



Projects: 2023.12454.PEX; UIDB/04043/2020&UIDP/04043/2020

New approaches to tax education:

incorporating ChatGPT for advanced learning



Ana Dinis

*Research Centre on Accounting and Taxation
Polytechnic University of Cávado and Ave
Portugal*

A Research Objectives
G Background
E Research Methodology | Research Questions
N Data analysis and Results
D Conclusions, Limitations
A and Future Research



RESEARCH OBJECTIVES

Highlight that education has significant changes in its methodological approaches over time;

Explain that those engaged in the act of teaching and learning cannot afford to remain static

Discuss the role of artificial intelligence (AI) as a universal reality

Introduce ChatGPT as a a potential to foster students' critical thinking abilities

Present a novel approach to tax education that incorporates ChatGPT to support advanced learning in taxation

BACKGROUND

MODERN EDUCATION

Education research has acknowledged the value of transformation, which offers an opportunity for researching and rethinking how appropriate and successful educational practices may be (**Leal Filho et al., 2018**).

Interactive digital technologies have become relevant in modern education (**Malysheva et al., 2022**).

The COVID-19 Pandemic has further institutionalised the applications of digital technologies in education. These digital technologies have made a paradigm shift in the entire education system (**Haleemet al., 2022**).

BACKGROUND

ARTIFICIAL INTELIGENCE
AND EDUCATION

With the continuous intervention of AI tools in the education sector, new research is required to evaluate the viability and feasibility of extant AI platforms to inform various pedagogical methods of instruction (**Ali et al., 2023**).

AI implementation led to the evolution of robust evaluation and assessment methods, resulting in heightened faculty engagement levels (**Rahiman, & Kodikal, 2023**).

Project-based, human-computer collaborative learning and play- and game-based approaches, with constructivist methodologies, have been applied frequently in AI literacy education (**Yim & Su, 2024**).

BACKGROUND

CHATGPT AND EDUCATION

The potentials of ChatGPT include but are not limited to the development of personalized and complex learning, specific teaching and learning activities, assessments, asynchronous communication, feedback, accuracy in research, personas, task delegation and cognitive offload (**Memarian & Doleck, 2023**).

Institutions must align ChatGPT use with ethical principles and long-term educational goals (**García-López et al., 2025**).

Tax education is fundamentally rooted in tax legislation, which can often prove to be a rather uninspiring subject, blocking students from engaging in a critical analysis (**Dinis, 2025**).

The objective of this research is to present a case study in a higher education institution context in which ChatGPT was introduced to assist discussion of several tax issues over a taxation course.

RESEARCH QUESTIONS



Does ChatGPT increase tax critical thinking?



Can ChatGPT improve taxation teaching methods?



Can ChatGPT provide technical guidance for lectures in taxation?



Does ChatGPT enable students to achieve better results in tax subjects?

Case study in the School of Management of
the Polytechnic University of Cávado and
Ave (Portugal)

RESEARCH METHODOLOGY



ESCOLA
SUPERIOR
DE GESTÃO
IPCA

IPCA
INSTITUTO POLITÉCNICO
DO CÁVADO E DO AVE

The chosen technique was the **semi-structured interview**. The advantage of a semi-structured interview is that it focuses on one topic (the use of ChatGPT in tax classes), for which a script of main questions has been prepared, supplemented by other questions specific to the circumstances at the time of the interview.

RESEARCH METHODOLOGY

 Semi-structured interview script:

- . **What do you think of the use of ChatGPT in teaching taxation?**
- . **Do you think the learning was different using ChatGPT?**
- . **Do you think that the use of ChatGPT in tax lessons has had an impact on the final grade?**

DATA ANALYSIS RESULTS &

Main Questions	Answer
What do you think of the use of ChatGPT in teaching taxation?	An enjoyable tool to encourage creativity and critical thinking.
Do you think the learning of tax was different using ChatGPT?	Yes, because it wasn't just the study of tax legislation.
Do you think that the use of ChatGPT in tax lessons has had an impact on the final grade?	Yes, of course it did. Because to refute the ChatGPT we must consult both our notes and the legislation, and this allows us to revise the subject, thus implying a prior preparation that allows us to answer the tests more easily.

DATA ANALYSIS RESULTS &

New questions that arose during the interview	Answer
<p>Is the method of teaching taxation differentiating?</p>	<p>It's innovative in the sense that the lessons are not so heavy with material, and we understand better why we often must refute the ChatGPT answer with the knowledge we have learnt in class.</p>
<p>It's been said that ChatGPT creates a lot of illusions. How do you think ChatGPT behaves when it comes to taxation?</p>	<p>ChatGPT often tells us to consult an expert. This leads me to conclude that it doesn't have much information about Portuguese tax legislation and doesn't use the terms correctly. If we don't consult tax legislation, we could make mistakes and be misled. Not least because the tax legislation it refers to is often not Portuguese.</p>
<p>Have you had to refute ChatGPT many times?</p>	<p>Yes, quite a few times. But not all of my colleagues wanted to refute it and it didn't go well. But that just showed that they hadn't studied.</p>

Conclusions, Limitations of the study

& Future Research Perspectives

Active learning: The use of ChatGPT encouraged creativity and critical thinking, making lessons more dynamic and engaging.

Advanced learning (1): The need to refute answers led students to consult notes and legislation, improving understanding and preparation for assessments.

Advanced learning (2): ChatGPT presents errors and inaccuracies in Portuguese tax legislation, requiring students to validate the information to avoid misunderstandings.

Limitation: this is an exploratory study that did not cover all the students who attended the tax classes.

Future Research Perspectives: extend the interviews to all students who attended classes in the courses where ChatGPT was used as a tool to support the teaching of taxation and to compare them with other students who did not have this support tool.



IPCA

CICF CENTRO DE INVESTIGAÇÃO
EM CONTABILIDADE E FISCALIDADE
Research Centre on Accounting and Taxation

fct

Fundação
para a Ciência
e a Tecnologia



REPÚBLICA
PORTUGUESA

Projects: 2023.12454.PEX; UIDB/04043/2020&UIDP/04043/2020

**THANK
YOU!**

**New approaches to tax
education:**

incorporating ChatGPT for advanced learning



Ana Dinis

*Research Centre on Accounting and Taxation
Polytechnic University of Cávado and Ave
Portugal*