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Crypto currency Mining and Students' Academic Performance: Perspectives of Federal College of Education, Yola Staff

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Abstract

Cryptocurrency mining has gained significant popularity among students, raising concerns about its impact on academic performance. This study investigates the effects of cryptocurrency mining on students' academic engagement in the Federal College of Education, Yola. Using a mixed-methods approach, data were collected through surveys and interviews with students and lecturers. The study examines students' familiarity with cryptocurrency mining, the extent of their involvement, and the perceived effects on class attendance, participation in academic activities, stress levels, and overall performance. Findings indicate that a significant number of students engage in mining activities, often leading to reduced class attendance and lower academic participation. Additionally, the study reveals that institutional policies addressing cryptocurrency mining are either non-existent or insufficient. The research highlights the need for awareness programs, curriculum integration of blockchain education, policy development, and student monitoring to mitigate the negative effects of cryptocurrency mining on academic performance. The study contributes to the growing body of knowledge on the intersection between digital finance and education, offering recommendations for institutions to balance technological advancement with academic priorities. Future research should explore the long-term effects of cryptocurrency engagement on students' career prospects and financial literacy. The study underscores the importance of proactive institutional policies to ensure that students benefit from cryptocurrency knowledge without compromising their academic success.

***Keywords**: Cryptocurrency mining, academic performance, student engagement, institutional policies, blockchain education*

I. Introduction

Cryptocurrency mining has emerged as a significant technological and financial activity, gaining widespread popularity among various demographics, including students in higher education institutions (Nakamoto, 2008). This process involves the use of computational resources to validate transactions on a blockchain network, often requiring substantial processing power and energy consumption (Bonneau et al., 2015). The increasing involvement of students in cryptocurrency mining raises concerns about its potential impact on their academic performance, engagement, and institutional policies (Basu et al., 2020).

Studies have indicated that cryptocurrency mining can be both beneficial and detrimental to students. While some students leverage mining as a financial opportunity, others struggle with decreased class attendance, reduced participation in academic activities, and heightened stress levels due to time management challenges (Marella et al., 2021). These concerns highlight the need for institutional interventions to regulate and educate students about the consequences of cryptocurrency mining.

This study investigates the awareness, perception, and impact of cryptocurrency mining on student academic performance at the Federal College of Education, Yola. It aims to assess the familiarity of lecturers with cryptocurrency mining, their observations regarding student participation in mining activities, and the perceived academic implications. Additionally, it explores the necessity of institutional policies to address potential adverse effects on students' academic achievements.

By examining these factors, this research contributes to the growing discourse on digital finance and education, offering insights that could guide the development of policies and educational frameworks to support students effectively (Swan, 2015).

Statement of the Problem

The increasing participation of students in cryptocurrency mining has raised concerns regarding its impact on academic performance and institutional policies. While cryptocurrency mining offers financial incentives, it also presents challenges such as reduced class attendance, decreased participation in academic activities, and increased stress due to time management issues. Additionally, there is limited awareness among educators and policymakers regarding the extent of student involvement in this activity and its potential consequences.

Despite the growing adoption of digital currencies and blockchain technology, there is a lack of empirical research on how cryptocurrency mining affects student engagement and learning outcomes, particularly in higher education institutions. Furthermore, most academic institutions do not have explicit policies to regulate student involvement in cryptocurrency-related activities. This study aims to bridge this knowledge gap by evaluating the awareness, perceptions, and institutional responses to cryptocurrency mining among students and lecturers at the Federal College of Education, Yola.

Aim of the Study

This study aims to examine the awareness, perception, and impact of cryptocurrency mining on students' academic performance in the Federal College of Education, Yola, with a focus on identifying the need for institutional intervention and policy development.

Objectives of the Study

1. To assess the level of awareness and familiarity of lecturers with cryptocurrency mining and its processes.
2. To determine the extent to which students engage in cryptocurrency mining and how lecturers become aware of these activities.

3. To evaluate the perceived impact of cryptocurrency mining on students' academic performance, including class attendance, participation in academic activities, and stress levels.
4. To explore the need for institutional intervention and recommend measures to regulate student involvement in cryptocurrency mining.

II. Reviews

Relevant literature on cryptocurrency mining and its impact on students' academic performance. It provides an overview of cryptocurrency and blockchain technology, examines previous studies on students' involvement in cryptocurrency mining, and explores the potential academic and institutional implications. Furthermore, it discusses the theoretical framework underpinning this study and identifies gaps in the existing literature.

Overview of Cryptocurrency and Blockchain Technology

Cryptocurrency is a decentralized digital currency that utilizes blockchain technology to record transactions securely (Nakamoto, 2008). Blockchain is a distributed ledger system that ensures transparency, security, and immutability of data. Popular cryptocurrencies such as Bitcoin, Ethereum, and Dogecoin are mined using complex computational processes that require significant processing power and energy consumption (Swan, 2015). As digital assets gain popularity, students have become increasingly involved in mining activities, raising concerns about the potential impact on their academic engagement.

Cryptocurrency Mining and Student Involvement

Cryptocurrency mining involves solving complex mathematical puzzles to validate transactions on the blockchain network. Studies have shown that young individuals, including students, are attracted to mining due to its financial incentives and technological appeal (Franco, 2014). However, excessive involvement in mining can lead to negative consequences such as increased screen time, financial risk, and reduced academic focus (Yermack, 2017). Some students engage in mining as a passive income source, while others dedicate significant time and resources, potentially affecting their studies.

Impact of Cryptocurrency Mining on Academic Performance

The relationship between cryptocurrency mining and academic performance has been explored in various studies. Research indicates that excessive participation in non-academic digital activities, such as gaming and cryptocurrency trading, may lead to decreased concentration, poor time management, and lower academic achievements (Griffiths, 2018). Similarly, mining activities can disrupt students' sleep patterns, increase stress levels, and reduce participation in academic tasks

(Kshetri, 2021). Furthermore, some students use institutional resources, such as university electricity and computing facilities, for mining, raising ethical and policy concerns (Kim, 2020).

Institutional Policies on Cryptocurrency Mining

Educational institutions worldwide have started addressing cryptocurrency-related activities within their policies. Some universities prohibit mining on campus due to excessive energy consumption and cybersecurity risks, while others integrate blockchain and cryptocurrency education into their curricula (Davidson et al., 2018). However, in many institutions, there is a lack of clear regulations regarding student involvement in mining activities, creating a gap in policy development and enforcement (Zohar, 2015).

Theoretical Framework

This study is guided by the Technology Acceptance Model (TAM) and the Self-Determination Theory (SDT). The TAM explains how individuals adopt and use technology based on perceived usefulness and ease of use (Davis, 1989). The SDT, on the other hand, explores intrinsic and extrinsic motivation in behavioral choices (Ryan & Deci, 2000). These theories provide insights into why students engage in cryptocurrency mining and how their participation affects their academic responsibilities.

Empirical Reviews

Madu, Ibrahim, Danladi, and Isah (2024) examined the extent to which cryptocurrency and mining activities influence students' academic engagement, highlighting both benefits and challenges. Their study, published in the *Kashere Journal of Education*, reviewed existing literature to understand how cryptocurrency involvement affects students' ability to maintain productive study habits. The authors noted that while cryptocurrency exposure enhances financial literacy and technological skills, it also introduces significant risks such as distraction, financial stress, and behaviors akin to gambling. These challenges can negatively impact students' academic performance, attendance, and overall engagement in learning activities. The study presents a balanced perspective by recognizing both the advantages and drawbacks of cryptocurrency involvement among students. Madu et al. (2024) argue that rather than completely discouraging engagement with digital finance, institutions should consider integrating cryptocurrency education into academic curricula. This approach could provide students with structured knowledge about digital finance, risk management, and responsible investment practices, ultimately mitigating the adverse effects of cryptocurrency mining on academic performance. However, certain aspects of the study's abstract could be refined for clarity and grammatical precision. For instance, the phrase *"broader implications was discussed"* contains a grammatical error and should be revised to *"broader implications were discussed."* Additionally, while the abstract provides a general overview, it lacks specific details about the theoretical framework and key findings from the

reviewed literature. The citation format also deviates from APA guidelines, which require the use of an ampersand (&) before the last author's name in references. Furthermore, the study's keywords, while relevant, could be expanded to improve searchability and indexing. Including terms such as *cryptocurrency mining*, *student engagement*, *academic performance*, *financial literacy*, and *digital distraction* would enhance the accessibility of the research for scholars and policymakers. Despite these minor limitations, Madu et al. (2024) make a valuable contribution to the growing discourse on cryptocurrency's impact on students, offering recommendations that could help academic institutions develop policies to address the challenges associated with student involvement in cryptocurrency mining.

Garba (2025) examines the role of blockchain technology in Nigerian governmental agencies, emphasizing its potential to enhance governance and administrative efficiency. Published in the *Journal of Public Administration and Social Welfare Research*, the study highlights blockchain's decentralized, tamper-resistant, and secure nature, which makes it a valuable tool for various government functions. The research explores blockchain's applications in voting systems, identity management, supply chain monitoring, public finance, property registration, and procurement. Drawing from case studies and pilot programs, particularly in the United States, the study demonstrates how blockchain can reduce fraud, minimize bureaucratic inefficiencies, and foster public trust in governmental operations. A key strength of the study lies in its balanced approach, acknowledging blockchain's benefits while addressing significant challenges. Garba (2025) identifies critical barriers to blockchain adoption, including issues related to scalability, interoperability, regulatory frameworks, and ethical concerns regarding privacy and data security. These challenges highlight the need for clear policies and frameworks to facilitate blockchain's successful integration into Nigerian governance. Furthermore, the study underscores the importance of collaborations between government institutions and private sector stakeholders in implementing blockchain solutions effectively. While the abstract effectively outlines the study's scope and significance, certain aspects could be improved for clarity and precision. For example, the phrase *"provides valuable insights for policymakers, researchers, and practitioners"* is somewhat broad; specifying the type of insights—such as policy recommendations or implementation strategies—would enhance the abstract's impact. Additionally, expanding the discussion of case studies beyond the United States to include African or Nigerian contexts would provide more localized insights and strengthen the study's relevance. The choice of keywords is appropriate, covering key aspects such as blockchain technology, governance, transparency, efficiency, and data security. However, including terms like *public sector innovation*, *digital transformation*, and *regulatory challenges* could improve the research's discoverability. Despite these minor refinements, Garba (2025) provides a comprehensive review of blockchain's potential in Nigerian government systems, offering a roadmap for its adoption while critically examining the obstacles that must be addressed for successful implementation.

Danlami et al. (2024) present a quantitative investigation into the impact of cryptocurrency mining on student performance, focusing on engagement, critical thinking, and attitudes toward financial innovation. the study gathers insights from lecturers at the Adamawa State College of Agriculture,

Ganye. The findings suggest that cryptocurrency mining fosters student engagement and enhances critical thinking skills, which contribute to a more positive outlook on financial innovation. However, challenges such as technical complexity and resource limitations were also highlighted. One of the strengths of the study is its emphasis on the dual nature of cryptocurrency mining—its ability to enhance student learning while also posing technical and logistical challenges. This balanced approach provides a nuanced perspective on the topic. The study further recommends integrating cryptocurrency education into curricula and enhancing educational resources to better prepare students for technological advancements in the financial sector. These recommendations align with broader discussions on digital currency education and its role in higher education institutions. While the study offers valuable insights, there are areas where further exploration could strengthen its contributions. For example, a comparison with institutions where cryptocurrency mining is either restricted or actively encouraged could provide a more comprehensive understanding of its impact on academic performance. Additionally, a deeper analysis of the long-term effects on students' career prospects and ethical considerations surrounding cryptocurrency mining would add depth to the discussion.

Ubesie et al. (2023) investigated the impact of cryptocurrency on the Nigerian banking sector, with a specific focus on First Bank Nigeria Plc. The study employed multiple regression analysis on ten years of financial data from the bank to determine the effects of various cryptocurrency payment systems, including Bitcoin (BTC), Litecoin (LTC), Ethereum (ETH), and Bitcoin Cash (BCH), on the bank's annual profit. The findings revealed that BTC and BCH had a positive and significant impact on the bank's profitability, suggesting that the adoption of these payment systems could contribute to financial growth. Conversely, LTC and ETH were found to have a negative effect on profitability, indicating potential challenges associated with their integration into the banking system. These results highlight the complexities of cryptocurrency adoption in Nigeria's financial landscape, where regulatory concerns and volatility continue to pose risks. Despite warnings from financial regulatory bodies regarding the risks associated with digital currencies, the study noted the growing acceptance of cryptocurrencies among businesses and individuals in Nigeria. The authors emphasized that while Bitcoin has transformative potential, its use in illicit activities due to its anonymity presents regulatory and security challenges. However, they advocate for wider adoption of digital currencies as tools for economic development in the digital age. While the study provides valuable insights into cryptocurrency's influence on the banking sector, a deeper analysis of regulatory frameworks and customer adoption rates would enhance its findings. Additionally, further research into how Nigerian banks can mitigate risks while leveraging the benefits of cryptocurrency could strengthen policy recommendations.

III. Methodology

This study adopted a quantitative research approach to examine the impact of cryptocurrency mining on students' academic performance. A structured questionnaire was used as the primary data collection instrument, ensuring that responses were standardized and measurable (Creswell, 2014). The survey was distributed to 25 lecturers at Federal College of Education, Yola, using a purposive sampling technique, which is effective in selecting participants with relevant knowledge and experience on the subject matter (Etikan, Musa, & Alkassim, 2016).

The questionnaire comprised sections on demographic details, familiarity with cryptocurrency, awareness of student mining activities, perceived academic effects, and recommendations for institutional intervention. Responses were analyzed using descriptive statistics, including frequency, percentage distributions, and cumulative percentages, which provide insights into patterns and trends within the data (Saunders, Lewis, & Thornhill, 2019). Tables were employed to enhance data presentation and interpretation.

To ensure validity and reliability, the questionnaire was reviewed by subject-matter experts before distribution, and a pilot test was conducted with a small sample of respondents. Ethical considerations were also observed, including participant anonymity and informed consent (Bryman, 2015). The findings from the methodology serve as the basis for the subsequent data analysis and discussion.

IV. Result

This presents the analysis of the collected data in tabular form with additional statistical fields, followed by interpretations. The analysis focuses on demographic information, familiarity with cryptocurrency, awareness of mining activities, perceived academic impacts, institutional policies, and recommended interventions.

Table 4.1: Distribution of Respondents by Demographics

Variable	Categories	Frequency (n)	Percentage (%)	Cumulative %
Gender	Male	16	64.0%	64.0%
	Female	9	36.0%	100.0%
Age Group	20-29	8	32.0%	32.0%
	30-39	17	68.0%	100.0%

Position	Lecturer	25	100.0%	100.0%
Years of Service	0-5 years	12	48.0%	48.0%
	6-10 years	13	52.0%	100.0%

Table 4.1: Show the majority of respondents are male (64%) and fall within the 30-39 age group (68%). All participants are lecturers, with a nearly even distribution between 0-5 years (48%) and 6-10 years (52%) of service. This demographic composition suggests that the study captures insights from academic professionals with varying levels of experience in the institution.

Table 4.2: Familiarity with Cryptocurrency and Mining Activities

Familiarity Level	Frequency (n)	Percentage (%)	Cumulative %
Not familiar	3	12.0%	12.0%
Slightly familiar	6	24.0%	36.0%
Moderately familiar	9	36.0%	72.0%
Very familiar	7	28.0%	100.0%

Table 4.2: Show most respondents (36%) are moderately familiar with cryptocurrency and mining, while 28% are very familiar. A small percentage (12%) reported no familiarity, indicating that while some lecturers may lack exposure, the majority have some level of knowledge about the topic.

Table 4.3: Awareness of Student Cryptocurrency Mining Activities

Awareness Level	Frequency (n)	Percentage (%)	Cumulative %
Yes	19	76.0%	76.0%
No	3	12.0%	88.0%
Unsure	3	12.0%	100.0%

Table 4.3: Show a majority (76%) of the respondents reported being aware of students' engagement in cryptocurrency mining, while 12% were unsure. This indicates that cryptocurrency mining among students is a recognized activity within the institution.

Table 4.4: Means of Awareness of Cryptocurrency Mining

Means of Awareness	Frequency (n)	Percentage (%)	Cumulative %
Direct observation	11	44.0%	44.0%
Student reports	6	24.0%	68.0%
Colleague discussions	3	12.0%	80.0%
Not aware	5	20.0%	100.0%

Table 4.4: Show almost half of the respondents (44%) became aware of cryptocurrency mining activities through direct observation, followed by 24% through student reports. This suggests that mining activities are somewhat visible within the academic environment.

Table 4.5: Perceived Impact of Cryptocurrency Mining on Academic Performance

Impact Factor	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Decreased class attendance	8	6	5	4	2
Reduced participation in activities	9	7	4	3	2
Increased stress & time challenges	5	7	6	4	3
Academic performance decline	10	6	4	3	2

Table 4.5: Show 56% of respondents agree or strongly agree that cryptocurrency mining affects attendance. 64% acknowledge reduced participation in academic activities. 48% agree that mining increases stress and time management issues. 64% believe mining negatively affects academic performance.

Table 4.6: Awareness of Institutional Policies on Cryptocurrency Mining

Awareness Level	Frequency (n)	Percentage (%)	Cumulative %
Yes	2	8.0%	8.0%
No	20	80.0%	88.0%
Unsure	3	12.0%	100.0%

Table 4.6: Show there is little awareness of institutional policies on cryptocurrency mining, with 80% of respondents unaware and 12% unsure. This suggests a need for institutions to develop and communicate clear policies.

Table 4.7: Recommended Institutional Measures for Managing Cryptocurrency Mining Among Students

Recommended Measure	**Frequency (n)**	**Percentage (%)**	**Cumulative %**
Awareness programs on cryptocurrency mining	12	48.0%	48.0%
Development of policies regulating mining	8	32.0%	80.0%
Integration of cryptocurrency education	5	20.0%	100.0%

Table 4.7: Show **t**he majority of respondents (48%) suggest that awareness programs should be implemented to educate students about the impact of cryptocurrency mining. Additionally, 32% recommend developing policies to regulate these activities, while 20% advocate for integrating cryptocurrency education into the curriculum.

Table 4.8: Summary of Additional Comments on Cryptocurrency Mining and Academic Performance

Comment Category	Frequency (n)	Percentage (%)	Cumulative %
No significant academic impact observed	5	20.0%	20.0%
Mining disrupts academic engagement	12	48.0%	68.0%
Cryptocurrency activities should be monitored	8	32.0%	100.0%

Table 4.8: Show nearly half of the respondents (48%) believe cryptocurrency mining disrupts academic engagement. About 32% suggest monitoring these activities, while 20% do not perceive any significant academic impact.

Discussion of Findings

The findings of this study align with existing literature on the impact of cryptocurrency mining on students' academic performance. Prior research has indicated that involvement in cryptocurrency mining can lead to increased stress and reduced academic engagement (Smith & Johnson, 2021). This is consistent with the present study's results, where a significant number of respondents observed decreased class attendance and participation in academic activities among students involved in mining.

Furthermore, the lack of institutional policies addressing cryptocurrency mining is a notable concern. Similar studies by Brown et al. (2020) suggest that the absence of regulations in educational institutions has allowed students to allocate excessive time to cryptocurrency activities, negatively affecting their academic achievements. The respondents' recommendations for awareness programs and policy development are in line with these findings, emphasizing the need for structured intervention.

Additionally, while some participants argued that cryptocurrency mining does not significantly impact students' academic performance, previous studies have found that the financial incentives of mining may encourage students to prioritize these activities over their studies (Williams, 2019). This highlights the importance of integrating cryptocurrency education into the curriculum, as suggested by some respondents, to ensure students are well-informed about its implications.

Awareness and Familiarity with Cryptocurrency Mining

A significant proportion of lecturers are aware of cryptocurrency mining, with varying levels of familiarity. While some respondents reported being very familiar with the concept, others were only moderately familiar or not familiar at all. This variation suggests that while cryptocurrency

mining is recognized within academic environments, comprehensive knowledge about its implications is not uniformly distributed.

Perceived Impact on Academic Performance

Most respondents believe that cryptocurrency mining negatively affects students' academic performance. The data shows that mining activities correlate with decreased class attendance, reduced participation in academic activities, and increased stress due to time management challenges. These findings align with previous studies that highlight the disruptive nature of external activities on academic focus.

Institutional Policies and Regulatory Gaps

The study indicates a lack of institutional policies explicitly addressing cryptocurrency mining. Many respondents were either unaware of any such policies or believed that no regulations existed. This regulatory gap suggests that institutions need to establish guidelines to ensure that cryptocurrency mining does not interfere with academic responsibilities.

Recommended Interventions

Respondents suggest that awareness programs on the effects of cryptocurrency mining, development of regulatory policies, and integration of cryptocurrency education into the curriculum are necessary interventions. Awareness programs can help students make informed decisions, while regulatory policies provide institutional frameworks for managing mining activities. Integrating cryptocurrency education into the curriculum may also help students understand both the benefits and risks associated with mining.

Conclusion

This study has examined the awareness, perception, and impact of cryptocurrency mining on students' academic performance at the Federal College of Education, Yola. The findings indicate that while some students engage in cryptocurrency mining as a source of income, their involvement may negatively affect their academic engagement, class attendance, and time management. The study also highlights that there is a lack of institutional policies addressing the implications of cryptocurrency mining on academic performance. Given the increasing adoption of digital currencies, it is essential for academic institutions to recognize and address the potential effects of cryptocurrency mining on students.

Recommendations

Based on the findings, several measures are recommended to address the impact of cryptocurrency mining on students' academic performance.

First, institutions should organize awareness campaigns to educate students on the potential effects of cryptocurrency mining. These programs should highlight how excessive involvement in mining could lead to decreased academic engagement, stress, and poor time management. By increasing awareness, students will be better equipped to make informed decisions regarding their participation in cryptocurrency activities.

Second, integrating cryptocurrency and blockchain education into the curriculum is essential. Providing structured knowledge on digital finance and blockchain technology will help students understand both the opportunities and risks associated with cryptocurrency mining. This approach ensures that students engage with cryptocurrency in a responsible and academically beneficial manner.

Third, institutions should formulate clear policies that regulate student engagement in cryptocurrency mining. These policies should establish guidelines to ensure that mining activities do not interfere with students' academic responsibilities. Regulations could include restrictions on mining in campus facilities and promoting responsible digital financial practices.

Fourth, academic institutions should actively monitor students' participation in cryptocurrency-related activities and provide necessary support. Counseling services should be available to assist students experiencing academic challenges due to excessive involvement in cryptocurrency mining. Additionally, mentorship programs can guide students on balancing academic commitments with extracurricular financial activities.

Finally, further research should be conducted to explore the long-term effects of cryptocurrency mining on students' academic success and overall well-being. Continuous studies will provide valuable insights into how institutions can effectively support students while adapting to the evolving digital economy.

By implementing these recommendations, academic institutions can mitigate the negative impacts of cryptocurrency mining while equipping students with the knowledge and resources needed to navigate the digital financial landscape responsibly.

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