

TOOLKIT

Vol. 3

Caravan activity

5 December 2024

MathICs

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and Ibtissam Medarhri



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Introduction

Although MathICs is not a structural project and so does not seek to make systematic change to policy, it will provide the framework for Higher Education Institutions in Morocco to initiate their own integration of ICTs in the education of mathematics and adopt some or all of the processes.

The toolkit will bring together all the activities that the project have undertaken, providing guideline on how they were implemented, resources and materials that support the implementation of activities, hints and tips, as well as recommendations.

The Volume 3 of the Toolkit of the MathICs project is focusing on the activities achieved in the Caravan. The Caravan was a large-scale dissemination activity through Morocco that consisted of workshops displaying how ICTs are used in mathematical courses. The Caravan was divided into two sub-categories depending of the target groups:

- Caravan for Higher Education Institutions and Regional Centres for Education and Training Professors
- Caravan for Secondary Education

The MathICs Caravan aimed to share and promote good practices for the effective integration of ICTs in mathematics teaching. Through a series of interactive workshops, participants had the opportunity to explore various aspects of the use of ICTs in the educational context. Three workshops were available:

1. Models for integrating ICTs into teaching

This workshop will provide an overview of the different approaches to integrating ICTs into mathematics teaching.

2. General information on hybrid pedagogy

This workshop will provide a focus emphasis on hybrid pedagogy where participants have the opportunity to explore the most effective strategies and tools for creating a dynamic and interactive learning environment.

3. Multimedia learning and production of educational videos

This workshop presents best practices for optimal multimedia learning as well as for the creation of educational videos in the field of mathematics.

4. The E-Assessment

This workshop examines different methods and tools available for evaluating online learning.

1. CARAVAN FOR HIGHER EDUCATION INSTITUTIONS AND REGIONAL CENTRES FOR EDUCATION AND TRAINING PROFESSORS

The Caravan for the Centres for Education and Training professors consisted in a presentation of the MathICs project followed by three workshops:

- **Workshop 1: Models for integrating ICT into teaching and general information on hybrid pedagogy.**

This workshop will provide an overview of the different approaches to integrating ICT into mathematics teaching,

- **Workshop 2: General information on hybrid pedagogy**

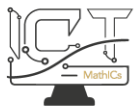
This workshop will emphasize on hybrid pedagogy where participants will have the opportunity to explore the most effective strategies and tools for creating a dynamic and interactive learning environment.

- **Workshop 3: Multimedia Learning and Production of Educational Videos**

This workshop is designed to explore multimedia learning with an emphasis on the creation of video clips.

- **Workshop 4: e-Assessment**

This workshop will present methods and tools available to evaluate learning using ICT tools dedicated to evaluation.

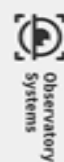


1.1 Workshop 1: Models for integrating ICT into teaching

The interactive workshop consists of several parts. It begins with an introduction to ICT in a general context using the “Component ICT” model, followed by a Google quiz to assess participants' understanding and knowledge of the concept.



COMPONENTS OF ICT



● Cloud Computing

The term is generally used to describe data centers available to many users over the Internet. Large clouds, predominant today, often have functions distributed over multiple locations from central servers.

● Software

Software is a set of instructions, data or programs used to operate computers and execute specific tasks. This is a generic term used to refer to applications, scripts and programs that run on a device.

● Hardware

In the context of technology, refers to the physical elements that make up a computer or electronic system and everything else involved that is physically tangible. This includes the monitor, hard drive, memory and the CPU.

● Digital Transactions

Digital transactions can be broadly defined as online or automated transactions that take place between people and organizations—without the use of paper.

● Communications Technology

Communications technology, also known as information technology, refers to all equipment and programs that are used to process and communicate information.

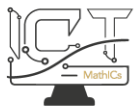
● Digital Data

Digital Data is data that represents other forms of data using specific machine language systems that can be interpreted by various technologies.

● Internet Access

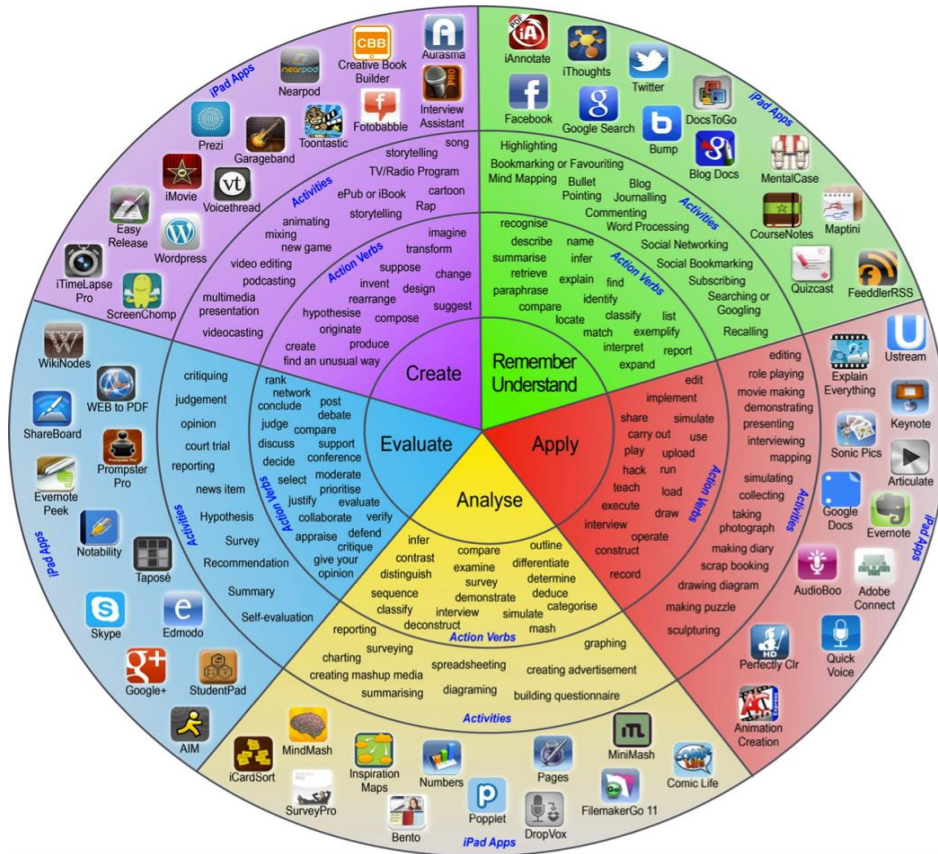
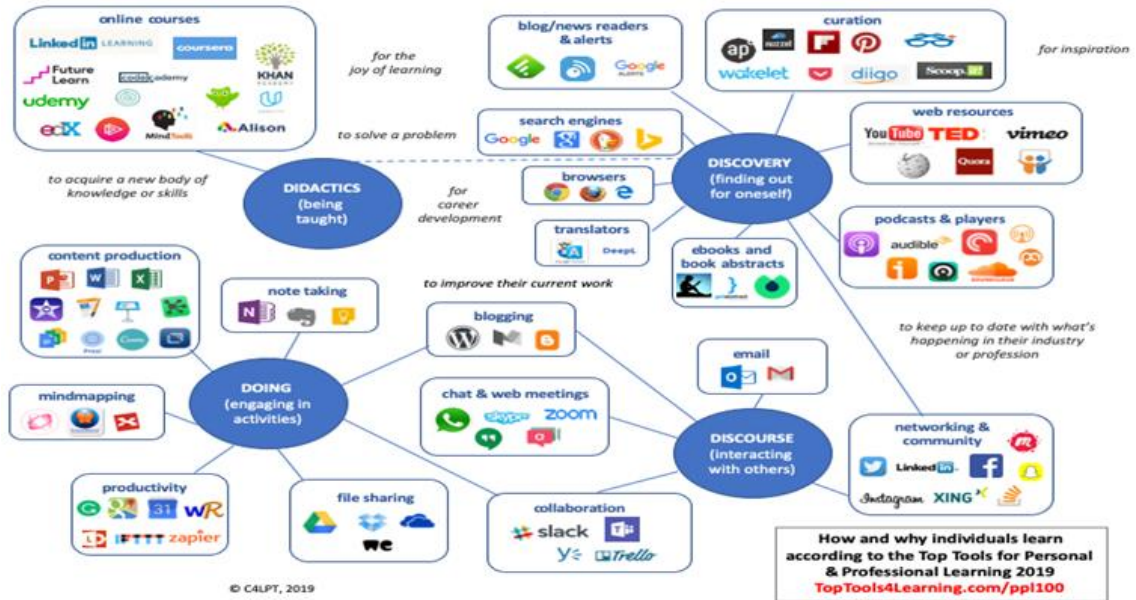
Internet access is the process of connecting to the internet using personal computers, laptops or mobile devices by users or enterprises. Internet access is subject to data signaling rates.



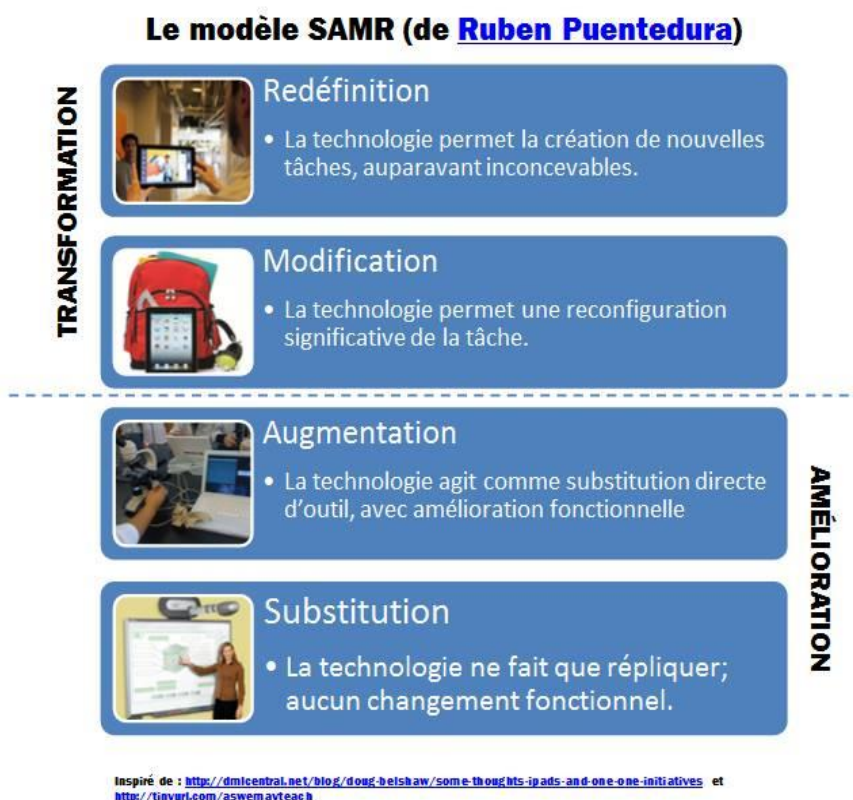


Secondly, we moved to the classification of ICT in education through two approaches:

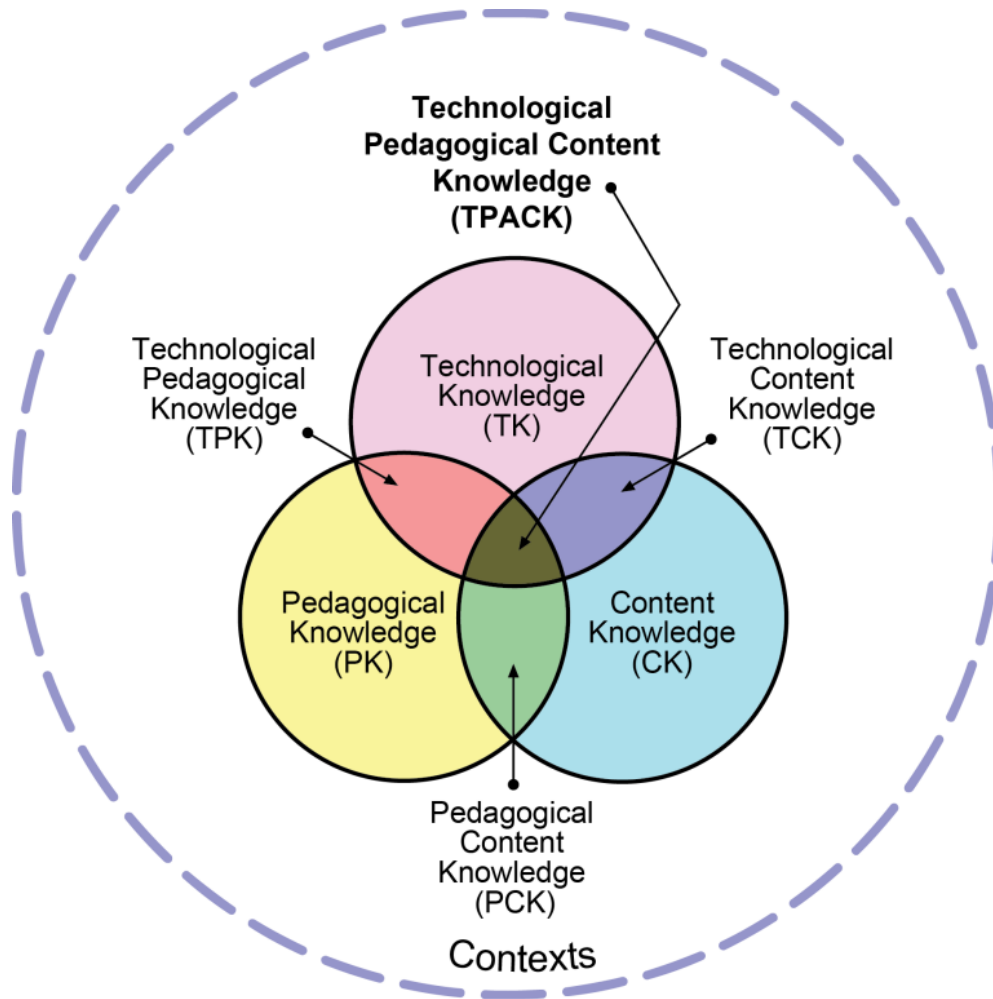
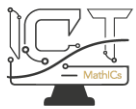
- Functionalities: 4 D's model
- Pedagogical objectives: Bloom's taxonomy wheels



Thirdly, we introduce Puentedura’s SAMR model, an effective framework for integrating ICT in education.



After presenting known models on ICTs, participants acknowledge their significance in education and the growing emphasis among researchers and educators on improving learning through ICT integration. This prompts the introduction of the TPACK framework, which outlines the essential skills teachers should consider in the digital landscape.

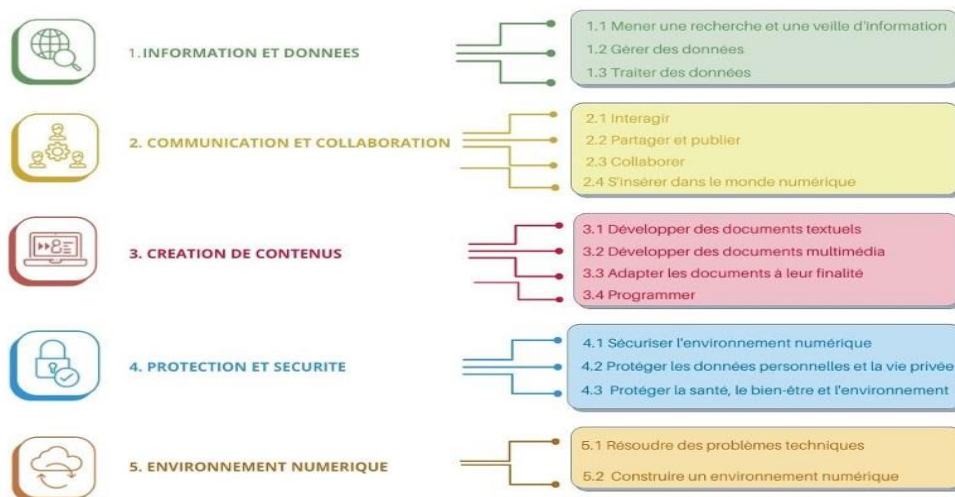


This concludes the first workshop, which takes place during the entire morning, featuring the presentation of DigComp 2.2, the Digital Competence Framework for Citizens developed by the European Commission: <https://op.europa.eu/en/publication-detail/-/publication/50c53c01-abeb-11ec-83e1-01aa75ed71a1/language-en>



THE QUIZ

We conclude the workshop with an engaging Google quiz that tests participants' ability to identify the necessary competencies for responding to specific situations.



<https://apden.org/L-evaluation-des-competences.html>

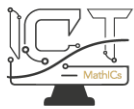
1.2 Workshop 2: General information on hybrid pedagogy

The preparation for this workshop and the last two ones starts before a couple of weeks. We invite the participants to create their own site (in google site framework). We share a tutorial prepared by MathICs representatives: <https://sites.google.com/um5r.ac.ma/driss-bennis/pedagogy-workshops/sites-google>

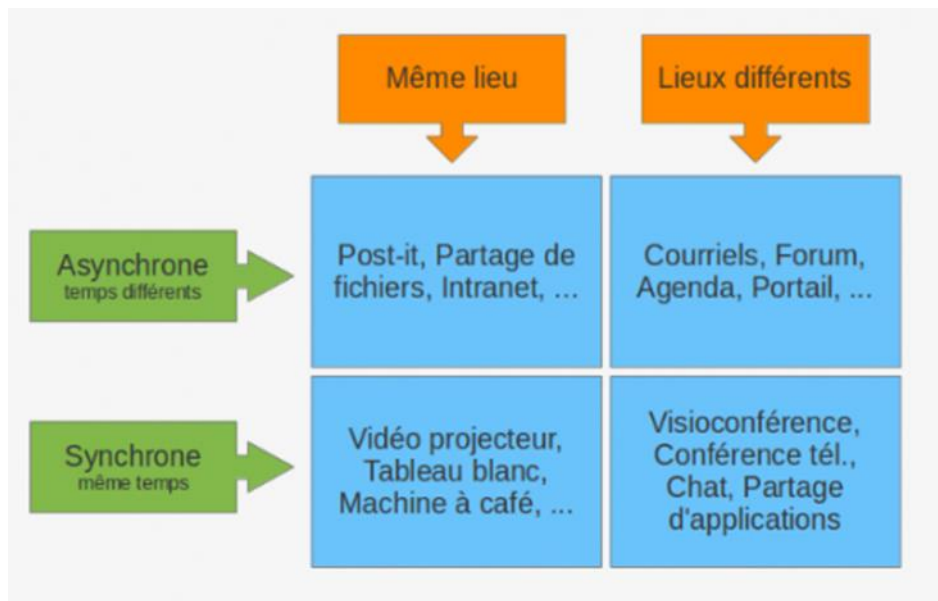
One or sometime two meetings are organized online to solve technical problems and answers questions.

In the tutorial, we invite participants to create a page of their course that will be implemented during the workshop as doing in MathICs examples:

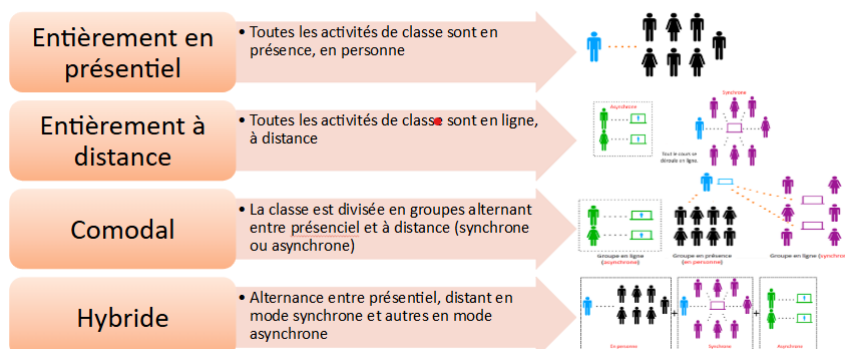
- Example of a mathematical middle school course: <https://sites.google.com/view/mathics-cbhe-erasmus/mathics-applications/lycee-college/linear-functions>
- Example of mathematical high school course: <https://sites.google.com/view/mathics-cbhe-erasmus/mathics-applications/lycee-college/produit-scalaire>
- Example of mathematical course in higher education: <https://sites.google.com/um5r.ac.ma/driss-bennis/teaching/algebra1-s1-ia/chapitre-2-alg1/sec3-ch2-alg1>



Now, the workshop start by presenting modalities of teaching:

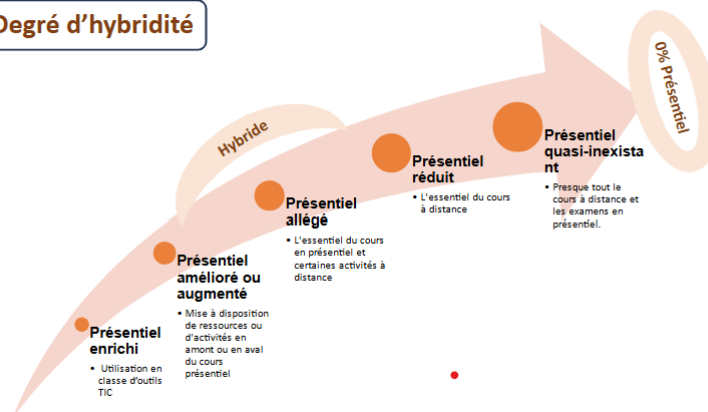


Modèles d'enseignement



Ref: <https://www.profweb.ca/publications/articles/differeents-modeles-d-enseignement-en-presentiel-a-distance-comodal-et-hybride>

Degré d'hybridité



Ref: GUIDE d'accompagnement d'une formation hybride : <https://www.uclouvain.be/ressources/colloques/2020/06/GuideFIT18010E.pdf>



We present effective practices for teaching in hybrid models:

- Selecting components based on the modality
- Structuring the course effectively
- Informing students about course structure
- Timing for giving instructions
- Managing time efficiently

The workshop concludes with an activity where participants work in teams to create an example of a part of a mathematical course in hybrid format. After, they present their course structures, followed by discussions.

1.3 Workshop 2: Multimedia Learning and Production of Educational Videos

This workshop aims to provide both the techniques for creating educational videos and the pedagogical approaches needed to produce engaging and well-structured content.

It is divided in two parts:

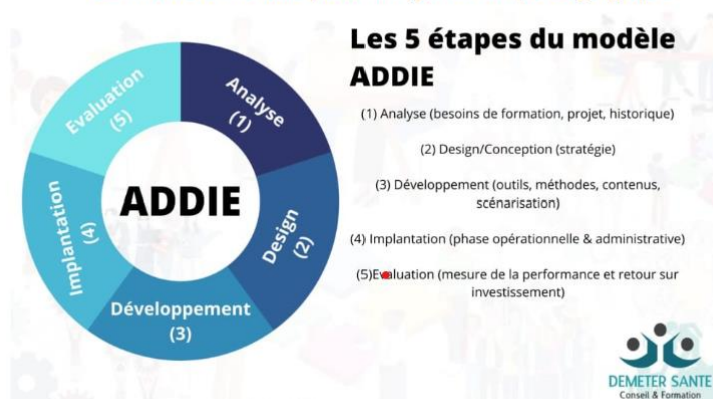
- Part 1. What is an educational video?
- Part 2: ADDIE 5 steps model for pedagogical engineering
- Part 3: Nine events of Gagné
- Part 4: Different pedagogical methods
- Part 5: Presentation of Mayer's 12 principles for multimedia learning

For Part 1, we briefly discuss the content of the following references:

- What is capsule? <https://primabord.eduscol.education.fr/qu-est-ce-qu-une-capsule>
- How to create a capsule? <https://www.techsmith.fr/blog/creer-capsule-video-pedagogique/>
- Examples of capsules: <https://apui.univ-avignon.fr/capsules-video-des-formes-variees/>

For Part 2, we briefly present the steps to follow to effectively prepare a course by integrating all digital tools according to the ADDIE model of educational engineering.

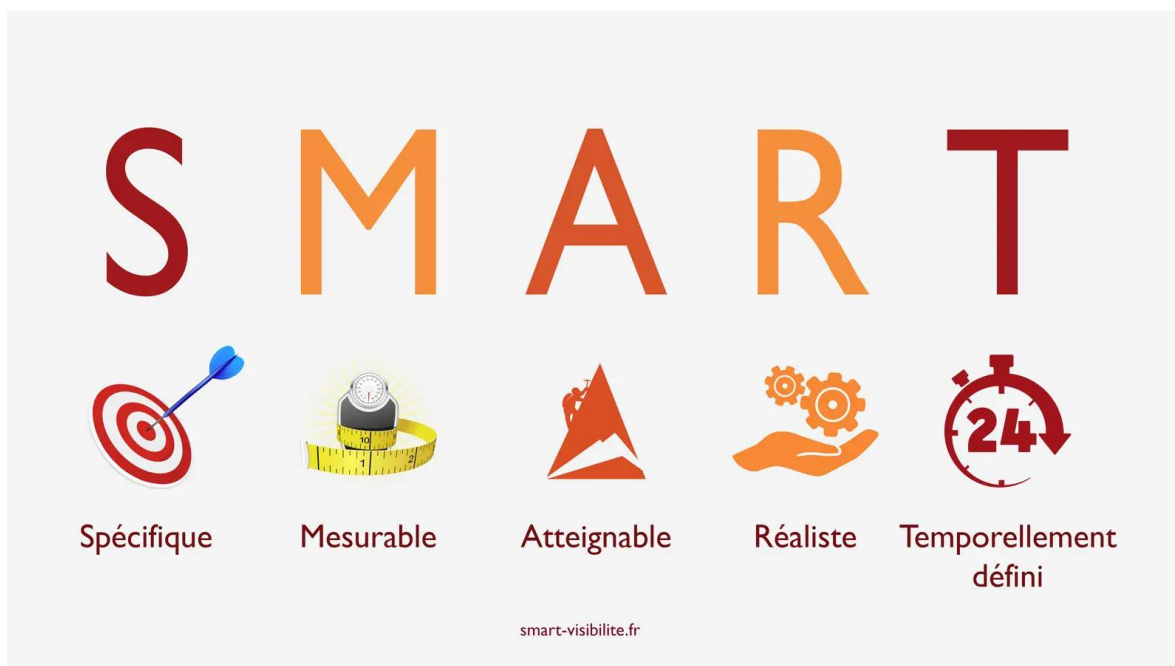
Le modèle ADDIE pour l'ingénierie pédagogique

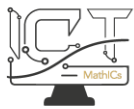


Ref. www.demeter-sante.fr/2022/09/14/ingenierie-pedagogique-ou-de-formation/

This section covers the precise formulation of specific objectives, an essential step in designing and structuring the video effectively.

We present to participants best practices using the SMART model and action verbs in accordance with the educational objectives based on the levels of Bloom's taxonomy.

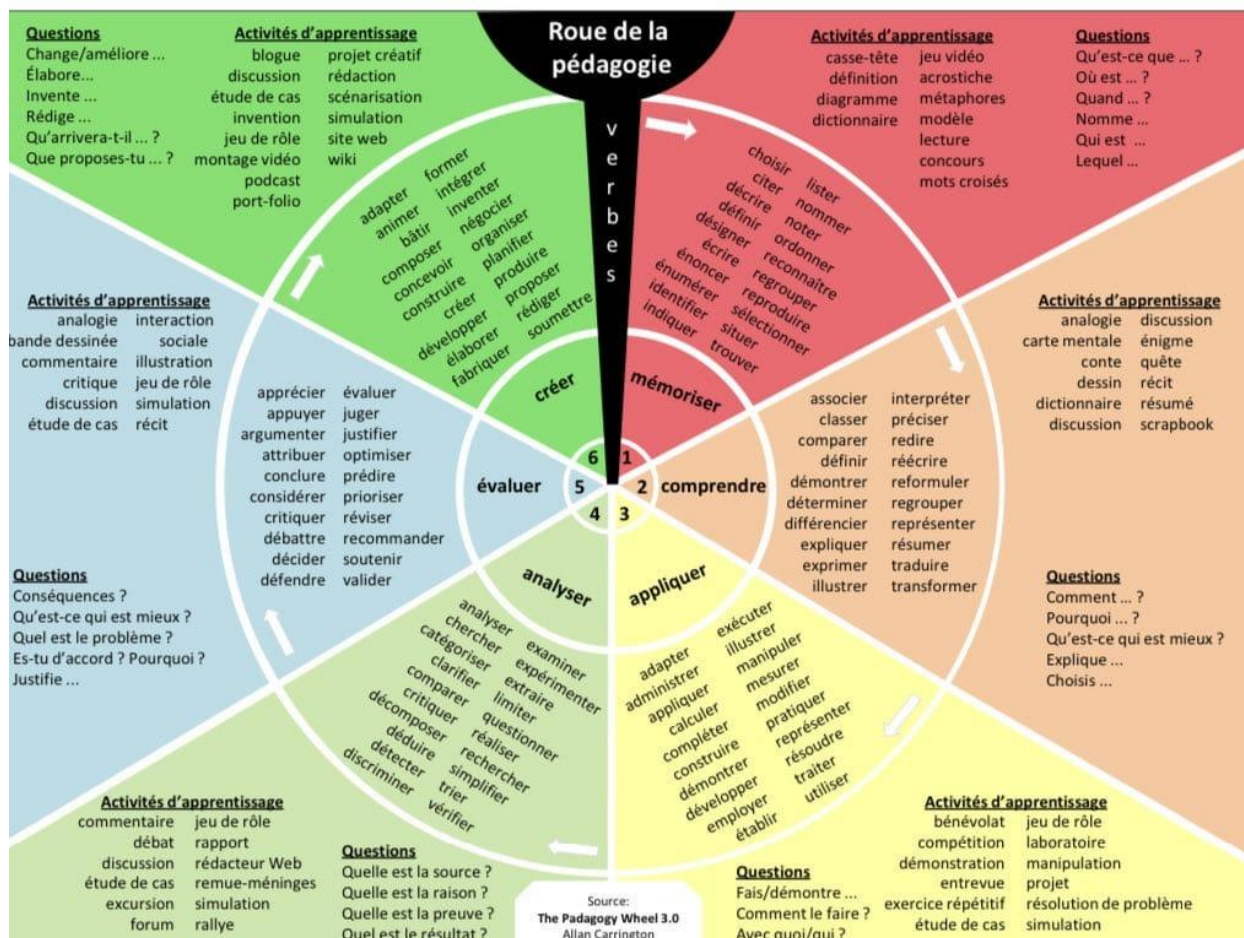


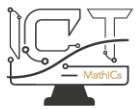


Taxonomie de Bloom pour rédiger des objectifs pédagogiques

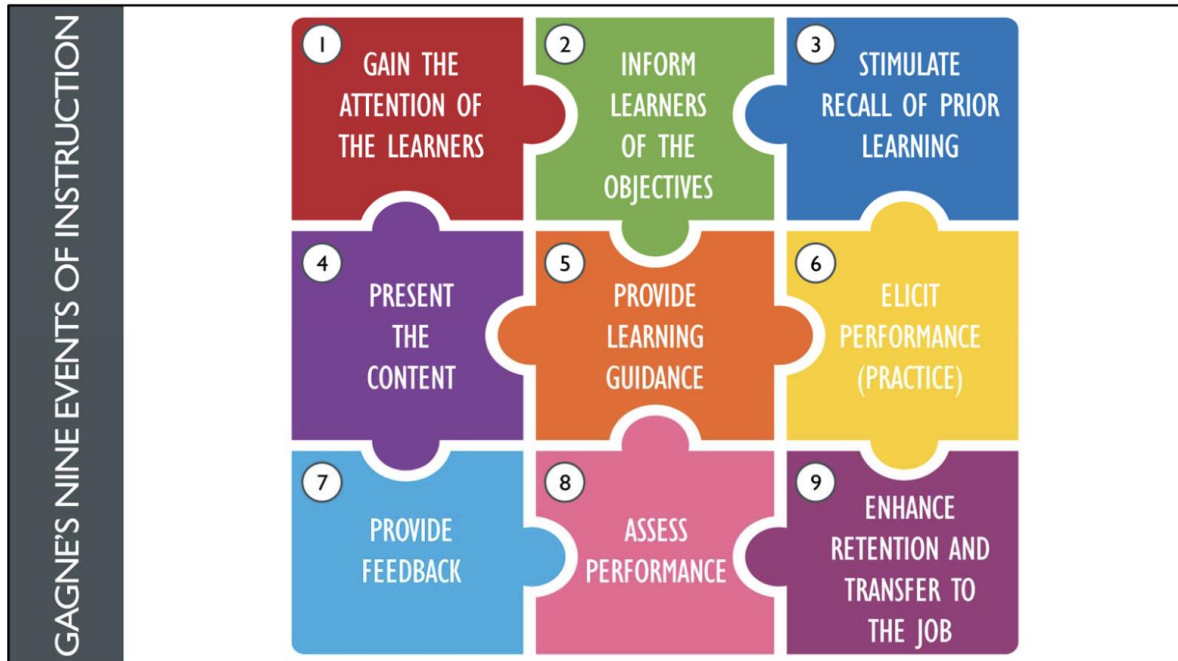
LISTE DES VERBES D'ACTION TAXONOMIE DE BLOOM DU DOMAINE COGNITIF

	1. Connaître	2. Comprendre	3. Appliquer	4. Analyser	5. Évaluer	6. Créer
1. Connaître	Reproduire et mémoriser ce qui a été enseigné	Comprendre des significations	Reconnaitre les éléments de base d'un concept et les reconnaître dans des situations nouvelles	Partager des matériaux pour les reconnaître et les reconnaître	Construire et analyser des idées	Utiliser des idées créatives pour résoudre des problèmes
2. Comprendre	Comprendre des significations	Comprendre des significations	Reconnaitre les éléments de base d'un concept et les reconnaître dans des situations nouvelles	Partager des matériaux pour les reconnaître et les reconnaître	Construire et analyser des idées	Utiliser des idées créatives pour résoudre des problèmes
3. Appliquer	Reproduire et mémoriser ce qui a été enseigné	Comprendre des significations	Reconnaitre les éléments de base d'un concept et les reconnaître dans des situations nouvelles	Partager des matériaux pour les reconnaître et les reconnaître	Construire et analyser des idées	Utiliser des idées créatives pour résoudre des problèmes
4. Analyser	Reproduire et mémoriser ce qui a été enseigné	Comprendre des significations	Reconnaitre les éléments de base d'un concept et les reconnaître dans des situations nouvelles	Partager des matériaux pour les reconnaître et les reconnaître	Construire et analyser des idées	Utiliser des idées créatives pour résoudre des problèmes
5. Évaluer	Reproduire et mémoriser ce qui a été enseigné	Comprendre des significations	Reconnaitre les éléments de base d'un concept et les reconnaître dans des situations nouvelles	Partager des matériaux pour les reconnaître et les reconnaître	Construire et analyser des idées	Utiliser des idées créatives pour résoudre des problèmes
6. Créer	Reproduire et mémoriser ce qui a été enseigné	Comprendre des significations	Reconnaitre les éléments de base d'un concept et les reconnaître dans des situations nouvelles	Partager des matériaux pour les reconnaître et les reconnaître	Construire et analyser des idées	Utiliser des idées créatives pour résoudre des problèmes





For Part 3, in this section, we address the structuring of the video by presenting Gagné's nine events, with emphasis on the first step which highlights the importance of capturing learners' attention. We discuss good practices, such as giving a captivating example, sharing a historical note, exploring applications of video concepts, asking questions that spark interest, and demonstrating the importance of following the video until the end.



For Part 4, this section discusses expository, demonstrative, interrogative, experimental and active teaching methods, followed by a discussion of their choice and adoption in educational video.



Part 5 is a presentation of Mayer's 12 principles for multimedia learning, useful for properly organizing your slides while considering cognitive load.

In this part, we ask the participants to note, as they are explained, these 12 principles format a checklist, which will be used during the demonstration of a video at the end. We ask the participants to write down, as they are explained, these 12 principles in the form of a checklist that they will use during the video demonstration at the end. Next, we show one of the videos prepared by the MathICs team and ask participants to use the checklist to check whether the video respects these principles and to specify the teaching methods adopted in the video. The video is chosen according to the profile of the participants. For example, for science faculties, we present videos intended for higher education. For training centers for future high school and college teachers, we offer a video of a course adapted to the secondary level.

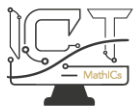
12 Principles



We end with an open discussion on the content of the video presented according to what they are rated.

1.4 Workshop 3: e-Assessment

We start with a brief overview of the significance, types, and structure of evaluation, followed by examples from the MathICs team using Google Quiz and Quizzes. Next, we demonstrate how to create a multiple-choice quiz using Google Forms, while participants simultaneously create their own quizzes based on the courses they proposed in the hybrid pedagogy workshop. A shared Google Sheet will enable participants to post links to their quizzes. We conclude with an open discussion about the created Quizzes.



2. CARAVAN FOR HIGH SCHOOLS

2.1 Workshop GeoGebra

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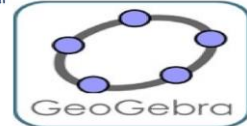


MathICs Translated by Google

What is Geogebra?



GeoGebra is a dynamic educational software that combines geometry, algebra and calculus.



GeoGebra is developed for teaching and learning mathematics.



on computer via the <http://www.geogebra.org/download>

Also, via **App Store** or **Google play** and download the app.

Installation is quick and easy.



on phone via **App Store** or **Play Store** and download the application.

Simply specify which **GeoGebra application** you want to use.



MathICs Translated by Google

Features

You can directly write **algebraic expressions** and view its graphical representation



GeoGebra combines three different representations of mathematical objects:

- Graphic
- Algebraic
- Spreadsheet



Algebra Window



MathICs Translated by Google

Features



Algebra Window

The **Construction Tools** available in the toolbar allow you to construct geometric shapes in the **Graphics view**.

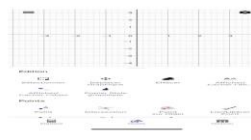


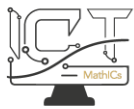
MathICs Translated by Google

Features

Tools Window Several

constructions are available in the **toolbar**. And through the help of the toolbar you can understand how to use the chosen object.

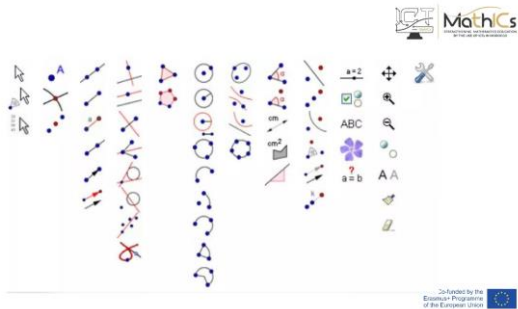


MathICs
STRENGTHENING MATHEMATICS EDUCATION
BY THE USE OF ICTs IN MOROCCO

Email MathICs : mathics@ual.es
www2.ual.es/MathICs/

Materials provided by Google



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Features Table Window

In the Spreadsheet you can enter numbers, also all types of mathematical objects that are recognized by GeoGebra.



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GeoGebra Workshop: Polynomial functions of degree 2

Objective :

Experiment by changing the parameters and observing the effects on the curve of a polynomial function of degree 2

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How to join the lesson?

Fonctions polynomiales

Rejoignez la leçon avec le lien www.geogebra.org/classroom/e3pum8xm

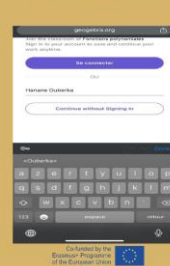
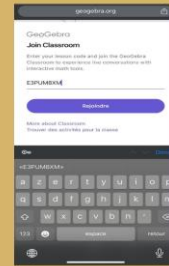
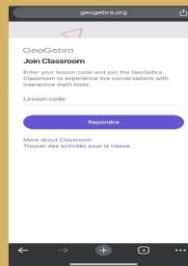
ou entrez le code sur www.geogebra.org/classroom

E3PU M8XM

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Materials provided by Google

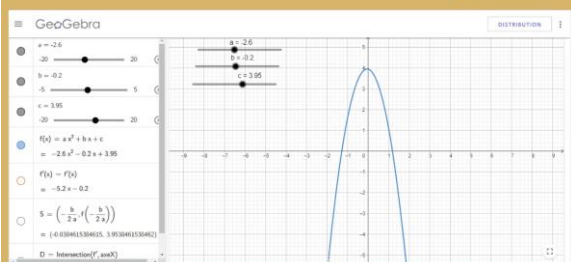
How to join the lesson?



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The lesson:



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Have fun &
Long live the MathICs
competition :)

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GeoGebra Workshop: Polynomial Functions

Moulay Ismail High School Meknes

March 4, 2024

- Group number:
- Names of participants:

Objective: is to experiment by changing the parameters and observing the effects on the objects mathematical. Case of polynomials of Degree 2.

Open the activity "Polynomial Functions" to answer the questions:

A) Role of parameters

Analysis of parameter a

1. Vary the parameter a in the interval $[1, +\infty[$; what do you notice?

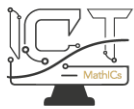
2. Vary the parameter a in the interval $]0, 1]$; what do you notice?

3. Now vary the parameter a in the interval $] -\infty, 0[$, then in the interval $]0, \infty[$; that do you notice?

Analysis of parameter b

1. Set parameter a back to a positive value and now vary parameter b; that do you notice?





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2. Set parameter a back to a negative value and now vary parameter b; that do you notice?

Analysis of parameter c

1. Now vary the parameter c; what do you notice about the coordinates of point A?

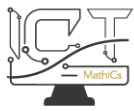
B) The vertex and the derivative

1. Set parameter C to a value of your choice and complete the following table:


has		S	D
	b	,	,)
1 5	2 -3	,	,)
1	4	,	,)
(((-2 2.5 ((9		,	,)
-3		,))))	((((((,)

2. What do you notice?
3. What does the abscissa of point D represent for the derivative function?
4. Conclude





2.2 Workshop Magic of numbers



The Magic of Numbers Workshop

Hosted by: Ibissam Medarhri
Caravan Team: Khalid Najib, Asmaa Benghbrit & Hanane Ouberka



Let's start the game



Choose a value between 1 and 30



Magic of numbers

The value you are looking for is in this table?

8	9	10	11	12	13
14	15	24	25	26	27
28	29	30	31		



Magic of numbers

The value you are looking for is in this table?

2	3	6	7	10	11
14	15	18	19	22	23
26	27	30	31		



Magic of numbers

Have you ever played guessing game?
You know I can guess the number you were thinking of!!!



Magic of numbers

The value you are looking for is in this table?

16	17	18	19	20	21
22	23	24	25	26	27
28	29	30	31		



Magic of numbers

The value you are looking for is in this table?

4	5	6	7	12	13
14	15	20	21	22	23
28	29	30	31		



Magic of numbers


The value you are looking for is in this table?

1	3	5	7	9	11
13	15	17	19	21	23
25	27	29	31		






$$7=2^2+2^1+2^0=(0111)$$



**The value you guessed
is:**



Machine Translated by Google

Now it's your turn to play



Machine Translated by Google

Number Magic Workshop: Riddle

Moulay Ismail High School Meknes

March 4, 2024

- Group number:
- Names of participants:

Objective: is to understand the guessing game and try to solve the riddle by reproducing the same Tables.

A) Understanding

1. Explain how the right result can be achieved?

2. How can we easily obtain the result?



Machine Translated by Google

B) Solving the riddle

1. To have a maximum value of 15, how many tables will we have? Justify your answer.

2. Building the Game Tables



3. HINTS AND TIPS

4.1 Schedule a workshop

The first step to take into consideration is during the scheduling of a workshop. It is recommended to send alongside your request to the director of the establishment (through a letter or a formal email) a note explaining what is the purpose of the workshop activity. This note should be one page long detailing the frame of the request: what is the project, the focus of the activity, its goal, target groups and foreseen impact.

An example of the letter sent during the MathICs Caravan is present in **Annex 1**.

The note used during the MathICs Caravan is available in **Annex 2**.

4.2 Registration and participation

In order to prepare your workshop in the best circumstances, it is recommended to send beforehand a registration link through Google Form or other, especially if the activity is open to all members of an institution. In the case of the activity will happen in a classroom, the speaker can ask in advance for the number of pupils. Having a rough number of participants will help the organiser to plan the workshop accordingly (number of printing, preparation of working groups, etc.).

On the day of the workshop, an attendance list should be distributed among the participants. The list could be paper or digital through a QR code. An example of print attendance list is available in **Annex 3**.

4.3 Evaluation

As every activity, it is important to assess the satisfaction of the participants and if the workshop's objectives are reached.

An easy tool to assess that the workshop's objectives are understood is to create a small and interactive quiz using apps such as Wooclap or Kahoot. This quiz, shared via a QR code at the end of the workshop can be an engaging way to test the participants' knowledge on what they have learnt. A quiz of five questions maximum is recommended in order to keep a responsive energy. A friendly competition also creates a light atmosphere to end the workshop on a positive note.

After the workshop, it is essential to disseminate a satisfaction survey amongst the participants. The survey will assess the quality of the following aspects: duration, room, equipment in the room, the organisation, the agenda, the speaker, the supporting materials (document, PowerPoint presentation, printed documents, etc.), if their expectations are reached and finally, an open section for final comments. The satisfaction survey will also gather the general information about the participant such as gender, status (student, professor, etc.) and their level of study (1st year, 2nd year, etc.). The satisfaction survey can be distributed according to convenience – by print or digitally via a QR code or email. It is highly recommended to have the participants fill out the satisfaction survey while still being

in the room of the workshop. Indeed, the satisfaction survey will last only one or two minutes, it is important to include this timeslot in the overall workshop timeframe in order to collect maximum feedbacks.

An example of a Satisfaction Survey distributed amongst high school students is in **Annex 4**.

Once the feedbacks are collected, a report can be drafted that will summarize the positive and negative feedbacks of the workshop with the general data collected. The report should also present the recommendations made by the participants regarding improvement and should be taken into consideration for the next activity.

4. ANNEXES

Annex 1 example of letter sent for the coordination of a MathICs Caravan activity

Cher collègue Name NAME,

Je suis heureux de vous annoncer que INSTITUTION NAME a été sélectionnée parmi les institutions potentielles pour accueillir la deuxième édition de la caravane de MathICs.

L'objectif de cette caravane est de partager l'expérience accumulée du projet MathICs (Projet Erasmus+ CBHE) et de sensibiliser, voire impliquer, les institutions marocaines à l'importance de la digitalisation de l'enseignement des mathématiques.

Nous sommes convaincus que la participation de INSTITUTION NAME, incluant ses professeurs et étudiants de Doctorat, apportera une valeur ajoutée indéniable à cet événement.

Je vous serais reconnaissant de bien vouloir me répondre dans les cinq jours suivant la réception de ce message afin de finaliser le programme de la caravane pour cette année et commencer les préparatifs de cette événement.

À titre de référence, je vous joins deux fichiers :

1. Un document présentant les activités de la caravane. Vous pouvez consulter les activités de la caravane de l'année dernière sur la page suivante : Caravane de MathICs
2. Un document présentant brièvement le projet MathICs.

Cordialement,
Coordinateur national du projet Erasmus CBHE MathICs
Au nom de l'équipe du projet MathICs

Annexe 1 bis: Second example

Bonjour,
Nous avons le plaisir de vous inviter à participer à la caravane de MathICs qui se tiendra le 12 Juin 2023 à ESEF de Oujda.

L'un des ateliers de la caravane nécessite la création d'un site web. Pour un bon déroulement de l'activité, nous avons préparé un tutoriel (en 5 étapes) pour la création d'un site web personnel (version Google sites). Veuillez utiliser le lien suivant pour télécharger les fichiers du tutoriel : <https://sites.google.com/um5r.ac.ma/driss-bennis/teaching/sites-google>

Dans ce tutoriel on vous propose de réaliser un site web personnel : Le partage de l'adresse de votre site web dans la class room (code flpyz4l) est considéré comme une confirmation de participation : <https://classroom.google.com/c/NjEyMjA4NjQ2MTY2?cjc=flpyz4l>

N.B. Nous allons organiser une session en ligne la semaine prochaine pour répondre à vos questions.

Merci de partager l'information entre vous
<https://www.facebook.com/mathics.cbhe/>
<https://www.linkedin.com/in/mathics/>

Cordialement

Au nom de l'équipe de MathICs
<https://www2.ual.es/MathICs/>

Annex 2 Presentation of MathICs – note joined to the letter

Note de présentation du programme de la Caravane de MathICs

Thème : Sur les bonnes pratiques de l'utilisation des TIC dans l'enseignement des mathématiques

Format : Ateliers interactifs

Intervenants : Les ateliers seront animés par des membres formateurs du projet MathICs.

Présentation de l'événement :

Cet événement est organisé dans le cadre des activités du projet MathICs (Erasmus CBHE), dont l'objectif principal est le renforcement de l'utilisation des Technologies de l'Information et de la Communication (TIC) dans l'enseignement des mathématiques.

L'événement "Caravane de MathICs" vise à partager et à promouvoir les bonnes pratiques pour l'intégration efficace des TIC dans l'enseignement des mathématiques. À travers une série d'ateliers interactifs, les participants auront l'occasion d'explorer divers aspects de l'utilisation des TIC dans le contexte éducatif.

Atelier 1 : Modèles d'intégration des TIC dans l'enseignement et généralités sur la pédagogie hybride.

Cet atelier fournira une vue d'ensemble des différentes approches de l'intégration des TIC dans l'enseignement des mathématiques, en mettant particulièrement l'accent sur la pédagogie hybride. Les participants auront l'opportunité d'explorer les stratégies et les outils les plus efficaces pour créer un environnement d'apprentissage dynamique et interactif.

Atelier 2 : Apprentissage multimédia et Réalisation des vidéos éducatives
Cet atelier présentera les bonnes pratiques pour un apprentissage multimédia optimal ainsi que pour la création de vidéos éducatives dans le domaine des mathématiques.

Atelier 3 : La e-Évaluation

Cet atelier examinera différentes méthodes et outils disponibles pour l'évaluation de l'apprentissage en ligne.



Email MathICs : mathics@ual.es
www2.ual.es/MathICs/

Annex 3 Example of a printable list of attendance



Lycée Tarek Ibn Ziad - Azrou

Caravane de MathICs

Sur l'utilisation des TIC dans l'enseignement des mathématiques

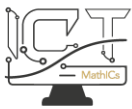
Samedi 25 Mai 2024

Nom Prénom	Élève / enseignant	Email	Institution	Tél

Email MathICs : mathics@ual.es
www2.ual.es/MathICs/

Co-funded by the Erasmus+ Programme of the European Union

Co-funded by the Erasmus+ Programme of the European Union



Annex 4 Example of a Satisfaction Survey

Caravane MathICs_Lycée Ibn Al Haytam Kénitra

11/05/2024 10:54

Caravane MathICs_ Lycée Ibn Al Haytam Kénitra

Merci de remplir le formulaire suivant

1. Le genre

Une seule réponse possible.

Feminin
 Masculin

2. Vous êtes du lycée

Une seule réponse possible.

Ibn Al haytam
 Autre : _____

3. Niveau

Une seule réponse possible.

1ère année Bac
 2ème année Bac
 Autre : _____

4. Vous avez assisté à :

Une seule réponse possible.

la conférence et orientation
 les ateliers

https://www.google.com/forms/d/1mWkzC9u1aMh3mJ4qz0zCpN4j3Za1qP7T5d4qJm1dwm

Page 1 sur 2

Caravane MathICs_Lycée Ibn Al Haytam Kénitra

11/05/2024 10:54

5. Caravane MathICs a répondu à vos attentes

Une seule réponse possible.

Tout à fait
 Beaucoup
 Moyennement
 Peu
 Pas du tout

6. Si vous avez participé à la compétition, Vous êtes satisfait de cette expérience

Une seule réponse possible.

Très satisfait
 Satisfait
 Ni satisfait ni insatisfait
 Plutôt insatisfait
 Très insatisfait

7. En résumé, êtes vous satisfait de l'organisation de la Caravane- MathICs

Une seule réponse possible.

Très satisfait
 Satisfait
 Ni satisfait ni insatisfait
 Plutôt insatisfait
 Très insatisfait

https://www.google.com/forms/d/1mWkzC9u1aMh3mJ4qz0zCpN4j3Za1qP7T5d4qJm1dwm

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