Enrollment Patterns in Fully Online Undergraduate Education: A National Analysis of the United States

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Abstract **– This study analyzes national data from the 2023 Integrated Postsecondary Education Data System (IPEDS) to examine trends in fully online undergraduate enrollment across U.S. higher education institutions. The purpose is to understand how institutions utilize different learning modalities fully online, partially online, and face-to-face and to identify patterns in distance education adoption. Using descriptive statistics and visual representations, the study explores institutional-level variations across different types of institutions, focusing on enrollment patterns and demographic characteristics of fully online students. Key findings reveal that while in-person instruction remains predominant, many institutions, especially those serving adult, part-time, and geographically dispersed students, have significantly increased their emphasis on online education. The paper offers recommendations for institutional leaders, instructional designers, and policymakers. These include investing in robust learning management systems, faculty development for online teaching, and integrating student support services. At the policy level, the study advocates for improved data collection and the implementation of digital equity programs to establish standardized frameworks for evaluating online education quality. Overall, this research provides a national perspective on the evolving landscape of distance education, supporting strategic planning and equitable access.**

Keywords **- Online education, distance learning, higher education, educational equity.**

1. Introduction

The expansion of online education has significantly transformed access to higher education in the United States, providing flexible learning opportunities for students balancing academic responsibilities with work, caregiving, or other life commitments. Once considered a niche modality, online courses, whether offered exclusively or as part of a hybrid model - have become a staple in undergraduate education, bolstered by advancements in virtual learning environments, learning management systems, and widespread internet accessibility.

This rapid integration of digital modalities has prompted researchers, policymakers, and institutional leaders to examine how technology is reshaping not only teaching and learning but also enrollment trends, equity, and institutional structure. The transition to online and hybrid models accelerated dramatically during the COVID-19 pandemic, revealing both the potential and the limitations of virtual learning at scale [15]. Institutions that previously had limited digital infrastructure were forced to adapt quickly, while others with existing online programs expanded their offerings. This period of disruption has highlighted the critical need to understand the long-term implications of digital modality adoption.

Fully online programs are often associated with increased flexibility and access, particularly for nontraditional students, including working adults, part-time learners, and those living in geographically isolated areas. However, questions persist regarding how widely these programs have been adopted across the U.S. higher education landscape and whether certain institutional or demographic characteristics influence participation in fully online formats.

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Some critics raise concerns about the uneven quality of online instruction and the persistence of digital divides that may disproportionately affect students from historically marginalized communities.

From a policy perspective, federal and state governments have shown growing interest in supporting digital learning infrastructure. Initiatives such as the U.S. Department of Education's Office of Educational Technology and the infusion of pandemic-era relief funds into virtual learning systems have created momentum for sustainable online education models. These developments underscore the importance of data-informed research to assess how online learning is being implemented across institutions and to guide future investment decisions [9], [29].

The availability of national datasets such as the Integrated Postsecondary Education Data System (IPEDS) has made it possible to conduct large-scale analyses of enrollment trends in distance education. IPEDS now includes detailed indicators on fully online, partially online, and in-person enrollment, enabling researchers to move beyond anecdotal evidence and examine structural patterns of digital learning across the entire U.S. postsecondary system [24].

This study uses 2023 IPEDS data to examine institutional-level patterns of fully online undergraduate enrollment across the United States. Rather than focusing exclusively on educational equity or outcomes, the analysis takes a broader view, identifying trends in the prevalence and structure of online delivery at thousands of institutions. By investigating how different types of colleges and universities are utilizing online modalities, this paper offers a system-level snapshot of where and how digital learning is expanding, and for who.

The findings are relevant for a wide range of stakeholders, including institutional planners, faculty developers, instructional designers, and policymakers. Understanding modality trends is essential not only for curriculum planning but also for ensuring equitable access, supporting student persistence, and making informed decisions about future investments in digital infrastructure. As higher education continues to evolve in response to technological, economic, and demographic shifts, research of this nature can help guide the strategic development of inclusive and effective online education systems.

2. Background and Policy Context

This section describes the key determinants that shape the development of online undergraduate education in the United States. It brings out the role of access, affordability, institutional practices, and data systems in the growth of online learning. Each of these areas is briefly described in the following subsections.

2.1. Expanding Access and Flexibility Through Online Undergraduate Programs

This paper examines the landscape of online undergraduate programs in the United States, focusing on how these offerings are transforming access to higher education. Online programs are breaking down traditional barriers related to geography, cost, and personal circumstances, providing unmatched flexibility for students to learn at their own pace and on their own schedule. This flexibility is particularly valuable for working professionals, parents, first-generation college students, and those with caregiving responsibilities, making higher education more attainable for a diverse range of learners [7]. By removing the need for commuting or relocation, online education reaches students in rural areas and "education deserts" who might otherwise lack access to quality institutions [30], [3].

2.2. Financial Accessibility and Inclusive Design

A core advantage of online education is its potential to reduce costs associated with transportation, housing, and sometimes tuition, thus making college more accessible for students from lower-income backgrounds [30], [3]. Additionally, online learning environments can be intentionally designed to accommodate students with disabilities, offering features such as screen readers, closed captioning, and multiple content formats to ensure inclusivity. Universities are also adapting scholarship programs, virtual support systems, and affinity groups to the online environment, further supporting underrepresented and marginalized students and fostering a sense of community and belonging [8].

2.3. Institutional and Policy Adaptation in a Rapidly Changing Environment

The growth of online education in the U.S. is driven by continuous technological development, institutional adaptability, and supportive policy frameworks. While online learning was gaining popularity prior to the COVID-19 pandemic, the health crisis accelerated the adoption of digital learning platforms, prompting institutions to rapidly transition to remote instruction and exposing both strengths and gaps in digital infrastructure [14] Federal and state relief funding, such as the Coronavirus Aid, Relief, and Economic Security (CARES) Act, enabled investments in broadband capabilities, learning management systems, and technology for disadvantaged students, laying the groundwork for more permanent digital education frameworks [6].

2.4. Data-Driven Decision Making and Equity Considerations

The collection of detailed data on distance education by systems like Integrated Postsecondary Education Data System (IPEDS) allows researchers and policymakers to analyze enrollment patterns and instructional modalities at the institutional level [24]. This data-driven approach helps institutions identify the most effective teaching practices and understand how organizational structures influence the adoption of various learning formats. Nonprofit organizations and research centers, such as the Online Learning Consortium and EDUCAUSE, highlight both the opportunities and challenges of online education, emphasizing that technology alone cannot resolve educational inequities without targeted support for students lacking internet access, study spaces, or academic resources.

2.5. Strategic Planning for the Future of Digital Higher Education

State education departments and institutions are developing long-term strategies to support online learning, including digital readiness modules and statewide digital platforms. As digital learning becomes a permanent fixture in higher education, institutional leaders must base decisions about course delivery formats on robust data and an understanding of national enrollment trends. By situating institutional data within broader policy and infrastructure contexts, stakeholders can better identify areas of need, opportunity, and innovation, ensuring that online education continues to drive equity, access, and strategic development in U.S. higher education.

3. Literature Review

This literature review is organized thematically to provide a clear and comprehensive understanding of the key issues surrounding online education in higher education. It begins by examining how online learning expands access and flexibility for diverse and underserved student populations. The review then addresses persistent barriers such as the digital divide and gaps in academic support, followed by an exploration of institutional readiness and the quality of online education. Next, it discusses the role of instructional design and student support in promoting success, and finally, it considers the influence of policy, funding, and evolving educational models. This thematic structure supports a clearer analysis of both the opportunities and challenges tied to the growth of online education.

3.1. Access and Flexibility - Expanding Opportunities for Underserved Students

Research consistently finds that online education expands access to higher education for historically underserved populations by removing barriers related to geography and time, offering flexible pathways for students balancing work, caregiving, or other responsibilities [1], [8], [10]. These benefits, however, can be accompanied by challenges for new distance learners, such as reduced motivation and adjustment difficulties [4]. This flexibility is particularly beneficial for non-traditional students, including working adults and first-generation college students, who require adaptable schedules [23], [26]. Although online learning attracts students from lower-income and minority backgrounds, these students often face barriers that affect their academic performance and retention [35], [2], [22]. These disparities mirror broader patterns found in large-scale online learning environments, where gaps in performance tend to widen unless intentional support structures are in place [19].

3.2. Persistent Barriers

The Digital Divide and Support Gaps: Despite the promise of inclusivity, significant disparities persist in technological access, digital literacy, and academic support services [4], [17]. The digital divide remains a major obstacle, particularly for students in rural areas, first-generation college students, and those from households with limited broadband access [31], [5], [32]. These challenges are both infrastructural, such as lack of reliable internet, and related to students' preparedness and confidence in using digital tools, which often correlate with socioeconomic status and prior education.

3.3. Institutional Readiness and Quality of Online Education

The rapid shift to online learning during the COVID-19 pandemic exposed significant differences in institutional readiness and capacity to support digital education [17]. Some institutions, particularly those with established online programs, adapted quickly, while others struggled with faculty preparation, technology infrastructure, and student engagement. Underfunded public institutions and colleges often face greater barriers to delivering high-quality online experiences, which can negatively affect student outcomes.

3.4. Instructional Design and Student Success

Moore's Theory of Transactional Distance highlights the importance of well-designed instruction and fostering learner autonomy to ensure effective online education [23]. Recent scholarship has also revisited Moore's work, offering deeper insights into how transactional distance shapes communication, structure, and learner autonomy in online environments [13]. Successful online learning depends on interactive platforms, timely feedback, and structured courses, as well as digital equity initiatives that provide technology access, skill support, and resources for all [11], [25], [21], [34]. This is in line with the Community of Inquiry framework that highlights the fact that meaningful online learning takes place when students feel connected, supported, and engaged through the balance of social, cognitive, and teaching presence [12]. Research also shows that self-motivated, organized students thrive in asynchronous environments, while those with less motivation may struggle without adequate support [27], [20]. Institutions that offer virtual tutoring, online advising, and engagement services achieve better results, demonstrating the need for both infrastructure and pedagogical support.

3.5. Policy, Funding, and Evolving Models

National and state policies, as well as funding allocations, play a critical role in shaping online education networks and determining access for different student groups [5]. In the U.S., the decentralized and market-driven approach to online learning contrasts with other regions that prioritize open educational resources. Recent enrollment trends show that institutions like Western Governors University and Southern New Hampshire University have responded to demand by developing programs targeting adult and part-time students, while hybrid models continue to blur the lines between online and in-person learning [1].

3.6. Toward Equity and Inclusion in Online Learning

While online education offers significant potential to increase access and flexibility, benefits are unevenly distributed due to persistent digital divides, institutional disparities, and varying levels of student preparedness. Addressing these challenges requires coordinated efforts in instructional design, robust support systems, targeted policy interventions, and sustained investment in digital infrastructure.

4. Methods

This study draws on data from the Integrated Postsecondary Education Data System (IPEDS) Fall 2023 Enrollment component, a comprehensive national dataset maintained by the U.S. Department of Education. The IPEDS system collects standardized information from nearly all U.S. higher education institutions that participate in federal financial aid programs, making it a reliable and authoritative source for institutional-level analysis. The breadth and consistency of IPEDS data enable researchers to explore nationwide trends in postsecondary education with a high level of comparability across institutions and sectors.

4.1. Importance of the IPEDS Data Set

The Integrated Postsecondary Education Data System (IPEDS) is a comprehensive data collection program managed by the National Center for Education Statistics (NCES) within the U.S. Department of Education. IPEDS consists of twelve interrelated surveys conducted annually, gathering detailed institutional-level data from every college, university, and technical or vocational institution that participates in federal student financial aid programs, as mandated by the Higher Education Act of 1965. The system collects information across key areas such as institutional characteristics, admissions, enrollment, student demographics, financial aid, program completions, graduation rates, faculty and staff, finances, and institutional resources.

The importance of IPEDS lies in its role as the central, authoritative source of reliable, accurate, and timely data on postsecondary education in the United States. This data supports a wide range of stakeholders - including policymakers, institutional leaders, researchers, students, and parents - by informing decision-making, policy development, and accountability efforts. IPEDS data underpin public tools like College Navigator and the College Scorecard, which help prospective students and families compare institutions on costs, outcomes, and other critical factors. Additionally, the system's design ensures data quality and consistency, enabling benchmarking, trend analysis, and the identification of gaps or inequities in higher education. Ultimately, IPEDS is vital for monitoring the health and progress of the U.S. postsecondary sector and for guiding strategic planning and resource allocation at both institutional and national levels.

4.2. Hypotheses and Research Questions

This research is based on secondary data analysis, meaning the authors are utilizing existing datasets rather than collecting new, primary data to address the research questions [33]. Specifically, the study analyzes numerical data to explore patterns and trends relevant to the research objectives. By relying on secondary data, the researchers can efficiently examine large-scale information and perform statistical analyses to answer their questions or test hypotheses.

In this context, secondary data analysis enabled the researchers to generate robust, data-driven insights for addressing the hypotheses and research questions, while taking advantage of the breadth and depth of previously collected information.

Hypothesis (H1): Undergraduate enrollment in distance education, particularly in fully online and partially online courses, has increased over time, while enrollment in exclusively in-person courses has either plateaued or declined.

Research Question (RQ1): What are the undergraduate enrollment trends when disaggregated by distance education status, as defined by IPEDS?

Hypothesis (H2): Students are more likely to enroll in partially online (hybrid) courses than exclusively online or exclusively in-person courses, reflecting a growing preference for flexible learning modalities. Additionally, enrollment in fully online programs is higher at public and for-profit institutions compared to private non-profit colleges.

Research Question (RQ2): How do enrollment patterns differ among students enrolled exclusively in distance education courses (fully online), those enrolled in some but not all distance education courses (partially online), and those not enrolled in any distance education courses (entirely in-person)?

Hypothesis (H3): Fully online students are disproportionately represented among adult learners, part-time students, and those attending public or for-profit institutions, while traditional-age, full-time students are more likely to enroll in in-person or partially online programs.

Research Question (RQ3): What insights can be drawn about the characteristics and distribution of these three student groups across institutions and over time?

These questions utilize the IPEDS framework, which categorizes students based on their mode of instruction into: (1) Exclusively distance education, (2) Some but not all distance education, and (3) No distance education courses.

Writers filtered the dataset to include only degree-granting institutions that reported undergraduate-level enrollment data from the Fall semester (August through December) of the academic year 2023. Non-degree-granting institutions and those with incomplete reporting were excluded to ensure consistency and data quality. For each institution, writers calculated the percentage of students falling into each of the three modality categories. This approach allowed for comparative analysis of online participation across thousands of U.S. colleges and universities, regardless of institutional size or control (public, private, or for-profit).

In addition, the dataset provides information on the number of students enrolled exclusively in online courses disaggregated by race and ethnicity. Writers aggregated these values to generate national-level summaries of demographic participation in fully online learning. However, it is important to note that the analysis emphasizes institutional patterns rather than individual-level comparisons. The use of aggregate data limits the ability to examine student experiences or performance outcomes within specific groups.

Descriptive statistics were used to characterize the distribution of online enrollment across institutions, including means, medians, standard deviations, and interquartile ranges. Graphical visualizations were created to highlight variation in modality adoption and to explore patterns across institutional types. All analyses were conducted using spreadsheet software, which allowed for data cleaning, transformation, and visualization.

By taking a national, institutional-level approach, this study offers insight into the current structure and prevalence of fully online course delivery in U.S. undergraduate education. These findings contribute to a better understanding of how colleges and universities are adapting to evolving demands for digital learning options.

Table 1 presents the descriptive statistics, which show that, on average, 26.3% of undergraduates at U.S. institutions were enrolled exclusively in online courses, while 33.8% took some online courses, and 39.9% were not enrolled in any online courses.

Table 1. Shows the summary statistics for institutional percentages of students by modality, based on the number of institutions that reported data for each category

	% of students in fully online courses	% of students in some online courses	% of students in no online courses
# Institutions reporting	3687	3687	5849
Mean	16.98	24.8	36.83
SD	20.87	23.82	15.21
Min	0	0	0

Table 2 presents the total enrollments of exclusively online students by race and ethnicity.

Table 2. Fully online enrollment by race/ethnicity

Race/Ethnicity	**Estimated Fully Online Undergraduate Students**
Hispanic or Latino	825000
American Indian or Alaska Native	26750
Asian	205000
Black or African American	475000
Native Hawaiian or Another Pacific Islander	10000

To better illustrate these enrollment differences, Figure 1 translates the data from Table 2 into a visual comparison across racial and ethnic groups.

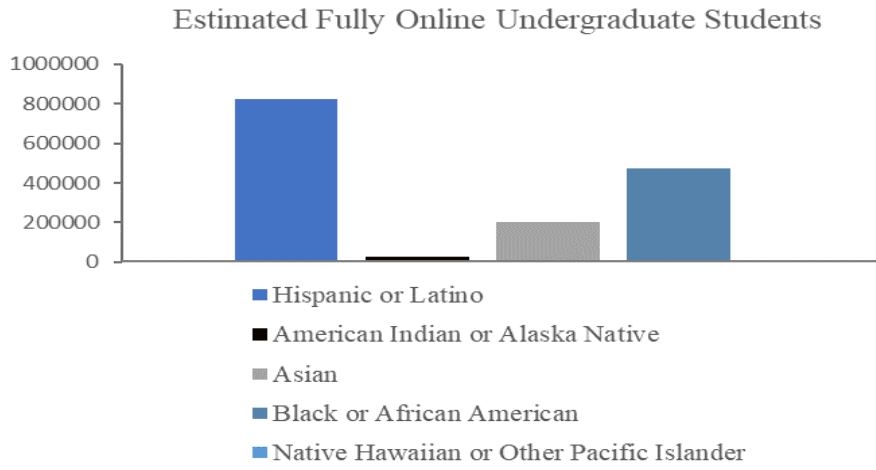

Figure 1. Estimated fully online undergraduate students by race (based on NCES total enrollment x 25% assumption)

Table 3 presents the top 10 institutions with the highest percentage of fully online undergraduate students. This table highlights institutions that have made the most substantial shifts toward fully online delivery, illustrating variation in institutional approaches.

Table 3. Top 10 institutions by % fully online enrollment (UNITID-based)

	Institution Names
1	Southern New Hampshire University
2	Western Governors University
3	University of Phoenix-Arizona

5. Discussion

The results of this study offer a nuanced view of how U.S. colleges and universities are engaging with fully online education at the undergraduate level. While online course delivery has become a permanent feature of the higher education landscape, institutional patterns of adoption vary widely, as do the proportions of students enrolled in fully or partially online coursework.

The data show that a significant number of institutions still serve the majority of their students through in-person instruction, while others, particularly career-focused and nontraditional institutions - have shifted to offering predominantly or entirely online programs. This variation may reflect institutional missions, regional access considerations, or economic incentives, such as reaching adult learners, commuter students, or geographically dispersed populations.

To further explore these differences, institutions were grouped into quartiles based on the percentage of students enrolled exclusively in online courses. Table 4 illustrates the average percentage of students in partially online and fully in-person courses across those quartiles. Institutions in the highest quartile of fully online enrollment had significantly fewer students in traditional in-person classes and moderately fewer students in hybrid formats, suggesting a more intentional shift toward fully digital learning environments.

Table 4. Average % of Students by course modality grouped by quartiles of fully online enrollment (Quartile 1 = lowest % fully online institutions, Quartile 4 = highest %)

% fully online (quartile range)	% of students in some online courses	% of students in in-person courses
0-7%	32.95	33.41
7-14%	21.28	36.47
14-28%	24.24	29.69
28%+	20.76	16.85

This pattern suggests that institutions with high levels of fully online enrollment may rely less on blended learning strategies and instead offer clear distinctions between online and in-person delivery modes. This has implications for infrastructure investments, learning management systems, and student support models, which may differ depending on whether an institution primarily blends modalities or offers them distinctly.

Additionally, the data suggest a general positive relationship between the percentage of students taking some online courses and those enrolled fully online. However, the results also show a lot of variation across institutions, meaning that high participation in partial online learning does not always match high enrollment in fully online programs. These differences may be related to institutional policies, student characteristics, or specific program requirements.

Online education adoption is not linear or uniform. Some institutions may integrate online components broadly across programs without necessarily supporting fully remote pathways, while others have built infrastructure for complete distance learning models.

These findings offer updated insights into online enrollment trends in U.S. undergraduate education. While previous studies have documented the growth of online learning, this study captures a more recent post-pandemic shift, highlighting the increasing prevalence of fully online programs. For example, [1], [28] noted the steady expansion of distance education, and findings from this study suggest that this pattern persist after the pandemic.

The emergency nature of remote teaching during COVID-19's early weeks was emphasized in [17], whereas the results in this study reflect a longer-term institutional shift toward fully online formats. Furthermore, [21] focused on equity concerns in online learning; The study contributes by providing current enrollment data that may guide equity-focused strategies at the institutional level. These comparisons underscore how the results both confirm and expand upon prior work, offering a more contemporary understanding of online education and supporting evidence-based planning.

6. Research and Practice Gaps

While this study provides a system-level overview of fully online undergraduate enrollment across U.S. institutions, several important gaps in the research and practice landscape remain. These gaps limit the ability of institutions and policymakers to make fully informed decisions regarding the design, implementation, and evaluation of online education.

One major gap is the absence of outcome-based data at the modality level. Although IPEDS tracks enrollment figures for students in fully online, partially online, and in-person courses, it does not include information on student success indicators such as course completion, GPA, persistence, or graduation rates by modality. Without this level of granularity, it is difficult to determine whether the growth of online learning is matched by positive academic outcomes. Future research should aim to integrate modality-based enrollment data with student performance metrics, particularly for historically underserved populations.

Another critical gap is the lack of standardized data on instructional quality in online environments. Institutions vary widely in how they structure and deliver online courses, including differences in faculty training, use of learning management systems, and access to student support services. However, there is no national dataset or consistent framework for capturing these variations. As a result, it is difficult to compare the quality of online education across institutions or to identify best practices. More consistent measurement tools, such as rubrics for course design or benchmarks for student-faculty interaction could help bridge this gap and support evidence-based improvement.

In addition, there is a limited understanding of student experiences within fully online programs at the national level. While institutional surveys may capture localized feedback, these insights are not aggregated in a way that enables broad generalizations or trend analysis. National survey tools or case study databases could provide valuable insights into how different types of learners interact with online platforms, manage self-paced learning, and access support services.

Particular attention should be given to the experiences of first-generation, low-income, rural, and minority students, who may face unique barriers in fully online environments.

From a practice standpoint, there is also a need for greater transparency in institutional online learning strategies. Many colleges and universities offer online or hybrid courses, but few publicly share their modality design frameworks, faculty support protocols, or student success data disaggregated by learning format. Sharing these insights could foster collaboration across institutions and inform national conversations about digital learning equity and effectiveness.

Finally, the rapid expansion of online education has outpaced the development of comprehensive policy and regulatory frameworks**.** While some states have implemented quality guidelines or digital learning initiatives, there is still no unified national policy outlining minimum expectations for online program development, delivery, and evaluation. Aligning future research with policy development, particularly in areas such as accreditation, federal funding, and data transparency - will be essential to ensure that the growth of online education is accompanied by accountability and student-centered practices.

7. Limitations and Future Research

While this study provides valuable insights into national patterns of fully online undergraduate enrollment, several limitations must be acknowledged. First, the analysis relies entirely on institutional-level secondary data from the Integrated Postsecondary Education Data System (IPEDS). As such, the study does not capture individual student motivations, experiences, or outcomes. The use of aggregate data limits the ability to draw causal inferences or to assess the nuanced reasons behind students' enrollment in online versus in-person courses.

Second, the IPEDS dataset reports enrollment counts by course modality but does not include performance indicators such as course completion, GPA, or graduation rates disaggregated by delivery format. Without this information, it is not possible to determine whether online or in-person students are more successful, engaged, or retained. Future research should incorporate student-level outcomes to evaluate the effectiveness and equity of different instructional modalities more comprehensively.

Moreover, the present analysis did not account for key contextual variables that may influence modality adoption, such as institution type (e.g., public vs. private, for-profit vs. nonprofit), geographic location (urban vs. rural), or student demographics beyond what is available for fully online populations.

These factors likely shape not only course delivery options but also student preferences and access. Incorporating these dimensions in future work would enable a more complete understanding of the structural and contextual determinants of online enrollment trends.

Lastly, while this study distinguishes among fully online, partially online, and fully in-person enrollment, it does not delve into the pedagogical quality or design of the online learning environments themselves. Differences in instructional practices, faculty training, and technological infrastructure can significantly impact student outcomes, even within the same modality category.

Future studies would benefit from mixed-methods approaches that combine large-scale administrative data with surveys or interviews capturing student and faculty perspectives. This would allow researchers to explore not just who enrolls online, but why, and how those experiences compare to traditional learning formats. Such work could better inform policy and instructional design in an increasingly hybrid educational landscape.

8. Implications for Practice

Institutional Recommendations: The findings of this study underscore the need for colleges and universities to adopt a proactive, rather than reactive, approach to online learning. Institutions with low levels of online participation may be at risk of falling behind in terms of student reach, flexibility, and competitiveness. To address this, a key institutional priority should be the development or strengthening of learning management systems (LMS) that are not only technically robust but also designed to enhance the learning experience. An effective LMS should offer mobile compatibility, integrate with external tools like Zoom or Google Workspace, support adaptive learning technologies, and include built-in accessibility features for students with disabilities.

Professional development for faculty is also a cornerstone of successful online education. Teaching online requires different pedagogical approaches than face-to-face instruction, yet many instructors receive little to no training in this area. Institutions should offer ongoing faculty development programs that focus on digital pedagogy, inclusive teaching strategies, assessment design in virtual settings, and fostering community in online classrooms [18]. Faculty buy-in is often critical, and creating peer mentorship or communities of practice can support both new and experienced online instructors.

Moreover, student support services must be reimagined for the digital environment. While many institutions offer online tutoring or advising in some form, these services are often under-resourced or inconsistently delivered.

A strong support infrastructure should include academic advising, mental health counseling, financial aid guidance, and IT assistance, all available through accessible, student-friendly platforms. Additionally, implementing early alert systems and proactive outreach can help identify and support students who may be struggling before they disengage or drop out.

Institutions should also engage in regular internal review of their online programs, using both qualitative feedback and institutional data to evaluate what is working and what needs improvement. This includes not only academic outcomes but also student satisfaction, faculty workload, and operational costs.

Policy Recommendations: From a policy perspective, there is a growing need for enhanced oversight, support, and standardization in online higher education. Although national datasets such as IPEDS now track online enrollment figures, they do not capture critical information such as course completion rates, levels of student-faculty interaction, or access to support services in digital formats. Expanding the scope of federal reporting to include these elements would provide a more comprehensive understanding of the online learning landscape and allow for better-informed decision-making.

In addition, policies must address equity in digital access. The digital divide continues to disproportionately affect students from rural areas, low-income households, and historically underrepresented groups. Federal and state policymakers can play a key role in closing this gap by funding broadband expansion, offering subsidies or grants for digital devices, and supporting open educational resources (OERs) to reduce textbook costs [34].

Supportive legislation can also encourage innovation. For example, grant programs that reward institutions for developing high-quality online programs or implementing equity-focused strategies can serve as incentives for innovation [16]. Policymakers might also consider funding consortia or shared course platforms that allow smaller colleges - especially community colleges and minority-serving institutions to access high-quality digital resources without bearing the full cost of development.

Finally, state higher education agencies and accrediting bodies should work to develop consistent standards for evaluating online programs. These could include benchmarks for instructional quality, student engagement, support services, and data transparency. Consistent, evidence-based standards not only support accountability but also help students make informed choices when selecting online programs.

Taken together, these institutional and policy recommendations point to a clear conclusion: For online education to be successful and sustainable, it must be intentionally designed, adequately resourced, and equitably accessible. Aligning internal strategies with broader policy frameworks can ensure that fully online learning serves as a tool for widening - not narrowing opportunity in higher education.

9. Conclusion

This study examined national patterns in fully online undergraduate enrollment using data from the 2023 IPEDS dataset. By analyzing differences in institutional reliance on fully online, partially online, and in-person modalities, the findings provide a clearer picture of how distance education is currently structured across U.S. higher education. The data show that while many institutions continue to emphasize traditional in-person models, others - particularly those serving nontraditional, adult, or geographically dispersed learners have moved significantly toward fully online delivery. These trends have important implications for academic administrators and instructional designers seeking to align educational offerings with student needs. Institutions with low levels of online participation may benefit from expanding digital course options to accommodate students balancing work, caregiving, or other responsibilities. Those with high online enrollment must prioritize instructional quality, ensuring that digital environments include robust learning management systems, faculty training, and virtual support services like tutoring and advising. The COVID-19 pandemic accelerated the adoption of online modalities but also revealed gaps in readiness, engagement, and infrastructure. As a result, future modality planning should be intentional and data-informed, drawing on system-wide insights such as those presented here. Institutions can use this evidence to benchmark progress, allocate resources strategically, and build inclusive, flexible learning ecosystems. Furthermore, while this study focuses on enrollment trends, future research should explore educational outcomes to assess whether online education not only expands access but also promotes equity and long-term student success. A more comprehensive understanding of how institutional choices affect engagement, retention, and completion will be essential as higher education continues to evolve in the digital age.

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