NOTES TO SHARE - 1 - GENERATIVE AI IN EDUCATION

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I. PERSONAL INSIGHTS

AS AN EDUCATOR, I FEEL BOTH EXCITED AND SKEPTICAL REGARDING THE USE OF GENERATIVE AI IN LEARNING. ON ONE HAND, I SEE THE INCREDIBLE POTENTIAL OF THIS TECHNOLOGY TO TRANSFORM THE WAY WE TEACH AND LEARN. ON THE OTHER HAND, I WORRY THAT, IF NOT CAREFULLY INTEGRATED, IT MAY DETRACT FROM THE CORE VALUES OF EDUCATION.

GENERATIVE AI UNDOUBTEDLY HAS THE POTENTIAL TO SIMPLIFY AND ENHANCE THE LEARNING PROCESS (SAMALA ET AL., 2024). WITH THE ABILITY TO GENERATE TEXT, EXPLANATIONS, OR EVEN TEST QUESTIONS, I CAN IMAGINE HOW AI CAN SAVE TEACHERS COUNTLESS HOURS IN MATERIAL PREPARATION AND GRADING. FOR INSTANCE, IMAGINE IF AI COULD HELP SUMMARIZE JOURNALS OR PROVIDE AN INITIAL UNDERSTANDING OF A COMPLEX TOPIC FOR STUDENTS. TO ME, THIS ISN'T JUST EFFICIENCY; IT COULD BE A WAY TO INTRODUCE A MORE DYNAMIC, INTERACTIVE APPROACH TO LEARNING.

HOWEVER, THERE'S A DARKER SIDE I CAN'T IGNORE: OVER-RELIANCE ON AI. IF STUDENTS START USING AI TO WRITE ESSAYS OR SOLVE PROBLEMS, WHERE DOES THAT LEAVE THEIR CRITICAL THINKING AND INTELLECTUAL CREATIVITY? ARE WE DEVELOPING STUDENTS WHO CAN THINK FOR THEMSELVES, OR ARE WE JUST TEACHING THEM TO USE TECHNOLOGY AS A SHORTCUT?

WHAT TROUBLES ME IS THE POTENTIAL MISUSE OF AI. IN A FIELD WHERE ACADEMIC INTEGRITY IS PARAMOUNT, THE FACT THAT AI CAN WRITE ESSAYS OR ENTIRE ARTICLES IN MINUTES PRESENTS A HUGE ISSUE. WHO CAN GUARANTEE THIS WON'T BE USED FOR AUTOMATED PLAGIARISM? WE TEACH STUDENTS TO THINK CRITICALLY, BUT WE ALSO NEED TO REALIZE THAT AI MIGHT DIMINISH THEIR NEED TO THINK DEEPLY AND SOLVE PROBLEMS INDEPENDENTLY (ZHAI ET AL., 2024).

ON THE FLIP SIDE, I DO FEEL THAT AI COULD BE AN INCREDIBLY USEFUL ASSISTANT IN IMPROVING UNDERSTANDING OF DIFFICULT TOPICS. FOR EXAMPLE, AI THAT CAN EXPLAIN CONCEPTS IN MULTIPLE WAYS, GIVE EXAMPLES, OR ANSWER QUESTIONS THAT A TEACHER MIGHT NOT HAVE TIME TO ADDRESS. BUT I BELIEVE IT'S IMPORTANT TO EMPHASIZE THAT AI SHOULD BE USED AS A COMPLEMENTARY TOOL, NOT A REPLACEMENT FOR DEEPER, MORE ENGAGED TEACHING.

GENERATIVE AI, TO ME, IS A DOUBLE-EDGED SWORD. I UNDERSTAND THAT WE COULD OFFER A MORE PERSONALIZED LEARNING EXPERIENCE. WITH ITS ABILITY TO ANALYZE STUDENT BEHAVIOR, STRENGTHS, AND WEAKNESSES, AI COULD HELP PROVIDE TAILORED CONTENT AND RESOURCES THAT MATCH INDIVIDUAL LEARNING STYLES. THAT'S GREAT, RIGHT? BUT I WONDER, ARE WE HEADING TOWARD A SYSTEM OF LEARNING THAT'S TOO AUTOMATED, WHERE HUMANS—THE TEACHERS AND STUDENTS—LOSE THEIR ACTIVE ROLES IN THE LEARNING PROCESS? HOW MUCH DO WE WANT THIS MACHINE TO TAKE OVER OUR INTELLECTUAL JOURNEY?

I CAN'T IGNORE THE FACT THAT, WITH ALL THESE CONVENIENCES, WE ALSO OPEN THE DOOR TO ISSUES OF PRIVACY AND DATA SECURITY. STUDENTS TODAY ARE GIVING AWAY THEIR PERSONAL DATA TO ACCESS TECHNOLOGY, BUT DO WE REALLY KNOW HOW THEIR DATA IS BEING USED OR PROTECTED BY AI PLATFORMS? AS EDUCATORS, I FEEL THIS IS SOMETHING WE NEED TO PAY CLOSE ATTENTION TO, BECAUSE WE'RE TALKING ABOUT A GENERATION THAT'S INCREASINGLY DEPENDENT ON TECHNOLOGY FOR THEIR EDUCATION, YET WE STILL DON'T HAVE CLEAR STANDARDS FOR PERSONAL DATA PROTECTION.

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II. PROMPT ENGINEERING

AS WE MOVE FORWARD WITH THE INTEGRATION OF GENERATIVE AI IN EDUCATION, PROMPT ENGINEERING BECOMES AN INCREASINGLY IMPORTANT SKILL. AS AN EDUCATOR, I REALIZE THAT HOW WE COMMUNICATE WITH AI—THE PROMPTS WE GIVE—WILL DIRECTLY IMPACT THE QUALITY AND RELEVANCE OF THE RESPONSES WE RECEIVE. THIS IS WHERE THE ART AND SCIENCE OF PROMPT ENGINEERING COME INTO PLAY.

EFFECTIVE PROMPTS ARE ESSENTIAL FOR GETTING THE MOST OUT OF AI. THE BETTER WE ARE AT CRAFTING CLEAR, SPECIFIC, AND THOUGHTFUL PROMPTS, THE BETTER THE AI WILL BE AT DELIVERING ACCURATE, CONTEXTUALLY APPROPRIATE, AND INSIGHTFUL INFORMATION (LEE & PALMER, 2025). A VAGUE OR POORLY CONSTRUCTED PROMPT CAN LEAD TO ANSWERS THAT ARE CONFUSING, IRRELEVANT, OR EVEN MISLEADING. THIS CAN UNDERMINE THE POTENTIAL OF AI TO GENUINELY ENHANCE LEARNING.

FOR INSTANCE, WHEN I ASK AI TO EXPLAIN COMPLEX CONCEPTS, THE QUALITY OF ITS RESPONSE DEPENDS HEAVILY ON HOW I FRAME MY QUESTION. PROMPT ENGINEERING ALLOWS ME TO GUIDE THE AI TO DELIVER EXPLANATIONS THAT ARE DETAILED, SIMPLE, OR EVEN TAILORED TO A PARTICULAR LEVEL OF UNDERSTANDING. A WELL-DESIGNED PROMPT ENSURES THAT THE AI FOCUSES ON THE RIGHT ASPECTS OF A TOPIC, ENHANCING LEARNING EXPERIENCES AND HELPING STUDENTS GRASP DIFFICULT CONCEPTS MORE EFFECTIVELY.

MOREOVER, IN AN ACADEMIC ENVIRONMENT WHERE PRECISION AND CLARITY ARE KEY, PROMPT ENGINEERING CAN HELP AVOID COMMON PITFALLS, SUCH AS AMBIGUITY OR MISINTERPRETATION. IN EDUCATION, WHERE CLARITY AND CORRECTNESS ARE PARAMOUNT, THE ABILITY TO INTERACT EFFECTIVELY WITH AI THROUGH WELL-CRAFTED PROMPTS CAN SERVE AS A TOOL FOR EDUCATORS TO OPTIMIZE LESSON PLANS, QUIZZES, AND ASSIGNMENTS—TAKING ADVANTAGE OF AI'S EFFICIENCY WITHOUT SACRIFICING RIGOR.

THE NEED FOR SKILLFUL PROMPT CRAFTING GOES BEYOND JUST GENERATING ANSWERS; IT'S ABOUT SHAPING THE LEARNING EXPERIENCE. I BELIEVE THAT IF WE ARE TO INTEGRATE AI EFFECTIVELY INTO THE CLASSROOM, EDUCATORS MUST UNDERSTAND THE NUANCES OF PROMPT ENGINEERING. THIS WILL ENSURE THAT AI REMAINS A VALUABLE TOOL FOR FOSTERING CREATIVITY, CRITICAL THINKING, AND DEEPER LEARNING, RATHER THAN REDUCING STUDENTS TO PASSIVE RECIPIENTS OF INFORMATION.

ULTIMATELY, JUST AS WE TEACH STUDENTS TO THINK CRITICALLY AND INDEPENDENTLY, PROMPT ENGINEERING TEACHES US TO THINK CRITICALLY ABOUT HOW WE ENGAGE WITH TECHNOLOGY. BY LEARNING HOW TO COMMUNICATE EFFECTIVELY WITH AI, WE CAN ENSURE THAT THIS TECHNOLOGY DOESN'T JUST AUTOMATE TASKS BUT ACTIVELY SUPPORTS AND ENHANCES THE LEARNING PROCESS IN MEANINGFUL WAYS. IN SHORT, PROMPT ENGINEERING IS AN ESSENTIAL SKILL THAT BRIDGES THE GAP BETWEEN THE TECHNOLOGY'S POTENTIAL AND ITS EFFECTIVE APPLICATION IN EDUCATION.

III. GENERATIVE AI IN EDUCATION: HOPE VS. WORRY

PERSONALLY, I DO BELIEVE GENERATIVE AI HAS THE POTENTIAL TO REVOLUTIONIZE EDUCATION. IT COULD OPEN UP SO MANY OPPORTUNITIES FOR MORE FLEXIBLE AND ACCESSIBLE LEARNING. BUT I ALSO WORRY THAT OVER-DEPENDENCE ON AI COULD MAKE US FORGET THE CORE OF WHAT EDUCATION IS REALLY ABOUT: DEVELOPING CRITICAL THINKING SKILLS, CREATIVITY, AND PROBLEM-SOLVING ABILITIES. I FEEL THAT WE MUST TREAD CAREFULLY AS WE INTEGRATE AI, ENSURING THAT WE'RE STILL ENCOURAGING STUDENTS TO THINK, INNOVATE, AND CREATE INDEPENDENTLY, NOT JUST TO BE PASSIVE CONSUMERS OF TECHNOLOGY.

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ULTIMATELY, I BELIEVE THAT EDUCATION WITH AI NEEDS TO BE BASED ON AWARENESS AND INTEGRITY. THIS TECHNOLOGY CAN BE A POWERFUL TOOL, BUT WE AS EDUCATORS AND STUDENTS MUST BE RESPONSIBLE FOR MAKING SURE AI IS USED IN WAYS THAT ENHANCE LEARNING, NOT REPLACE OR UNDERMINE THE FUNDAMENTAL VALUES OF EDUCATION ITSELF.

IV. REFERENCES

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