

# NURIC

WP 3 Development

T3.1-Develop repository of learning materials

## **Instruction Manual for Using the Learning Materials**

Authors: Fabio D'Agostino, Noemi Giannetta, Ilaria Erba (UniCamillus Team)



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# Instruction Manual for the Use of Learning Materials (for Instructors)

## Aim of this Document

To provide clear instructions for the use of learning materials to instructors who will teach in the NURIC nano courses.

## Background

A repository of Open Educational Resources (OER), specifically learning materials organized by curricula topics/modules as identified for the NURIC nano courses, has been created. These materials primarily include scientific articles, book chapters, lectures, videos, podcasts, and web resources, enabling instructors to select and prepare core teaching materials for blended education. Unfortunately, it was challenging to find case studies or quizzes as OER, so this type of material is mostly absent. However, based on the information provided by these resources, instructors can use free artificial intelligence tools (e.g., ChatGPT, Microsoft Copilot) to create case studies or quizzes for blended education.

## The Learning Material Spreadsheet

The Learning Material spreadsheet is available online via Google Drive. It is organized into several columns to catalog the collected material using a unique ID, topic, brief description, webpage link, resource description, material type (e.g., webpage, scientific article, video), source country, language, competence level (e.g., beginner, intermediate), OER status, and year of publication (see Figure 1). This structure is designed to facilitate easier searching for instructors.

## How to Search for Learning Material

To search for a specific topic, such as "EHR," instructors can use the following methods:

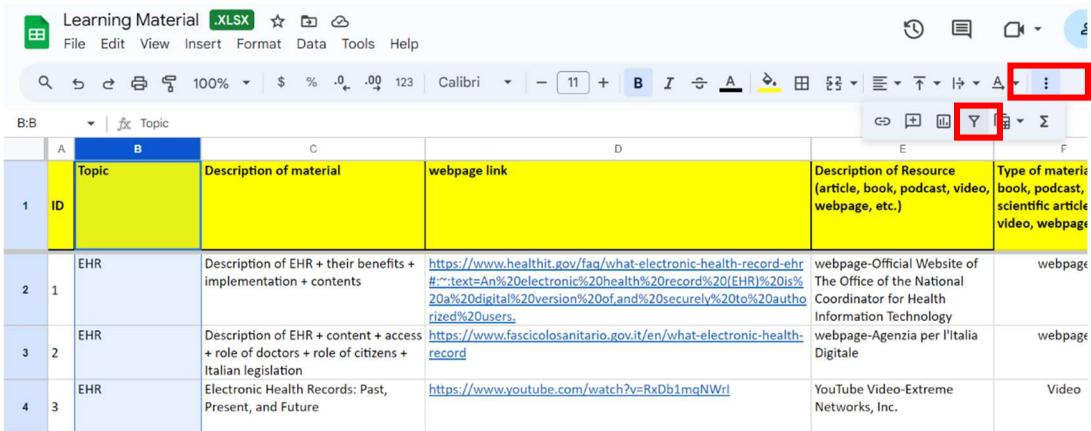
1. Use the "Create a Filter" button in Excel to select the topic of interest (see Figs. 1 and 2).
2. Press CTRL + F on Windows or Cmd + F on MacOS, then type "EHR" (see Fig. 3).



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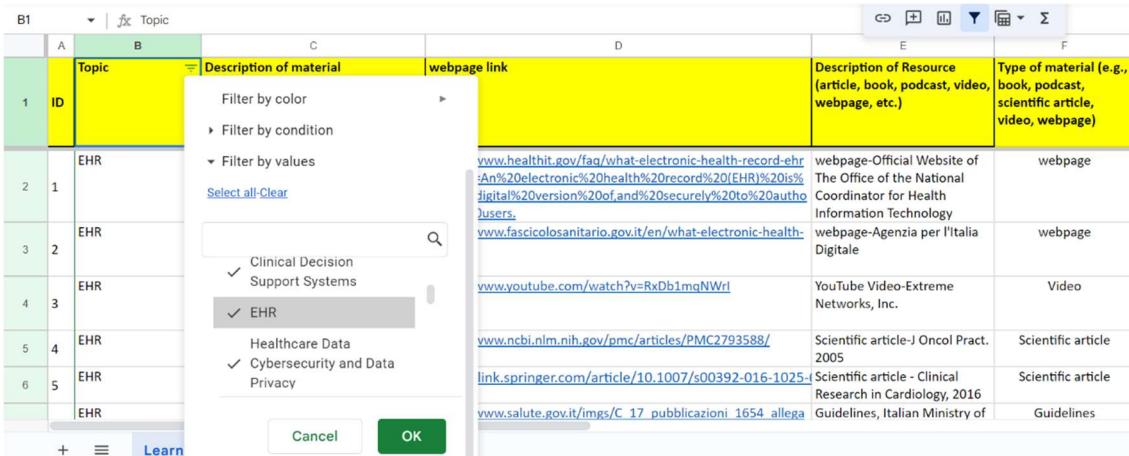
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3. Scroll through the document manually to locate the topic of interest.



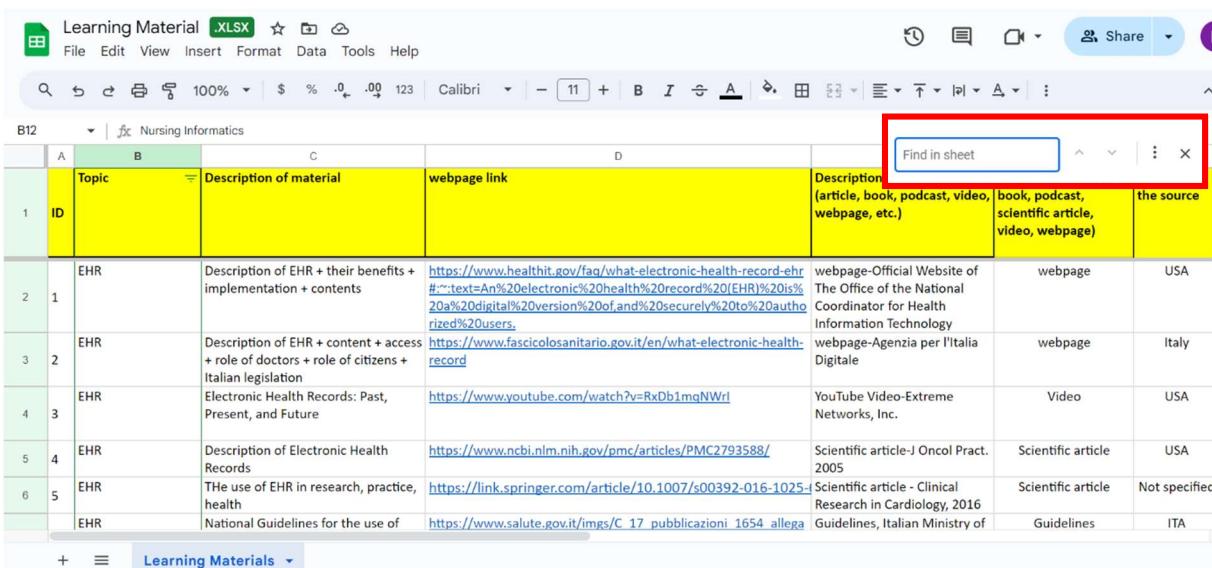
	A	B	C	D	E	F
1	ID	Topic	Description of material	webpage link	Description of Resource (article, book, podcast, video, webpage, etc.)	Type of material (book, podcast, scientific article, video, webpage)
2	1	EHR	Description of EHR + their benefits + implementation + contents	<a href="https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.">https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.</a>	webpage-Official Website of The Office of the National Coordinator for Health Information Technology	webpage
3	2	EHR	Description of EHR + content + access + role of doctors + role of citizens + Italian legislation	<a href="https://www.fascicolosanitario.gov.it/en/what-electronic-health-record">https://www.fascicolosanitario.gov.it/en/what-electronic-health-record</a>	webpage-Agenzia per l'Italia Digitale	webpage
4	3	EHR	Electronic Health Records: Past, Present, and Future	<a href="https://www.youtube.com/watch?v=RxD1mqNWrl">https://www.youtube.com/watch?v=RxD1mqNWrl</a>	YouTube Video-Extreme Networks, Inc.	Video

Fig. 1. Create a filter



	A	B	C	D	E	F
1	ID	Topic	Description of material	webpage link	Description of Resource (article, book, podcast, video, webpage, etc.)	Type of material (e.g., book, podcast, scientific article, video, webpage)
2	1	EHR			webpage-Official Website of The Office of the National Coordinator for Health Information Technology	webpage
3	2	EHR			webpage-Agenzia per l'Italia Digitale	webpage
4	3	EHR			YouTube Video-Extreme Networks, Inc.	Video
5	4	EHR		<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/">www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/</a>	Scientific article-J Oncol Pract. 2005	Scientific article
6	5	EHR		<a href="https://link.springer.com/article/10.1007/s00392-016-1025-1">link.springer.com/article/10.1007/s00392-016-1025-1</a>	Scientific article - Clinical Research in Cardiology, 2016	Scientific article
		EHR		<a href="https://www.salute.gov.it/imgs/C_17_pubblicazioni_1654_allega">www.salute.gov.it/imgs/C_17_pubblicazioni_1654_allega</a>	Guidelines, Italian Ministry of	Guidelines

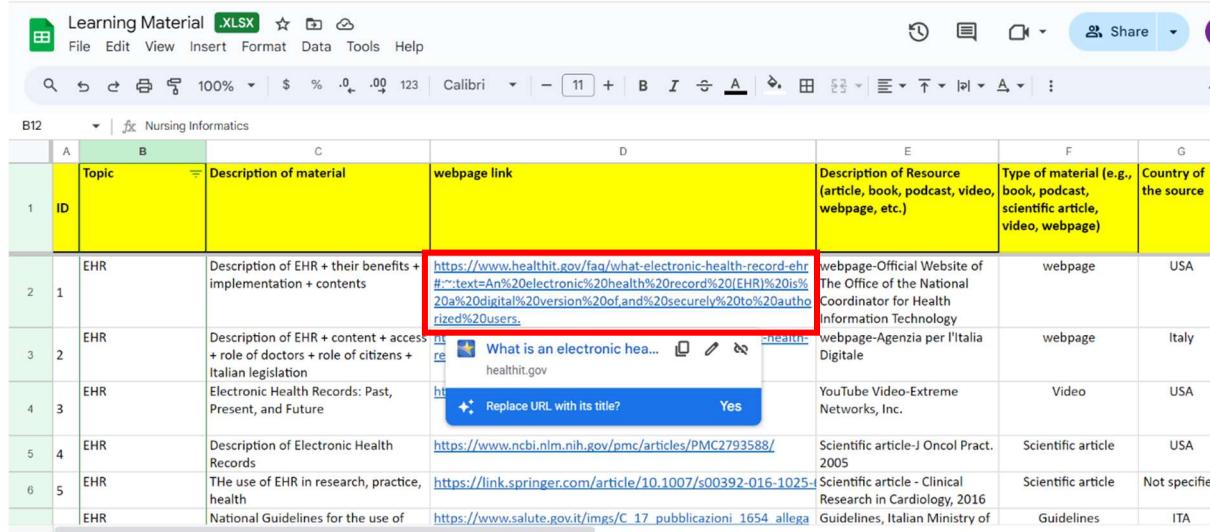
Fig. 2. Select the topic of interest



	A	B	C	D	E	F	
1	ID	Topic	Description of material	webpage link	Description of Resource (article, book, podcast, video, webpage, etc.)	Type of material (book, podcast, scientific article, video, webpage)	
2	1	EHR	Description of EHR + their benefits + implementation + contents	<a href="https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.">https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.</a>	webpage-Official Website of The Office of the National Coordinator for Health Information Technology	webpage	USA
3	2	EHR	Description of EHR + content + access + role of doctors + role of citizens + Italian legislation	<a href="https://www.fascicolosanitario.gov.it/en/what-electronic-health-record">https://www.fascicolosanitario.gov.it/en/what-electronic-health-record</a>	webpage-Agenzia per l'Italia Digitale	webpage	Italy
4	3	EHR	Electronic Health Records: Past, Present, and Future	<a href="https://www.youtube.com/watch?v=RxD1mqNWrl">https://www.youtube.com/watch?v=RxD1mqNWrl</a>	YouTube Video-Extreme Networks, Inc.	Video	USA
5	4	EHR	Description of Electronic Health Records	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/</a>	Scientific article-J Oncol Pract. 2005	Scientific article	USA
6	5	EHR	The use of EHR in research, practice, health	<a href="https://link.springer.com/article/10.1007/s00392-016-1025-1">https://link.springer.com/article/10.1007/s00392-016-1025-1</a>	Scientific article - Clinical Research in Cardiology, 2016	Scientific article	Not specified
		EHR	National Guidelines for the use of	<a href="https://www.salute.gov.it/imgs/C_17_pubblicazioni_1654_allega">https://www.salute.gov.it/imgs/C_17_pubblicazioni_1654_allega</a>	Guidelines, Italian Ministry of	Guidelines	ITA

Fig. 3. CTRL + F, keyboard shortcut to search for text within a document.

Once you have identified the topic, click on the corresponding webpage link under the "webpage link" column to access the material (see Fig. 4).



Nursing Informatics							
B12	A	B	C	D	E	F	G
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2	1	EHR	Description of EHR + their benefits + implementation + contents	<a href="https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.">https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.</a>	webpage-Official Website of The Office of the National Coordinator for Health Information Technology	webpage	USA
3	2	EHR	Description of EHR + content + access + role of doctors + role of citizens + Italian legislation	<a href="https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.">https://www.healthit.gov/faq/what-electronic-health-record-ehr#:~:text=An%20electronic%20health%20record%20(EHR)%20is%20a%20digital%20version%20of,an%20securely%20to%20authorized%20users.</a>	webpage-Agenzia per l'Italia Digitale	webpage	Italy
4	3	EHR	Electronic Health Records: Past, Present, and Future	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/</a>	YouTube Video-Extreme Networks, Inc.	Video	USA
5	4	EHR	Description of Electronic Health Records	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793588/</a>	Scientific article-J Oncol Pract. 2005	Scientific article	USA
6	5	EHR	The use of EHR in research, practice, health	<a href="https://link.springer.com/article/10.1007/s00392-016-1025-4">https://link.springer.com/article/10.1007/s00392-016-1025-4</a>	Scientific article - Clinical Research in Cardiology, 2016	Scientific article	Not specified
		EHR	National Guidelines for the use of	<a href="https://www.salute.gov.it/imgs/C_17_pubblicazioni_1654_allega">https://www.salute.gov.it/imgs/C_17_pubblicazioni_1654_allega</a>	Guidelines, Italian Ministry of	Guidelines	ITA

Fig. 4. Webpage link where instructors can access the learning material

## How to Use the Learning Material for the NURIC Nano Courses

Instructors can utilize the learning material in various ways. For instance, they might reuse videos or podcasts by assigning them to course participants or use the information from the learning materials to create slides, case studies, or quizzes. The following example demonstrates how to use this material to create a case study and a quiz with free artificial intelligence (AI) tools such as ChatGPT or Microsoft Copilot.

### Example of Creating a Case Study on 'Telehealth and Remote Patient Monitoring'

- 1) To create a case study on 'Telehealth and Remote Patient Monitoring,' first select a learning material of interest. For example, you might choose the following webpage: <https://telehealth.hhs.gov/providers/preparing-patients-for-telehealth/telehealth-and-remote-patient-monitoring>. After opening the webpage, select all the text that is relevant for creating a case study. In this example, all the text from the webpage has been selected (see Fig. 5).



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telehealth.hhs.gov/providers/preparing-patients-for-telehealth/telehealth-and-remote-patient-monitoring

technology

Helping patients prepare for their telehealth appointment

Conduct a telehealth physical exam

Creating an emergency plan

**Telehealth and remote patient monitoring**

Telehealth policy

Billing for telehealth

Licensure

Legal considerations

Best practice guides

## How to use remote patient monitoring with telehealth

Remote patient monitoring pairs well with telehealth when patients need to be monitored for certain health conditions. It can also prevent health complications in patients who aren't able to easily travel.

There are many symptoms and conditions that can be tracked through remote patient monitoring, including:

- High blood pressure
- Diabetes
- Weight loss or gain
- Heart conditions
- Chronic obstructive pulmonary disease
- Sleep apnea

Give feed

Fig. 5. Selection of the text from the learning material

- 2) Next, paste the selected text into an AI tool, such as ChatGPT, and request that it create a case study for students based on the provided information (see Fig. 6).

ChatGPT ▾

Please on the basis of the following information can you create a case study for nursing students? How to use remote patient monitoring with telehealth

Remote patient monitoring pairs well with telehealth when patients need to be monitored for certain health conditions. It can also prevent health complications in patients who aren't able to easily travel.

There are many symptoms and conditions that can be tracked through remote patient monitoring, including:

High blood pressure  
Diabetes  
Weight loss or gain  
Heart conditions  
Chronic obstructive pulmonary disease  
Sleep apnea  
Asthma

Many of the devices that patients will use may be familiar to them

Message ChatGPT

Fig. 6. Asking AI (e.g., ChatGPT) to create a case study

- 3) ChatGPT will generate a case study based on the information, including discussion questions for students (see Fig. 7). Important: The instructor must review the case study for potential inaccuracies and remember that the AI is a tool to assist rather than replace them.

ChatGPT ▾

Case Study for Nursing Students: Integrating Remote Patient Monitoring with Telehealth for Chronic Disease Management

Background:

Nurse Sarah works in a community health clinic serving a population with limited access to healthcare due to geographical barriers. The clinic has recently adopted remote patient monitoring (RPM) and telehealth services to better manage chronic conditions and improve patient outcomes. Nurse Sarah is responsible for educating patients, ensuring proper use of RPM devices, and interpreting the data received.

Patient Scenario:

Mrs. Thompson, a 72-year-old patient with a history of hypertension, type 2 diabetes, and sleep apnea, has been struggling to manage her conditions due to difficulties traveling to the clinic regularly. To help her manage her health more effectively, Nurse Sarah introduces her to RPM devices that will allow her to monitor her blood pressure, blood glucose levels, and oxygen

Message ChatGPT



ChatGPT ▾

Discussion Questions:

1. What role does patient education play in the successful implementation of RPM?
2. How can nurses ensure accurate and consistent data collection from patients using RPM devices?
3. What are the challenges nurses might face when integrating RPM with telehealth, and how can they overcome these challenges?
4. How can nurses use the data from RPM to make informed decisions about patient care?
5. Discuss the ethical considerations of remote monitoring and telehealth, especially in relation to patient privacy and data security.

Conclusion:

This case study illustrates the critical role that nurses play in the successful integration of remote patient monitoring with telehealth. By providing education, support, and continuous monitoring, nurses can help patients manage chronic conditions more effectively, leading to better health outcomes and reduced healthcare costs.



Message ChatGPT



Fig. 7. Case study created by ChatGPT

### *Example of Creating a Quiz on 'Nursing Informatics'*

Imagine you have given a lecture on 'Nursing Informatics' and now want to create a multiple-choice quiz for your students.

- 1) To create a quiz based on the lecture on 'Nursing Informatics,' first select a relevant learning material. For example, you might choose the following webpage: <https://www.himss.org/resources/what-nursing-informatics>. After opening the webpage, select all the text that you consider important for creating the quiz. In this example, all the text from the webpage has been selected (see Fig. 8).



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The screenshot shows the HIMSS website with a blue header. The URL in the address bar is himss.org/resources/what-nursing-informatics. The header includes the HIMSS logo and navigation links for Who We Are, What We Do, Membership, Resources, and News. The main content area contains text about nursing informatics, followed by a section titled 'What is Nursing Informatics Definition?' with a detailed definition from the American Nurses Association (ANA) and HIMSS.

We're often asked to explain what nursing informatics is. While it's difficult to quickly summarize this complex field, at its core, it takes the clinical and the technical languages of health and translates them into one. It also promotes meaningful, user-friendly and patient-centric innovation while driving improved outcomes for patients and enhanced clinical workflows for healthcare staff.

## What is Nursing Informatics Definition?

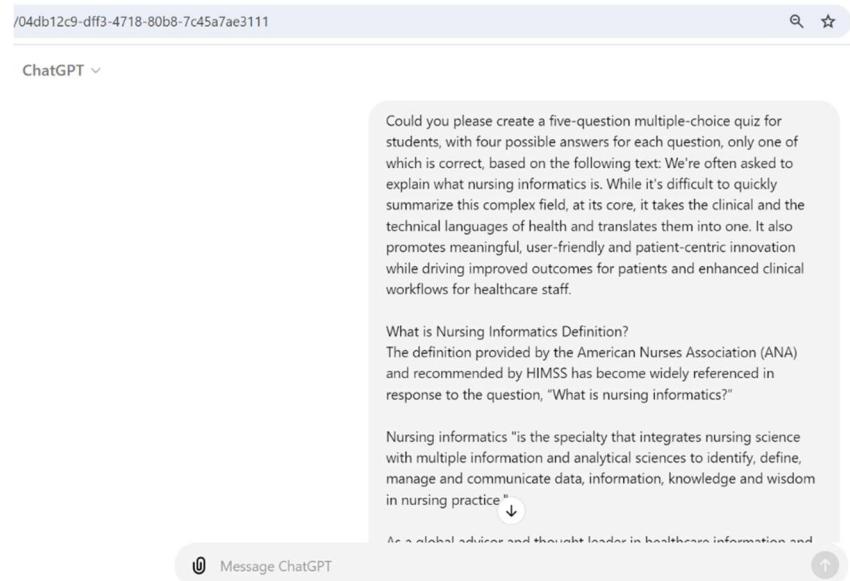
The definition provided by the American Nurses Association (ANA) and recommended by HIMSS has become widely referenced in response to the question, "What is nursing informatics?"

*Nursing informatics "is the specialty that integrates nursing science with multiple information and analytical sciences to identify, define, manage and communicate data, information, knowledge and wisdom in nursing practice."*

As a global advisor and thought leader in healthcare information and technology, HIMSS has focused on this professional field for decades. Understanding the integral role this specialty plays today in the healthcare workforce, we've worked to amplify awareness by convening the experts and conducting extensive research on the topic.

Fig. 8. Selection of the text from the learning material

- 2) Next, you can ask the AI to create a quiz for students based on the text selected and pasted into the AI tool (see Fig. 9).



The screenshot shows a ChatGPT interface. The user has pasted the text from Fig. 8 into the input field. The text is a request for ChatGPT to create a five-question multiple-choice quiz based on the provided definition of nursing informatics.

Could you please create a five-question multiple-choice quiz for students, with four possible answers for each question, only one of which is correct, based on the following text: We're often asked to explain what nursing informatics is. While it's difficult to quickly summarize this complex field, at its core, it takes the clinical and the technical languages of health and translates them into one. It also promotes meaningful, user-friendly and patient-centric innovation while driving improved outcomes for patients and enhanced clinical workflows for healthcare staff.

What is Nursing Informatics Definition?  
The definition provided by the American Nurses Association (ANA) and recommended by HIMSS has become widely referenced in response to the question, "What is nursing informatics?"

Nursing informatics "is the specialty that integrates nursing science with multiple information and analytical sciences to identify, define, manage and communicate data, information, knowledge and wisdom in nursing practice"

Fig. 9. Asking AI (e.g., ChatGPT) to create a quiz

- 3) ChatGPT will generate a quiz based on the provided information, including highlighting the correct answers (see Fig. 10). Important: The instructor must review the quiz for any potential

inaccuracies and remember that the AI is a tool to assist rather than replace them.

ChatGPT ▾

 Certainly! Here is a five-question multiple-choice quiz based on the provided text:

**Question 1: What is the primary goal of nursing informatics?**

- A) To design medical equipment
- B) To translate clinical and technical languages of health into one
- C) To replace traditional nursing practices
- D) To manage hospital finances

Correct Answer: B) To translate clinical and technical languages of health into one

**Question 2: How does the American Nurses Association (ANA) define nursing informatics?**

- A) A field that integrates medical technology with business management
- B) A specialty that integrates nursing science with multiple information and analytical sciences
- C) A process of collecting patient data for administrative use
- D) A method for improving patient satisfaction scores

 Message ChatGPT 

Fig. 10. Quiz created by ChatGPT

## Tips for Using AI to Generate Case Studies, Quizzes, or Lectures

- 1) Define clear objectives.
- 2) Provide detailed context.
- 3) Specify question types.

## References

- ChatGPT for Teachers: How to use AI in 2024? March 3, 2024. Available at <https://team-gpt.com/blog/chatgpt-for-teachers/>
- Microsoft Copilot <https://www.bing.com/chat?form=NTPCHB>
- OpenAI. ChatGPT. <https://chatgpt.com/>



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