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Transformed Writing: AI Applications

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MLS 525: Professional Communication in the Medical Laboratory

Transformed Writing: AI Applications

Purpose:

- Transform an artificial intelligence (AI) generative text output into a factually accurate, scholarly-supported writing
- Focused learning in the following CLEAR goal areas: Communication, Expertise, Research/Scholarship

Skills & Knowledge: In completing this assignment, you will need to:

Review and draw from previous coursework to:

- Summarize the function and methodology of the generative AI tool ChatGPT
- Recognize advantages and limitations of ChatGPT as a generative AI information source
- List common types of scholarly sources, and describe characteristics that contribute to their scholarly nature
- Apply methods to search for and/or obtain professional references/sources

Build and/or enhance development of following skills and knowledge:

- Compare and contrast ChatGPT outputs vs. traditional sources of scholarly information such as peer-reviewed articles and textbooks
- Critique ChatGPT outputs for accuracy, relevance, and identification of areas needing scholarly support
- Using generative text as a starting outline, create a clear and scholarly summary of current laboratory diagnostic approaches for a given disorder
- Identify and apply current laboratory diagnostic approaches for a given disorder

Directions:

1. Listen to the AI in MLS lecture and review the AI Resource Guide provided in Blackboard.
2. Review the **ChatGPT output (provided on page 2)** that was generated for the following prompt: “Summarize how laboratory testing is used to diagnose diabetes”.
3. Using search and source analysis techniques discussed in earlier course units, construct an outline of current, relevant approaches for laboratory diagnosis of diabetes. Properly cite sources throughout the outline.
4. Using your outline from #3 as a guide, assess the ChatGPT output to identify whether its information is accurate, relevant, missing, or excessive. Summarize your findings in the table on page 3.
5. Using your outline (#3) and ChatGPT assessment (#4) as guides, transform the ChatGPT output into 2-3 paragraphs about the general approach to laboratory diagnosis of diabetes that are in your own words. The paragraphs should be professionally and clearly written, accurate, contain relevant information that is not excessive but does hit on key/significant components, and include in-text citation of scholarly sources where applicable.
6. Create a correlating reference page for your new paragraphs that follows [ICMJ reference citation guidelines](#).
7. Complete the post-assignment reflection questions.

Grading Criteria

You can earn up to 25 points for this assignment. If no submission is made or an item is not completed, 0 points will be given. See definitions and rubric below for specific scoring breakdown.

Accuracy: *The information discussed is factually accurate*

Relevance: *The information discussed is a realistic reflection of current approaches/practice; Significant applicable information is present (major concepts are not missing) and excess or unneeded information is limited*

Scholarly Support: *Information not generally known in the field is accurately cited in-text with quality sources that are as current as possible*

Clarity: *The writing style facilitates understanding for the reader by presenting information in a logical order, clearly transitioning from one statement to the next, and reducing grammatical and formatting errors and inconsistencies.*

Reference Page: *All sources cited in-text must be included in the correct order and formatted according to ICMJE guidelines*

Grading Criteria Continued

	STRONG 4 Points	PROGRESSING 2-3 Points	NEEDS IMPROVEMENT 1 Point
PARAGRAPHS			
Accuracy	All elements of 'accuracy' met	Some elements of 'accuracy' were met, others were not or only partially met	Many elements of 'accuracy' were not or only partially met
Relevance	All elements of 'relevance' met	Some elements of 'relevance' were met, others were not or only partially met	Many elements of 'relevance' were not or only partially met
Scholarly Support	All elements of 'scholarly support' met	Some elements of 'scholarly support' were met, others were not or only partially met	Many elements of 'scholarly support' were not or only partially met
Clarity	All elements of 'clarity' met	Some elements of 'clarity' were met, others were not or only partially met	Many elements of 'clarity' were not or only partially met
	3 Points	2 Points	1 Point
OTHER COMPONENTS			
ChatGPT Assessment	All assessment items addressed thoroughly and w/ sources provided	Some assessment items addressed thoroughly and w/ sources provided	Many assessment items not addressed thoroughly and/or supporting sources not provided
Reference Page	All requirements for reference page met	Some requirements for reference page were met, others were not or only partially met	Many requirements for the reference page were not or only partially met
Reflection on Process	All reflection prompts thoroughly addressed and show evidence of thoughtful contemplation	Some reflection prompts thoroughly addressed and show evidence of thoughtful contemplation; others partially addressed	Most reflection prompts not or not thoroughly addressed; thoughtful contemplation not obvious

ChatGPT OUTPUT (Prompt: SUMMARIZE HOW LABORATORY TESTING IS USED TO DIAGNOSE DIABETES):

Laboratory testing plays a crucial role in the diagnosis and management of diabetes. Here's a summary of how these tests are used in the diagnostic process:

1. **Fasting Blood Glucose Test:**
 - A fasting blood glucose test measures the level of glucose (sugar) in the blood after an overnight fast (usually 8 hours).
 - A fasting blood glucose level of 126 milligrams per deciliter (mg/dL) or higher on two separate occasions is indicative of diabetes.
2. **Oral Glucose Tolerance Test (OGTT):**
 - This test involves fasting overnight and then consuming a sugary solution.
 - Blood glucose levels are measured at intervals (typically 2 hours) after consuming the solution.
 - A blood glucose level of 200 mg/dL or higher 2 hours after the glucose challenge confirms diabetes.
3. **Hemoglobin A1c (HbA1c) Test:**
 - The HbA1c test measures the average blood glucose levels over the past 2-3 months.
 - An HbA1c level of 6.5% or higher is generally used to diagnose diabetes.
 - It is also a valuable tool for monitoring long-term blood sugar control.
4. **Random Blood Glucose Test:**
 - A random blood glucose test measures blood sugar levels at any time of the day, regardless of fasting.
 - A blood glucose level of 200 mg/dL or higher, along with symptoms of diabetes (e.g., excessive thirst, frequent urination), may indicate diabetes.
5. **Additional Tests:**
 - Sometimes, other tests like the fructosamine test or the glycated albumin test may be used to assess short-term glucose control or in situations where the HbA1c test is not applicable.

In summary, laboratory testing is essential for diagnosing diabetes by assessing blood glucose levels. The choice of test depends on the clinical situation and the specific type of diabetes suspected (e.g., type 1, type 2, or gestational diabetes).

- ✓ STEP 1: Input your outline of approaches for laboratory diagnosis of diabetes.
- ✓ STEP 2: In the unshaded parts of this table, provide results of your ChatGPT output assessment in relation to the prompt of:
Summarize how laboratory testing is used to diagnose diabetes

Accuracy: List any inaccurate information identified in the ChatGPT Output	List the Supporting Scholarly Reference(s) Used When Making the Determination
Relevance: List any information provided by ChatGPT that is not currently relevant	List the Supporting Scholarly Reference(s) Used When Making the Determination
Missing: List any important information that is missing from the ChatGPT output	List the Supporting Scholarly Reference(s) Used When Making the Determination
Excessive: List any information that ChatGPT provided that is not essential or could be 'cut'.	List the Supporting Scholarly Reference(s) Used When Making the Determination

- ✓ STEP 3: Input your new paragraphs AND reference page here (note: reference page does not need to be on a separate page)

PARAGRAPHS:
REFERENCE PAGE:

- ✓ STEP 4: After completing the new paragraphs, answer the following reflection questions in the separate wiki in Blackboard:
 - What is one thing you think ChatGPT could help with in either your work, student, or personal life?
 - What is a major drawback to using ChatGPT (or another AI platform) to complete all or portions of scholarly writing assignments in MLS (or other scholarly projects outside of MLS)?
 - What is your biggest take away from the AI information in this unit?