipo T.I. de cada entidad las capacidades
- Valorar espacios externos que sean consistentes y apropiados
- <https://www.re3data.org/>

EJEMPLO

Once each category had been determined with its units of analysis, the construction of three instruments for the collection of information was initiated, so that each question would allow to analyze at least one unit of analysis. The first *Diagnostic Questionnaire* was created to inquire about the technological and pedagogical knowledge evidenced by MTITs and to learn about their general data; it consists of 17 questions where some are adapted from the instruments used [19,20,36] ([Supplementary Materials 1](#)).

The second instrument, *Assignment of Mathematical Tasks*, was constructed thanks to the theoretical investigation carried out and is composed of different mathematical tasks about the quadratic function that allow to evidence MTITs' knowledge on TPACK. Two contextualized situations are proposed denominated Situation 1 and Situation 2, adapted from the material constructed [38] for the course MAC403 Principles of Mathematics II. This instrument allows MTITs to show their mastery of official study programs, GeoGebra software and quadratic function content. As a final activity, MTITs should pose a situation to address this subject (content) using GeoGebra directed to a secondary education (high school) audience and also create the instructions to guide the student in the development of the activity ([Supplementary Materials 2](#)).

In the third instrument *Reflection on the Analysis of Instructions*, each MTIT was assigned to reflect on the activity proposed by another colleague generated in the instrument *Assignment of Mathematical Tasks*; by reflection is meant the creation of a comment with justified ideas or positions to improve the quality of the activity, and to share the comment in a forum created on a Moodle platform. This stage relates to TPACK knowledge because MTITs must reflect on how the organization of the activity and the instructions created may influence the learning of the subject ([Supplementary Materials 3](#)).

Supplementary Materials

The following are available online at in Zenodo at <http://doi.org/10.5281/zenodo.4918062>. In Supplementary 2, situation 1 appears in question 5 and situation 2 appears in question 8.

Author Contributions

The authors (Y.M.-L., Y.C.-C., W.V.-D.) participated in all stages of the research process, as well as in the creation, writing and correction of the article in an equivalent manner. All authors have read and agreed to the published version of the manuscript.

- <https://zenodo.org/record/4918062>

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June 9, 2021

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Appendices (Instruments for research: TPACK and Teachers training of mathematics)

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Instruments for research: TPACK and Teachers training of mathematics, 2021.

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Appendices (Instruments for research: TPACK and Teachers training of mathematics)

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4. Enunciate one possible definition of a quadratic function.

Notes for researchers:

This question allows to measure whether the student (MTIT) provides an adequate definition of the concept of quadratic function. Furthermore, it is intended for the MTIT to provide a definition, in words or using mathematical language, as taught in the course MAC403 Principles of Mathematics II.

Expected definitions:

- The quadratic function is a second degree polynomial function that is defined for every real number.
- Function $f: D \rightarrow R$ with $f(x) = ax^2 + bx + c$ where $a, b, c \in R$ y $a \neq 0$.

5. Consider the following situation:

The entrance to a building measures 2.25 meters high at its center, 3 meters wide at the base, and is shaped like a parabolic arch.

Determine the **criterion** of the function that models the building's entrance arch.

6. Graph the function found with GeoGebra software and save the file as **Studentname_animation_1.ggb**.

7. If a rectangular box must be passed through the previously mentioned building entrance, and the box measures 2 meters high, but cannot be turned over (flipped) due to the contents it carries: What is the maximum width (in meters) that the box can have?

Notes for researchers:

This question allows to know if the MTIT can find the quadratic expression that describes the situation (context), and also, if the individual is capable of graphing functions in GeoGebra. Thus, it provides evidence of the MTIT's knowledge of technology and functions.

It is intended for the student (MTIT) to identify the intersections with the X axis and thus be able to find the algebraic expression. Furthermore, since the parabola that intersects the X axis at two points is not unique, the MTIT must analyze the concavity of the equation found and reflect on whether the expression corresponds to the presented situation or not. If the concavity does not coincide, the MTIT is expected to reconsider his/her procedures and be able to formulate the correct equation.