

Arbeidsnotat

Working Paper

2024:2

Deodat Mwesiumo

Enhancing the assessment of
business students' learning in the
era of ChatGPT : using videos
as stimuli in assignments



Høgskolen i Molde
Vitenskapelig høgskole i logistikk

Deodat Mwesiumo

Enhancing the assessment of business
students' learning in the era of ChatGPT :
using videos as stimuli in assignments

Arbeidsnotat / Working Paper 2024:2

Høgskolen i Molde
Vitenskapelig høgskole i logistikk

Molde University College
Specialized University in Logistics

Molde, Norway 2024

ISSN 1894-4078

ISBN 978-82-7962-360-1 (trykt)

ISBN 978-82-7962-361-8 (elektronisk)

Enhancing the assessment of business students' learning in the era of ChatGPT: Using videos as stimuli in assignments

Deodat Mwesiumo¹

*Department for Logistics, Molde University College – Specialized University in Logistics,
6402 Molde, Norway*

Abstract

Considering the capabilities of ChatGPT, such as answering questions, summarizing information, and writing original text that can pass plagiarism detection software, educators must ensure effective assessment of students by applying alternative assessment methods. In this paper, I present a new approach I have implemented where I use videos as stimuli for tasks in home assignments and exams. I show that utilizing videos as stimuli in home-based assignments can effectively increase student engagement while discouraging using ChatGPT dishonestly. Feedback from my students indicates that this method enhances their learning experience by challenging them to engage with course activities.

Keywords: Business education, Video-based assignments, ChatGPT, Innovative assessment methods.

¹Corresponding author. Tel.: + 47 98 82 18 05.

E-mail address: Deodat.E.Mwesiumo@himolde.no (D. Mwesiumo).

1. Introduction

As the business environment continues to evolve under the influence of external factors like the climate crisis, advanced technologies such as artificial intelligence (AI), and disruptions in supply chains, there is a pressing need to equip business professionals with the skills to adeptly manage these changes. According to the World Economic Forum (2023), there are ten essential skillsets deemed crucial for workers and employers aiming to remain at the forefront of this shift. Notably, analytical thinking, creativity, expertise in AI, and proficiency in big data are predicted to be the most sought-after skills by 2027. Consequently, fostering these abilities in students necessitates innovative and high-quality teaching methodologies within business education. As highlighted by Kivunja (2014), it is crucial for educators to revise their teaching strategies to cultivate the 21st-century skills necessary for student success in the workplace. Echoing this sentiment, Mohamad et al. (2019) advocate for universities to integrate employability skills into their curricula and to equip students with the ability to acquire new skills progressively.

Assessment is one of the key components in facilitating learning and skill acquisition (Medland, 2016). It is described as the most significant tool that educators have at their disposal to influence student engagement and learning behaviors — often having a greater impact on learning outcomes than teaching methods themselves (Gibbs, 2019). This viewpoint is supported by various academics (e.g., Biggs 2003, Boud 2007), underscoring the critical role of assessment in educational processes. Therefore, as with other academic fields, adopting effective assessment practices is vital in business education. In November 2022, a new artificial intelligence tool, Chat Generative Pre-Trained Transformer (ChatGPT), was introduced. Since its launch, ChatGPT has raised concerns among educators regarding the potential academic dishonesty and plagiarism (Anders, 2022; Cotton et al. 2024). Furthermore, educators are concerned that the misuse of the tool by students may limit the development of certain skills such as critical thinking, communication, writing skills (Vázquez-Cano et al., 2023). These concerns are justifiable considering ChatGPT's capabilities including answering questions, summarizing information, providing computer code, and writing original text that can pass plagiarism detection software, and providing feedback on text (Anders 2022). As such, ChatGPT's advanced language ability could potentially be used to cheat on various course assignments (Adilov et al. 2024). Consequently, scholars have urged universities to develop

new forms of assessment in this era of ChatGPT and other AI tools (Ibrahim A. & Adeola P.A., 2023).

It is crucial to acknowledge the constructive potential of ChatGPT for students. For example, ChatGPT enhances the melding of new insights with prior knowledge and deepens comprehension of complex ideas by allowing students to engage in dialogues that clarify and question the information (Rospigliosi 2023). This not only fosters the integration of knowledge but also enriches the understanding of intricate subjects. Furthermore, ChatGPT can aid in sharpening research abilities by offering insights, data, and references on specific subjects, thus revealing new angles and ongoing scholarly debates, which enrich students' analysis and comprehension of topics (Kasneci et al., 2023). Besides, instructors can use ChatGPT to create customized teaching materials and lessons that align with individual student's learning needs and proficiency levels (Javaid et al., 2023). Therefore, the tool can help forge inclusive educational practices, supporting varied tasks like adaptive composition, translation, and the emphasis of critical information across different formats. Moreover, ChatGPT's ability to provide instant feedback and suggest improvements can significantly enhance students' writing and analytical skills. In essence, this technology not only serves as an educational aid but also as a catalyst for continuous intellectual growth and development.

Despite the advantages that ChatGPT may provide, it is essential for educators to be cautious of its potential misuse by students, which could detract from authentic learning experiences. To tackle this issue, it is crucial for educators to be creative and establish new evaluative strategies that decrease the likelihood of misuse while enhancing the depth of learning. In this context, this paper recounts my personal experiences with incorporating short videos as the basis for questions in home assignments and exams, thus offering a forward-thinking approach to counteract the challenges presented by tools such as ChatGPT. This change in evaluation strategy is in line with the insights of Brown et al. (1997, p. 7), who stressed the significant impact of assessment methods on altering student learning, with the adage 'If you want to change student learning then change the methods of assessment'. Additionally, this approach ensures that students engage with the material in a dynamic and interactive manner, promoting a deeper understanding. By continually adapting assessment techniques, educators can better navigate the evolving educational landscape and maintain academic integrity.

The remainder of the paper is organized as follows: Section 2 provides a summary of the capabilities of ChatGPT and highlight examples where the tool provided satisfactory answers to the questions I used to ask in home assignment. In Section 3, I describe my new approach of using video clips as stimuli in home assignments, including detailed examples of tasks asked in home assignments and exams. Section 4 offers reflections and final thoughts, as well as actionable recommendations for educators looking to revamp their assessment methods. Overall, the paper contributes to the broader conversation on effective evaluation techniques in education, especially against the backdrop of technological innovation and changing educational landscapes.

2. ChatGPT's capabilities as a driver for changing my assessment approach

My concerns about the potential misuse of ChatGPT by students and the realization that there was a need to change assessment methods emerged shortly after reading Stokel-Walker (2022), who questioned whether professors should be worried about ChatGPT because the tool is 'free for now and can produce uncannily natural, well-referenced writing in response to homework questions.' My worries intensified after I asked my students during the first lecture in January 2023 if they were familiar with it, and they all responded with big smiles, 'Yes.' Consequently, I decided to try asking ChatGPT (the free version) some of the questions I normally assign in home assignments for my students taking an introductory course in digital business management. Figures 1a – 1d present an example of a question I asked ChatGPT (Figure 1a), along with the answers to parts a, b, and c of the question (Figures 1b, 1c, and 1d).

You

Molde AS is a research firm offering research and knowledge-based development services in various areas. Assume that the management team at Molde AS has decided to build a website where research reports and white papers can be published.

(a) Recommend three revenue models that could be implemented for such a site

(b) Following a marketing campaign, 6000 visits/sessions were registered on Molde AS's website. Among the visitors, 3000 were from Norway, 150 downloaded a report or a whitepaper, and 450 completed a goal of having a visitor spend at least 5 minutes on the website. Calculate the following:

(i) Visit duration goal conversion rate

(ii) Event goal conversion rate

(iii) If the target market for Molde AS is the Norwegian business community, calculate the real visit duration goal conversion rate and the real event goal conversion rate

(c) If each of Molde AS's customers generates a profit of 40 NOK per month, with an average customer lifetime of 7 years. If the cost of acquiring each customer is 1000 NOK and costs 600 NOK per customer to prevent customer churn. Calculate Lifetime-value based ROI. (assume that profit/month and value of money remain the same)

Figure 1a. One of the tasks I asked ChatGPT.

ChatGPT

(a) Three revenue models for Molde AS's website could be:

1. **Subscription Model:** Molde AS could offer subscriptions for access to their research reports and white papers. Users could pay a monthly or yearly fee to access a library of content or receive new reports as they are published.
2. **Pay-Per-Download Model:** Molde AS could charge users a fee for downloading individual research reports or white papers. This model allows users to pay only for the content they are interested in and provides Molde AS with revenue for each download.
3. **Advertising Model:** Molde AS could generate revenue through advertising placements on their website. They could sell ad space to relevant businesses or organizations looking to reach their audience of researchers and professionals.

Figure 1b. Answer to part a of the question

(b)

(i) Visit duration goal conversion rate:
 Visit duration goal conversion rate = (Number of visitors spending at least 5 minutes / Total number of visitors) * 100
 Visit duration goal conversion rate = (450 / 6000) * 100 = 7.5%

(ii) Event goal conversion rate:
 Event goal conversion rate = (Number of downloads / Total number of visitors) * 100
 Event goal conversion rate = (150 / 6000) * 100 = 2.5%

(iii) Real visit duration goal conversion rate and real event goal conversion rate for the Norwegian business community:

For this calculation, we consider only the visitors from Norway.

Real visit duration goal conversion rate = (Number of Norwegian visitors spending at least 5 minutes / Total number of Norwegian visitors) * 100
 Real visit duration goal conversion rate = (450 / 3000) * 100 = 15%

Real event goal conversion rate = (Number of downloads by Norwegian visitors / Total number of Norwegian visitors) * 100
 Real event goal conversion rate = (150 / 3000) * 100 = 5%

Figure 1c. Answer to part b of the question

(c) Lifetime Value (LTV) based ROI calculation:

LTV = (Monthly profit per customer * Average customer lifetime) - Customer acquisition cost - Customer retention cost
 LTV = (40 NOK * 12 months * 7 years) - 1000 NOK - 600 NOK
 LTV = (3360 NOK) - 1000 NOK - 600 NOK
 LTV = 1760 NOK

Lifetime Value based ROI = (LTV / Customer acquisition cost) * 100
 Lifetime Value based ROI = (1760 NOK / 1000 NOK) * 100
 Lifetime Value based ROI = 176%

Figure 1d. Answer to part c of the question

As depicted in Figures 1a – 1d, ChatGPT generated good answers. Additionally, I posed follow-up questions that required ChatGPT to elucidate the logic behind its responses. Unsurprisingly, the justifications provided were both logical and impressive. Given my background in teaching

introductory applied statistics to master's students in logistics and supply chain management, I decided to test a typical assignment question (Figure 2a), to which ChatGPT's response is illustrated in Figure 2b. It is evident from these instances that ChatGPT performed admirably. Notably, considering the potential for interactive learning, consistent with Rospigliosi's (2023) argument, it's apparent that students could greatly benefit from utilizing this tool. However, it's imperative to acknowledge the possibility of some students misusing it, merely relying on ChatGPT for answers without truly grasping the underlying concepts.

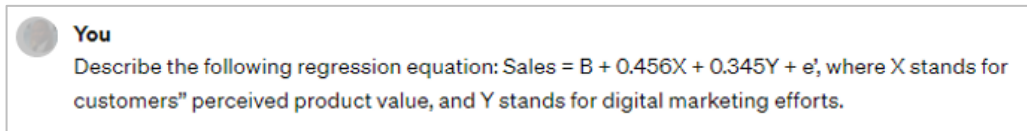


Figure 2a. Prompt requiring ChatGPT to describe a regression equation

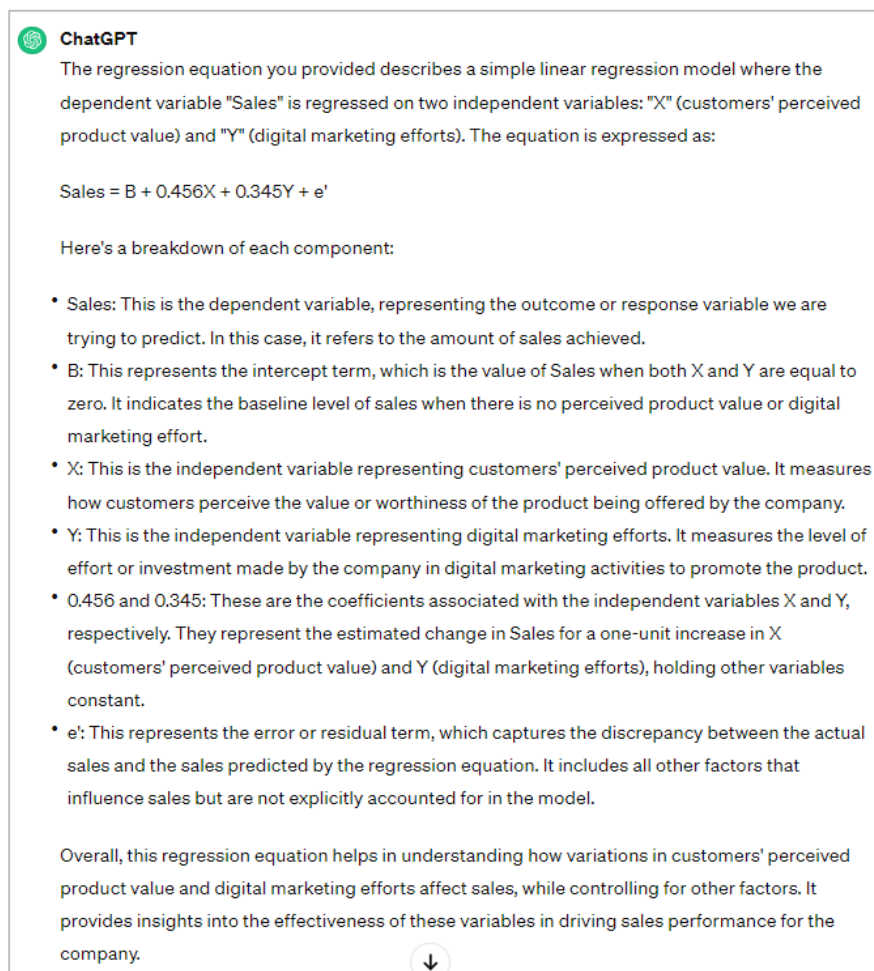


Figure 2b. ChatGPT describing a regression equation

When I attempted to pose essay questions to ChatGPT on various business-related topics, I was impressed by the remarkably good quality of the answers. Consequently, aligning with the concerns raised by Stokel-Walker (2022) and others, I promptly began brainstorming alternative assignments for my students. In this paper, my focus is on utilizing video-based prompts and mini-cases as the basis for assessing home-based assignments given to students enrolled in introductory courses in digital business management. However, it's worth noting that I've applied this approach in other subjects, such as principles of value chain management and purchasing and supply management. The outcome of implementing these methods has been promising, as students have reported that the nature of the tasks compelled them to engage more actively with lectures and thoroughly engage with the required and recommended literature. Subsequently, the following section delves into a detailed description of this approach and its implementation.

3. Using videos as stimuli in home assignments

This section illustrates my approach to utilizing videos as prompts in home assignments for students enrolled in business management subjects. I will start by delineating the process involved and subsequently offer two concrete examples of assignments I have administered to my students. The first example pertains to an assignment designed for undergraduate students enrolled in an introductory course in digital business management. Conversely, the second example showcases an assignment tailored for first-year master's students undertaking a course in purchasing and supply management. These examples aim to provide insight into the practical application of videos across different levels of study and subject areas.

3.1 Three Steps of using videos in home assignments

When implementing this approach, I follow three main steps. First, I identify video content relevant to the topic that I intend to assess students on. In this case, I mainly rely on video content freely available on YouTube. These videos may feature industry experts presenting their companies, discussing specific topics, sharing experiences, or being interviewed on issues related to their company or business in general. It is imperative that the chosen videos align closely with the topics covered in the curriculum. While some videos may be self-sufficient, others are brief, necessitating additional materials in the second step for instructors to consider. These supplementary materials can be acquired by researching more about the company from other sources such as their website.

The second step entails crafting tasks that compel students to engage with the video content in a meaningful way. These tasks must be designed to discourage students from resorting to simple copy-and-paste tactics facilitated by tools like ChatGPT. It is paramount to provide students with clear guidelines to facilitate their analysis and reflection on the video material. Additionally, educators should actively encourage students to establish connections between the theoretical concepts discussed in class and the practical scenarios depicted in the videos. By bridging this gap, students can deepen their understanding and apply learned knowledge in real-world contexts, fostering a more holistic and enduring grasp of the subject matter. Moreover, promoting critical thinking and analytical skills through these tasks prepares students for the complexities they may encounter in their professional endeavors, thereby enhancing their overall academic experience.

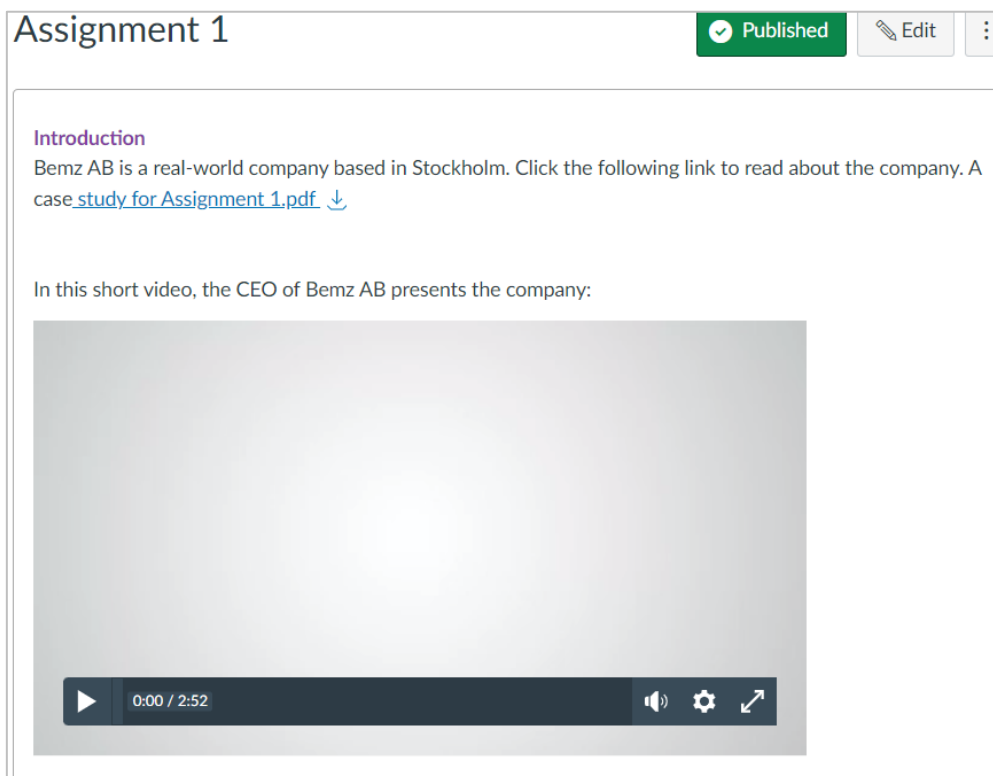
The third step involves establishing clear criteria for evaluating student answers, considering factors such as accuracy, depth of analysis, and the originality of insights. By clearly defining the expectations, students gain a better understanding of what is required of them and can tailor their responses accordingly. Additionally, providing detailed explanations of the assessment criteria beforehand promotes transparency and fairness in the evaluation process. Students are better equipped to focus their efforts on areas that are prioritized in the assessment, leading to more meaningful engagement with the assignment tasks. Moreover, clear criteria serve as a guideline for instructors as they review and grade student submissions, helping maintain consistency and objectivity across assessments. Consistent with Black & Wiliam (1998), it is crucial to ensure that these criteria align closely with the learning objectives of the course.

3.2 Examples of using videos in assignments

3.2.1 Using video for assessing knowledge and skills on business models

The introductory course in digital business management is offered to undergraduate students to introduce them to key principles, concepts, challenges, and opportunities of using digital technology solutions for business value creation. One of the topics revolves around business models, where students are introduced to the business model canvas as a tool for developing or assessing business models. I have used video as prompt in an assignment aimed at assessing students' understanding of the concept of a business model, and their ability to apply the business model canvas. I applied the three steps presented in Section 3.1 as follows.

To begin, I conducted a comprehensive search on YouTube using various keywords such as "business model case," "company presentation," and "digital company," among others. After exploring numerous options, I discovered a suitable video featuring Bemz AB, a company headquartered in Stockholm. In this video, the CEO presents the company, offering students a tangible example to analyze and apply the theoretical concepts discussed in class. Integrating real-world examples like Bemz AB into the curriculum enriches students' comprehension and encourages practical application of course material, bridging the gap between theory and practice. Given the brevity of the Bemz video, spanning just 2 minutes and 53 seconds, I supplemented the CEO's presentation with additional text sourced from online materials. This additional context serves to enrich students' understanding and facilitate deeper engagement with the material. Figure 3 illustrates a screen capture of the introductory text and provides the link to the video prompt given to students. For those interested, the video can be accessed on YouTube by searching for the title "Bemz - A fully digital business model".



Assignment 1

Published Edit

Introduction
Bemz AB is a real-world company based in Stockholm. Click the following link to read about the company. A case [study for Assignment 1.pdf](#) ↓

In this short video, the CEO of Bemz AB presents the company:

0:00 / 2:52

Figure 3a. Introductory text and the link to the video prompt given to students

As I second step, I developed tasks taking into the possibility that student will use ChatGPT. Figure 3b showcases an example of the task I assigned students based on the Bemz AB video, illustrating how students were prompted to analyze and apply concepts discussed in the video within a real-world context.

Tasks:

1. Use the business model canvas to describe Bemz AB's business model. (Your answer must use relevant quotes from the video and the case description).
2. Imagine that Bemz AB hires you as a consultant to help them innovate their business model.
 - (a) Using lessons taught in this course, suggest three changes to improve the business model and explain how the changes would add value (you are allowed to discuss with other course participants). (NB. You must identify a specific lecture that taught the lesson you refer to).
 - (b) "Talk" to ChatGPT/GPT UiO and use its opinion/ideas to suggest three changes to improve the business model. Using lessons taught in this course, explain how your ideas generated in (a) differ from those generated by ChatGPT/GPT UiO (NB: Include your conversation with ChatGPT/GPT UiO as an appendix) (NB. You must identify a specific lecture that taught the lesson you refer to).
 - (c) Which strategy would you use to implement the changes, and why?

Figure 3b. Questions asked to students based on the video

As illustrated in Figure 3b, students are assigned several responsibilities, including watching the video, selecting pertinent quotes from it, and utilizing the business canvas to describe Bemz AB. Subsequently, the tasks challenge students to independently formulate their thoughts and compare them with responses generated by AI tools like ChatGPT or GPT UiO (a tool developed by the University of Oslo). Despite encouraging the use of ChatGPT, students are required to specify the lecture or source from which their answers originate. Emphasizing critical reflection in students' responses is paramount, encouraging them to assess alternative solutions, contemplate implications, and reflect on their learning process and insights gained from engaging with the material. This approach not only assesses students' comprehension but also fosters critical thinking and the practical application of learned concepts, thereby enhancing the overall learning experience. While students may attempt to cheat, such as by transcribing the entire video and inputting it into ChatGPT, asking students to link their answers to specific lectures makes it difficult for them to use ChatGPT carelessly because the tool lacks the capability to discern the originating lecture, underscoring the necessity for genuine engagement and understanding from the students themselves.

The final step is providing the assessment criteria to the students, emphasizing the importance of originality and critical thinking in their answers. When I used this approach last year, I gave the assessment criteria after publishing the assignment. It was not a big problem because all my lectures are video recorded and made available to students. Therefore, even students who did not attend the lectures relevant for the assignment were able to watch the recordings. However,

I have now changed my approach and instead I present the assessment criteria during the first lecture at the beginning of the semester. I made this decision because it is important for students to know that the assignments will require them to actively follow lectures and read mandatory literature. The students are informed that using ChatGPT carelessly would not be tolerated and that using quotes and linking their answers to the specific lectures was paramount.

3.2.2 Using video for assessing understanding and application of theories

The course in purchasing and supply management is designed for first-year students pursuing a Master of Science degree in Logistics. Its primary objective is to acquaint them with fundamental concepts, theories, frameworks, and critical issues pertinent to purchasing and supply management. Key theories covered in the course include principal-agent theory, transaction cost economics, resource-based view, natural resource-based view, stakeholder theory, and relational exchange theory. Additionally, students are introduced to prominent frameworks such as the Kraljic Matrix and Triple Bottom Line framework. To illustrate, I will present an exam question aimed at assessing students' comprehension of outsourcing-related issues and their ability to apply relevant theories for analysis. I implemented the three steps outlined in Section 3.1 as follows.

First, as in the first example, I used different search words on YouTube to identify relevant video that I can use in an exam question related to outsourcing. Examples of search words I used include “outsourcing challenges + company presentation”, “supply chain + outsourcing”, “purchasing manager + outsourcing”, “outsourcing + car manufacturing”, and several other search phrases and combinations of phrases. This led me to a video in which Ford’s CEO, Jim Farley, is interviewed by Robert Llewelyn of Fully Charged Live. Jim Farley talks about the challenges Ford and other legacy auto manufacturers have had and will have in competing with Tesla and Chinese car makers. Figure 3c presents a screen capture of the prompt given to the students. The video can be watched freely on YouTube by search for the following title “Fully Charged Podcast with Jim Farley: "Why Software is so difficult for legacy automakers" – ASL”

Q6: In a candid interview with Robert Llewelyn of Fully Charged Live, Ford's CEO, Jim Farley, talks about the challenges Ford and other legacy auto manufacturers have had and will have in competing with Tesla and Chinese car makers. Listen to the interview and answer the questions that follow.

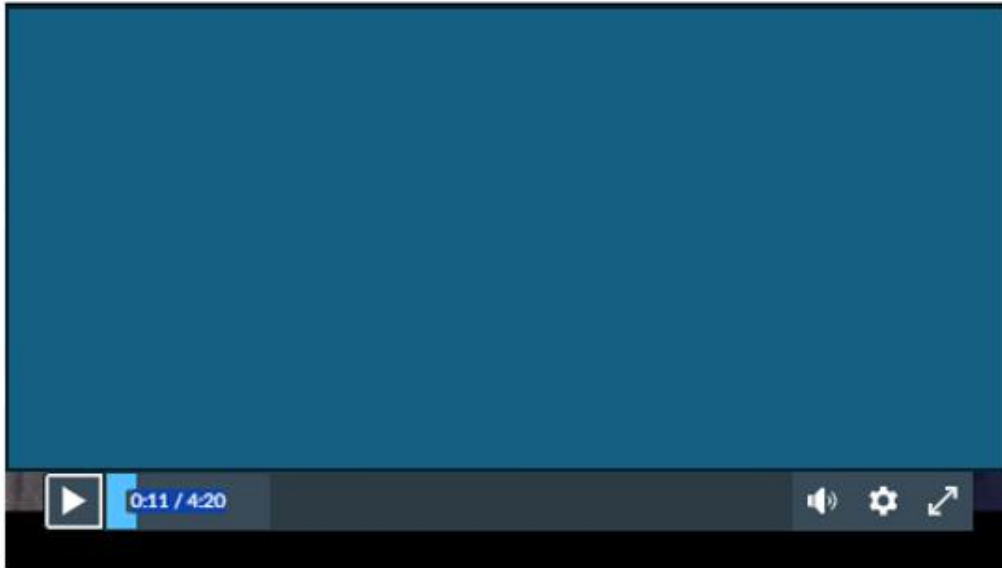


Figure 3c. A screen capture of the prompt given to the students

As I second step, I developed tasks taking into the possibility that student might use ChatGPT. Figure 3d showcases the task I assigned students based on the video, illustrating how students were prompted to analyze and apply concepts discussed in the video within a real-world context.

Tasks:

- a. Using relevant theory/theories taught in this course, explain why legacy car manufacturers' decision to 'farm out' (outsource) software development was sensible. (You must refer to the specific lecture that covered the lesson you refer to)
- b. "Considering the car manufacturers' approach to sourcing software, as explained by Jim Farley, to which quadrant of the Kraljic Matrix would you say these companies believed software belonged? Please use relevant theories taught in this course to explain why their judgment was incorrect. (You must refer to the specific lecture that covered the lesson you refer to)
- c. Jim Farley stated that Ford has opted to insource software development. Please use relevant theories taught in this course to explain why this decision is reasonable. (You must refer to the specific lecture that covered the lesson you refer to)

Figure 3d. Tasks assigned students based on the video

As depicted in Figure 3d, the tasks assigned to students entail several activities, including watching the video attentively, selecting relevant quotes, and linking them to theories taught in class. Similar to the first example, the inability of ChatGPT to discern which lecture in the

course correlates with the video's topics necessitates active lecture participation by the students. This requirement ensures that students engage directly with the course material and comprehend how the theoretical concepts discussed in class apply to real-world scenarios depicted in the video. By linking video content to course lectures, students not only deepen their understanding of the subject matter but also develop critical thinking skills by synthesizing theoretical knowledge with practical applications. This integrated approach facilitates a more comprehensive and meaningful learning experience for students, ultimately enhancing their academic proficiency and analytical abilities.

Thirdly, I established specific assessment criteria for the assignment. Since the purchasing and supply management class was conducted a semester after I had tried the approach in the digital business management course, I informed students about the general assessment criteria used in the course at the beginning of the semester. Later, after publishing the task, the students were provided with specific assessment criteria. As in the digital business course, emphasis was placed on the importance of originality and critical thinking in their responses.

4. Reflection and closing remarks

ChatGPT raises concerns about the efficacy of traditional assessment techniques, such as essay writing. Indeed, educators have a reason to be concerned (Anders, 2022). In this paper, I argue that utilizing video-based prompts as the foundation for assessing home-based assignments can offer an interactive and practical approach to engage students in their learning process, while discouraging using ChatGPT dishonestly. The incorporation of video-based prompts in home assignments I give to my students has proven to be positive and effective. Feedback from my students indicates that this method is not only engaging but also enhances their learning experience, encouraging them to delve deeper into the subject matter. It is worth noting that some students have attempted to bypass the learning process, by trying to cheat by using ChatGPT, generating answers or complete assignments without fully understanding the material. However, the design of assignments requiring connections to specific class lessons has facilitated the identification of such cases. Attempts to cheat are often detectable upon reviewing their answers that fail to make such a link. Another effective strategy to identify students who may try to cheat using ChatGPT is for instructors to immerse themselves in the students' perspective and experiment with various prompts that a dishonest student might employ. By adopting this proactive approach, instructors can identify potential cheating

candidates. This underscores the necessity for instructors to continually adapt their approaches to stay ahead of dishonest tactics.

I must also note that the process of identifying relevant video content is both time-consuming and, at times, fruitless. This difficulty highlights the limitations of relying solely on existing platforms like YouTube for educational content. In response, I propose exploring the potential of AI-generated videos as a complementary solution. AI-generated videos are videos created using artificial intelligence technologies. These videos are not filmed using traditional cameras or actors; instead, they are generated by AI algorithms that can create realistic video content. For example, these tools can create entirely new visuals and audio that mimic real-life scenarios, characters, or environments. It can include generating human-like figures, landscapes, objects, or animations that look and move in a way that is similar to natural, real-world counterparts. I have recently experimented with free AI video generation tools and the results are quite promising. I am convinced that going forward, harnessing AI tools to create content specific to our educational needs, can address the problem of not being able to identify suitable videos on YouTube. materials and tailor the learning experience more precisely to our curriculum.

Lastly, the importance of providing effective feedback to students cannot be overstated. Thus, even for video-based assignments, constructive feedback is crucial for student development, as it guides them in understanding their mistakes, highlights areas for improvement, and reinforces concepts learned. As we continue to integrate innovative tools and methods into our teaching practices, maintaining open channels of communication and feedback with students will ensure that these advancements in educational technology truly enhance learning outcomes. This should involve checking and enhancing understanding and progress of the students throughout the course and not only at the end of the course. As Nicol and Mac-Dick (2006) note, formative assessment and feedback should be used to empower students as self-regulated learners, meaning that ability to regulate aspects of their thinking, motivation, and behavior during learning. By doing so, we can continue to refine and improve the educational experience, preparing our students more effectively for the challenges of the modern business world. Finally, we should encourage students to reflect on their own learning and progress through self-assessment activities.

References

- Adilov, N., Cline, W., Hanke, H., Kauffman, K., Meneau, L., Resendez, E., Singh, S., Slaubaugh, M. & Suntornpithug, N. (2024) ChatGPT and the course vulnerability index, *Journal of Education for Business*, 99:2, 125-132, DOI: 10.1080/08832323.2023.2260929
- Anders, B. (2022). Why ChatGPT is such a big deal for education? C2C Digital Magazine (Fall 2022 - Winter 2023), Available at: <https://scalar.usc.edu/works/c2c-digital-magazine-fall-2022---winter-2023/why-chatgpt-is-bigdeal-education>
- [Biggs, J. 2003. Teaching for quality learning at university, 2, Buckingham: Open University Press.](#)
- Boud, D. 2007. "Reframing assessment as if learning were important". In Rethinking assessment in higher education, Edited by: Boud, D. and Falchikov, N. 14 – 25. London: Routledge.
- Boud, D., Keogh, R. and Walker, D. (2005) 'What is Reflection in Learning?', in Boud, D., Keogh, R., and Walker, D. (eds) Reflection: Turning Experience into Learning. Abingdon: Routledge Falmer, pp. 7–17.
- Brown, G., Bull, J. and Pendlebury, M. 1997. Assessing student learning in higher education, London : Routledge .
- Charles P. & Mitri M. (2007) Assessment Practices in AACSB-Accredited Business Schools, *Journal of Education for Business*, 82:4, 202-211, DOI: 10.3200/JOEB.82.4.202-211
- Cotton, D.R.E., Cotton, P.A., & Shipway, J.R. (2024). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT, *Innovations in Education and Teaching International*, 61:2, 228-239, DOI: 10.1080/14703297.2023.2190148
- Emma Medland (2016) Assessment in higher education: drivers, barriers, and directions for change in the UK, *Assessment & Evaluation in Higher Education*, 41:1, 81-96, DOI: 10.1080/02602938.2014.982072
- Gibbs, G. (2019). "How assessment frames student learning." In Innovative Assessment in Higher Education: A Handbook for Academic Practitioners, 2nd Ed, edited by C. Bryan and K. Clegg, 22–35. New York: Routledge.

- Ibrahim A. & Adeola P.A. (2023) The opportunities and challenges of ChatGPT in education, *Interactive Learning Environments*, DOI: 10.1080/10494820.2023.2253858
- Javaid, M., Haleem, A., Singh, R. P., Khan, S., & Khan, I. H. (2023). Unlocking the opportunities through ChatGPT Tool towards ameliorating the education system. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 3(2), 100115. <https://doi.org/10.1016/j.tbench.2023.100115>
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., . . . Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kivunja, C. (2014). Do You Want Your Students To Be Job-ready With 21st Century Skills? Change Pedagogies: A Paradigm Shift From Vygotskyian Social Constructivism To Critical Thinking, Problem Solving And Siemens' Digital Connectivism, *International Journal of Higher Education*, Vol. 3(3), 81 – 91. <http://dx.doi.org/10.5430/ijhe.v3n3p81>
- Mohamad O., Vishanth W., Nitham H. & Tillal E. (2019) Graduates employability skills: A review of literature against market demand, *Journal of Education for Business*, 94:7, 423-432, DOI: 10.1080/08832323.2018.1545629
- Nicol, D. J. and Macfarlane-Dick, D. (2006) 'Formative assessment and self-regulated learning: a model and seven principles of good feedback practice', *Studies in Higher Education*. Routledge, 31(2), pp. 199–218.
- Black, P. and Wiliam, D. (1998). Assessment and classroom learning . *Assessment in Education*, 5 (1) : 7 – 74 .
- Rospigliosi, P. (2023) Artificial intelligence in teaching and learning: what questions should we ask of ChatGPT?, *Interactive Learning Environments*, 31:1, 1-3, DOI: 10.1080/10494820.2023.2180191
- Stokel-Walker, C. (2022). AI bot ChatGPT writes smart essays — should professors worry? *Nature*, Available at: <https://www.nature.com/articles/d41586-022-04397-7>

Vázquez-Cano, E., Ramírez-Hurtado, J. M., Sáez-López, J. M., & López-Meneses, E. (2023). ChatGPT: The brightest student in the class. *Thinking Skills and Creativity*, 49, 101380. <https://doi.org/10.1016/j.tsc.2023.101380>

Nodir Adilov, Jeffrey W. Cline, Hui Hanke, Kent Kauffman, Lisa Meneau, Elva Resendez, Shubham Singh, Mike Slaubaugh & Nichaya Suntornpithug (2024) ChatGPT and the course vulnerability index, *Journal of Education for Business*, 99:2, 125-132, DOI: 10.1080/08832323.2023.2260929



Høgskolen i Molde

PO.Box 2110

N-6402 Molde

Norway

Tel.: +47 71 21 40 00

post@himolde.no

www.himolde.no