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**Kriz Zamanlarında Eğitim Ortamları: Pandemi Sonrası  
Asya ve Afrika'da Okul Dinamiklerinin Sosyal Medya Ağı  
Analizi**

**Educational Environments in Times of Crisis: A Social  
Media Network Analysis of School Dynamics in Post-  
Pandemic Asia and Africa.**

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## Özet

Bu çalışma, COVID-19 sonrası dönemde Asya ve Afrika'daki okul ortamlarının sosyal medya platformları aracılığıyla nasıl algılandığını ve temsil edildiğini araştırıyor. Araştırma, sosyal ağ analizi ve doğal dil işlemeyi birleştiren karma yöntemli bir yaklaşım kullanarak, eğitimle ilgili dijital söylemlerin kriz zamanlarında nasıl geliştiğini araştırıyor. Sosyal ekoloji teorisi, sosyal ağ teorisi ve dijital vatandaşlık çerçevelerinden yararlanarak, bu dijital alanlardaki merkezi aktörleri, temaları ve duygusal anlatıları tanımlar. Temel bulgular, kurumsal güven, dijital eşitsizlik, ruh sağlığı ve halkın politika oluşturma süreçlerine katılımı ile ilgili derin endişeleri vurgulamaktadır. Çalışma, sosyal medyanın sadece bir ifade platformu olarak değil, aynı zamanda katılımcı bir yönetim aracı olarak da işlev gördüğünü ve eğitim politikalarını tabandan şekillendirdiğini ortaya koyuyor. Bölgeler arası bir analiz yoluyla, Asya ve Afrika'daki eğitim paydaşlarının farklılaştırılmış deneyimlerini ve dijital dinamiklerini vurgular. Bulgular, dijital seslerin eğitim politikası oluşturma ve kriz müdahale çerçevelerine entegre edilmesi için stratejik öneriler sunuyor.

**Anahtar Kelimeler:** Dijital Eğitim, Sosyal Medya Söylemi, Eğitim Politikası, Katılımcı Yönetişim, Pandemi Sonrası Okullaşma

## Abstract

This study explores how school environments in Asia and Africa were perceived and represented through social media platforms during the post-COVID-19 era. Using a mixed-methods approach that combines social network analysis and natural language processing, the research investigates how digital discourses around education evolve in times of crisis. Drawing on social ecology theory, social network theory, and digital citizenship frameworks, it identifies the central actors, themes, and emotional narratives within these digital spaces. Key findings highlight deep concerns about institutional trust, digital inequality, mental health, and public participation in policymaking. The study reveals that social media acts not only as a platform for expression but also as a participatory governance tool, shaping education policies from the grassroots level. Through a cross-regional analysis, it emphasizes the differentiated experiences and digital dynamics of educational stakeholders in Asia and Africa. The findings offer strategic recommendations for integrating digital voices into education policymaking and crisis response frameworks.

**Keywords:** Digital Education, Social Media Discourse, Educational Policy, Participatory Governance, Post-Pandemic Schooling

## Highlights

- Post-pandemic school discourse in Asia and Africa analyzed via social media.
- Digital inequality and trust issues influenced education policymaking.
- Social media emerged as a tool for participatory governance in education.

## Introduction

The COVID-19 pandemic has caused an unprecedented disruption in global education systems, bringing about radical transformations at structural, pedagogical and societal levels (Bozkurt & Sharma, 2020; Reimers & Schleicher, 2020). The prolonged closure of schools, the sudden shift to distance education, and the digitization of forms of interaction between educational actors have become a crisis, especially in low- and middle-income regions such as Asia and Africa (UNESCO, 2021; Onyema et al., 2020). The lack of digital infrastructure in these regions has increased the visibility of social inequalities in educational settings, making school ecosystems even more fragile.

There are many studies in the existing literature on institutional strategies and online teaching practices to ensure continuity of education in times of crisis (Daniel, 2020; Zhao, 2020). However, the majority of these studies focus on institutional responses and pedagogical adaptations in high-income countries, ignoring the socio-political dynamics, forms of pedagogical resistance and patterns of digital discourse in the educational contexts of the Global South (Thaheem et al., 2022; Dabrowski, et al., 2022). This makes it difficult to understand how digital platforms become spaces for public deliberation in times of crisis and how participatory educational discourses in these spaces influence policy making.

In recent years, social media platforms, especially Twitter and Facebook, have transformed into dynamic digital spaces where educational experiences, social demands and crisis responses are made visible. Beyond individual narratives, these platforms function as digital civil society spaces where collective discourses, emotional forms of solidarity and alternative policy proposals are produced (Greenhow & Chapman, 2020; Mishra et al., 2022). Education-related social media content not only reflects user sentiments, but also generates data-driven policy signals on education and provides strategic indicators for decision-makers. In this context, Social Media Network Analysis (SMNA) offers a powerful methodological tool for mapping the structures, interaction intensities and discourse clusters of multi-actor digital discourses (Gruzd & Mai, 2020).

The unique contribution of this study is its multi-layered examination of how school

environments in Asia and Africa have been represented through social media in the post-pandemic era through empirical data. Responding to pedagogical and sociological gaps in the existing literature, the study analyzes how digital discourses, perceived educational crises and alternative policy demands are shaped through social media. Specifically, it discusses the impact of digital interactions on educational policies in times of crisis within the framework of next-generation concepts such as algorithmic inequality, digital citizenship, and participatory digital governance (Choi, 2016; Tangül & Soykan, 2021).

In this context, the main purpose of the study is to reveal the perceptions, priorities and strategic narratives of educational stakeholders in Asia and Africa about school environments through social media discourses. In order to achieve this aim, the following **research questions** were posed:

1. What are the prominent discourse themes about school environments on social media platforms in the post-COVID-19 period?
2. How do these digital discourses differ across Asia and Africa?
3. Which actors are central to the discourse network in social media interactions?
4. What are the effects of social media-based discourses on education policies?

The article structure proceeds as follows: First, a summary of the literature on education during pandemics and crises is presented. Then, the theoretical foundations of the study are introduced; social ecology theory, social network theory and digital citizenship theories are explained. The next section details the data collection process, sample characteristics and analysis techniques. The findings section presents the results of the thematic, structural and affective analyses, and the final section discusses the findings in the light of the findings and provides policy recommendations.

## Theoretical Framework

The COVID-19 pandemic has radically transformed education systems not only on pedagogical but also on structural, psychological and socio-political levels (Viner et al., 2020). In order to understand these multi-layered transformations in education during times of crisis, theoretical approaches that can holistically analyze not only individual-level behaviors but also digital interaction networks, structures of social inequality, and online public discourses are needed. In this context, the theoretical foundation of the study is shaped around three main axes within a multi-level structure:

1. **Social Ecology Theory:** Understanding how digital education discourses are shaped in multi-layered contexts (micro, meso, macro),
2. **Social Network Theory:** Mapping inter-actor relations and discourse clusters in digital public spaces,
3. **Digital Discourse Analysis & Digital Citizenship:** Analyzing the contextual, ethical and participatory dimensions of online publicness.

These three theories are used in a unity that complements each other and increases explanatory power; social ecology is positioned as the main umbrella theory. Within this framework, the other two approaches have assumed instrumental functions in the analysis of interaction patterns and discourse content on the digital plane.

### **1. Social Ecology Theory: The Multilayered Nature of the Crisis**

Bronfenbrenner's (1979) social ecology theory is a multi-level model that examines the development of the individual in interaction with environmental systems. Layers such as microsystem (individual-family), mesosystem (school-community) and macrosystem (political-structural level) have witnessed significant transformations during the pandemic. In particular, domestic economic pressures, lack of digital devices and uncertainties in school policies show how these layers interact with each other (UNESCO, 2021; Dabrowski, et al., 2022).

In this study, social media platforms are considered as the digital representation of the mesosystem. These digital spaces where educational discourses are produced, transmitted and reshaped online become social spaces where both individual concerns and structural inequalities are made visible. At this point, social ecology theory provides a functional framework for understanding that social media data are not only individual reflections but also the output of systemic effects.

### **2. Social Network Theory: Structural Mapping of Digital Interactions**

Social network theory treats individuals and institutions as "nodes" and the relationships between them as "edges" (Scott, 2017; Wasserman & Faust, 1994). In this context, social media environments are not only spaces for content production, but also digital systems where relational dynamics are reconstituted. Actors such as teachers, trade unions, NGOs and parent groups are intermediaries within this network, both producing knowledge and reproducing other content (Carpenter & Krutka, 2021).

Based on this theoretical approach, the social network analysis (SNA) component of the research works at three main levels: (1) **Identification of central actors** (betweenness &

eigenvector centrality), (2) **Decomposition of discourse clusters** (modularity & density analysis), (3) **Identification of regional interaction patterns**. In this context, social networks generate both quantitative and visual data to understand how digital citizenship dynamics are shaped.

### **3. Digital Discourse Analysis and Digital Citizenship: Traces of Participatory Publicness**

Digital discourse analysis aims to analyze not only the subject matter of content produced online, but also its tone, emotional content and clues to power (Jones & Hafner, 2021). This approach to analysis assumes that digital platforms are not only technological tools but also new public spaces where social belonging, criticism and demands for solutions are expressed.

Post-pandemic social media discourses have revealed **horizontal digital citizenship** practices. These practices include not only individual digital skills but also dimensions such as ethical discourse production in times of crisis, collective mobilization and public intervention capacity (Choi, 2016; Tangül & Soykan, 2021; Selwyn, 2023). In this respect, digital citizenship offers a new governance paradigm in which education policies are shaped from the bottom up.

**Table 1.**

#### *Inter-Theoretical Integrity*

Theory	Role	Relation to the Research Question
Social Ecology Theory	Analyzes the contextual plane of digital discourses	RQ1, RQ2: Distribution of discourse themes according to contexts
Social Network Theory	Reveals the interaction structure between actors	RQ3: Identifying influential actors and interactions in the digital space
Digital Discourse Analysis & Citizenship	Analyze ethical, emotional and political aspects of content	RQ1, RQ4: Policy impact of discourses and citizenship practices

**Table 2.**

#### *Literature Summary Table*

Author/Year	Crisis Type	Impact on Education	Method	Findings
Coleman (2021)	Pandemic	Inequality of online access	Survey	60% had problems accessing the internet
Katsarou et. al. (2023)	Health Crisis	Teacher burnout	Qualitative	Lack of social support creates stress among teachers
Gul, & Khilji (2021)	COVID-19	Digital transformation of the curriculum	Content analysis	Inadequacy of emergency plans highlighted
Koçoğlu et. al. (2020)	Pandemic	Psychosocial impacts	Karma	Uncertainty in students, helplessness in teachers

## Methodology

### Research Design

This research is structured within a **mixed-methods** approach. The main aim of the research is to examine both **quantitative (social network analysis)** and **qualitative (thematic and emotional content analysis)** representations of school environments in Asia and Africa on social media platforms in the post-COVID-19 era. This approach allows for a holistic understanding of the structural features of digital interactions (who is the influential actor, how many connections there are) and the depth of discourse (what is said, how is it said) (Creswell & Plano Clark, 2017).

**Table 3.**

*Methodological Mapping to Research Questions:*

Research Question	Applied Method
RQ1: What are the prominent themes of digital discourse?	Thematic Content Analysis with LDA
RQ2: How do discourses differ in Asia and Africa?	Regional comparative NLP + network analysis
RQ3: Which actors are central to digital discourse networks?	Betweenness & Eigenvector centrality
RQ4: Do social media discourses influence policymaking processes?	Thematic coding + network centrality correlation

### Participants and Sample

The population consists of social media users in Asia and Africa between 2021-2023. The sample was selected through purposive sampling; only users who produced content on education were included. Since the demographic information (age, occupation) of the participants is not publicly available, the analysis was based on content and location.

#### Data Set Distribution:

- Twitter: 320,000 tweets
- Facebook: 140 open groups, around 95,000 posts and comments
- YouTube: 230 videos, 42,000 user comments
- Regional Ratio: 53% Asia, 47% Africa

Data was collected only from publicly available accounts and groups. User profiles were categorized by language, location and content context.

### Data Collection Process and Tools

Data were collected in a three-stage process between January 2021 and December 2023:

- **Twitter:** Data extraction based on hashtags and keywords (e.g. #schoolreopening, #remoteteaching) with Twitter API v2
- **Facebook:** Extracting content from open parent and teacher groups with Netlytic

- **YouTube:** Comment data was collected with NodeXL; content was filtered by themes such as "distance education experience" and "back to school"

#### **Data Cleansing:**

- *Bot-detection* algorithms (e.g. Botometer API) are used for spam, advertising content and automated bot sharing.
- Duplicate posts were removed, grammatical errors and emojis were normalized.
- Only content matching specific keyword clusters was analyzed.

#### **Data Analysis Process**

The analysis part of the research is structured at three levels:

#### **Social Network Analysis (SNA)**

Objective: To identify influential actors, clusters and relationship structures in digital discourse.

##### **Criteria Used:**

- **Betweenness Centrality:** Identifies the nodes that control the information flow of the network
- **Eigenvector Centrality:** Measures the connectivity of influential nodes to other influential nodes
- **Modularity and Clustering:** Level of disaggregation of discourse groups
- **Density Analysis:** Interaction level of the overall network
- **Visualization:** Interactive network maps produced with Gephi software

#### **Thematic and Emotion Analysis (NLP)**

**Objective:** To reveal the thematic structure and emotional tone of the content

- **Topic Modeling:** 5 main themes were identified with Latent Dirichlet Allocation (LDA)
- **Sentiment Analysis:** Positive, negative, neutral sentiment coding with TextBlob and VADER

**Table 4.**

*Coding Sample (Themes and Sub-Codes):*

Theme	Sample Codes
<b>Teacher Roles</b>	"insufficient support", "professional burnout"
<b>Student Emotions</b>	"loneliness", "lack of motivation"
<b>Parent Concerns</b>	"insecurity", "lack of digital literacy"
<b>Policy Criticism</b>	"indecision", "decisions not implemented"
<b>Digital Access Issues</b>	"lack of equipment", "lack of internet connection"



### Regional Comparison

- **Objective:** To reveal differences in discourse, emotions and network structures between Asian and African samples
- **Tools:** Pandas & Seaborn (Python), regional NLP + SNA comparative graphs and tables
- **Measures:** Distribution of discourse themes, intensity of emotions, differences in actor visibility

### Validity and Reliability

- **Triangulation:** Twitter, Facebook and YouTube data cross-analyzed
- **Inter-coder reliability:** 81% agreement (Cohen's Kappa = 0.81)
- **Data Source Assurance:** Only content that was publicly available and free of user license violations was included
- **Algorithmic validation:** Sentiment label accuracy at 95% confidence level on NLP outputs

### Ethical Approval and Confidentiality Procedures

The following ethical principles were applied during the research process:

- **Identity Privacy:** All usernames have been anonymized and changed; sample content is randomized
- **Data Processing Ethics:** Data security is ensured in accordance with the European Union General Data Protection Regulation (GDPR) and the [country name] Information Protection Act
- **Informed Consent:** Individual consent was not required as only publicly available content was used

## Findings

This chapter presents the findings of the multi-layered analysis of social media content under six thematic headings. The themes were supported by both natural language processing (NLP) techniques and social network analysis. Each theme is structured in a way that takes into account the contextual density of the content, its regional differences and its impact on educational policies.

### Theme 1: Perceived Uncertainty and Institutional Insecurity

Twenty-seven percent of social media discourse centered on the themes of mistrust of the education system, uncertainty in decision-making processes and lack of public communication. These discourses are particularly concentrated in countries such as Turkey, India and Bangladesh.

*"There are 38 students in my class, no glass, no disinfectant. How can there be education under these conditions?" (Twitter, Turkey - @veli\_anne34)*

*"One morning we hear that schools open, the next day they close. It is not clear who makes the decisions and why." (Facebook, India - Parent Group)*

**NLP data:** High frequency of terms such as *"trust deficit," "chaos," "unclear orders," "unsafe environments"*.

**Emotion distribution:** 66% negative, 23% neutral, 11% positive.

These findings suggest that in times of crisis, educational decision-making processes are evaluated not only by the credibility of central authorities but also by the quality of their communication with the public (Hynes et. al., 2020; Reimers & Schleicher, 2020).

### **Theme 2: Digital Inequality and Educational Exclusion**

38% of the content from the African region focuses on digital access issues, lack of devices and limited data packages. While this theme is also present in the Asian sample, in Africa it is reflected as a much more fundamental right to education issue.

*"Four kids in one house, one phone. Which one of us will go to class?" (Facebook, Kenya - Parent Group)*

*"When the internet ends, school ends. Education has become a luxury for us." (Twitter, Nigeria - @student\_miriam)*

**Term examples:** *"no device," "offline," "can't afford data," "exclusion"*

**In Africa, 76% have a negative sentiment; in Asia, the picture is more moderate at 49%.**

Katsarou et. al. (2023) and UNESCO (2023) reports also overlap with these contents. However, the difference of this study is that it goes beyond statistical reports and reveals **individuals' experiences of exclusion with an emotional tone.**

### **Theme 3: Emotional Attrition and Mental Health**

19% of the content from students focuses on mental challenges such as loneliness, anxiety and loss of motivation. In Asia, individual narratives ("I am lonely", "I am not motivated anymore") are prominent, while in Africa, messages of collective support stand out.

*"I haven't seen anyone since school closed, the screen is my only friend." (YouTube Comment, Bangladesh)*

*"We are here, we will support each other. Digital solidarity is essential." (Facebook, Uganda - Youth Group)*

**In sentiment analysis:** *"anxiety", "burnout", "hopeless", "disconnected"* stand out. Expressions such as *"solidarity", "support", "together"* were used 31% of the time in African

content.

This difference points to cultural contexts. While community-based discourses are more predominant in African societies, individual forms of expression are more prominent in Asian societies (Tan, 2021; Viner et al., 2020).

#### **Theme 4: Social Network Structure and Influential Actors**

The network analysis identified 13,248 nodes and 38,114 links. Three main actor types were identified based on betweenness and eigenvector centrality criteria:

**Table 5.**

*Social network structure*

User Name	Region	Role	Network Location
@ogretmenhklari	Turkey	Trade Union	Content creator, agenda setter
@AfricaEduAlliance	South Africa	NGO	Policy advocacy actor
@Right2Learn	India	Student Coalition	Mobilization provider

The network visualization was created with Gephi and shows limited Asian-African interactions. This suggests that digital public spaces are localized and culturally divided.

#### **Theme 5: Regional Discourse Differences**

**Table 6.**

*Regional Differences*

Theme	Asia-Oriented Discourses	Africa-Oriented Discourses
<b>Hygiene and Safety</b>	Central issue	Secondary importance
<b>Digital Access</b>	Moderate problem	Key crisis theme
<b>Mental Health</b>	Individual emotions, isolation	Community solidarity, discourses of support
<b>State Criticism</b>	Clear and direct	Indirect and systemic criticisms

This picture shows that social media discourses are shaped by cultural and political contexts, not just technical or pedagogical ones.

#### **Theme 6: Influences on Policy**

The discourses produced by central actors on social media networks have not only generated digital responses, but in some cases directly triggered policy decisions:

- **In Turkey**, the hygiene demands of the @okulacilsin movement were responded to in the 2022 MoNE report (MoNE, 2022).
- Campaigns on digital inclusion **in Africa** are referenced in UNESCO's funding allocation (UNESCO, 2023).

This suggests **that bottom-up information flows** can translate into concrete policy

outputs through social media (Tangül & Soykan, 2021).

## Discussion

This study analyzed social media discourses on school environments in Asia and Africa post-COVID-19, revealing the multidimensional impact of digital platforms on education systems in times of crisis. It has shown how social media content structures not only individual responses, but also shifts in public perceptions, policy demands, and emotional forms of solidarity. The findings both overlap with existing literature and open the door to new theoretical interpretations of digital public spheres. The discussion is structured under four main headings and theoretical feedback is provided in each section.

### ***The Place of Social Media Insecurity and Digital Inequality Discourses in the Literature***

One of the key findings of this study is that **the crisis of institutional trust** in education systems is clearly articulated through digital discourses. While Hynes et. al. (2020) and Clum et. al. (2022) explain such trust deficits more in terms of structural deficiencies at the decision-maker level, this research has made visible the perceptions, criticisms and demands of **grassroots individuals** through social media platforms with direct empirical data.

The ambiguity of decision-making processes, contradictory management explanations and inadequate crisis communication, especially in parent-teacher exchanges in countries such as Turkey and India, illustrate **how macro-level institutional insecurity is reflected in micro-discourses**. This is consistent with the **direct impact of macrosystem crises on microsystem experiences** in Bronfenbrenner's social ecology theory.

Likewise, the theme of digital inequality is experienced not only as a lack of technological infrastructure but also as **social exclusion**. While Mishi and Anakpo (2022) present these inequalities numerically, the contribution of this study is to analyze **how inaccessibility is internalized through individual feelings of anger, helplessness and humiliation** in digital contexts. In this respect, the study adds not only a structural but also an experiential layer to the concept of **digital justice in education**.

### ***The Shaping of New School Dynamics in the Digital Space***

The findings reveal that social media platforms function not only as content sharing spaces but also as **digital micro-communities where new generation school dynamics are formed**. The union accounts, student initiatives and parent coalitions that stand out in

the social network analysis represent **the digitalization of inter-institutional networks of relationships**, in line with Bronfenbrenner's concept of mesosystems.

These networks are positioned not only for information sharing but also **as political actors that intervene in decision-making processes**. In this context, Greenhow and Chapman's (2020) "cyber citizenship" approach enables **public interaction spaces** on digital platforms to be considered as structures that increase participation in education.

This transforms the traditional school-government-community triangle and points to the development of **alternative models of educational agency centered on social media**. The @okulacilsin movement in Turkey or student forums in India have become **digital collectives** that are not only reactive but also **policy-making**.

### ***Participatory Digital Governance in terms of Education Policies***

The research shows that social media **enables bottom-up information flow** in times of crisis and that digital discourses can be influential in shaping educational policies. This finding is in line with Ahn and Cañas' (2021) theory of digital citizenship, but the contribution of this study is that it provides strong empirical examples that citizenship **is based on collective and strategic action, not just individualistic**.

For example, in Nigeria, a campaign with the hashtag #DigitalAccessNow resulted in the government allocating a special budget for distance education, a case **where digital discourse directly translated into concrete policy output** (UNESCO, 2023). These examples prove that social media functions not only as a space for complaint, but also as a governance tool with **the capacity to propose solutions and influence practice**.

In this context, digital platforms pave the way for a **more flexible and pluralistic** understanding of education policy **that includes different segments of society in decision-making processes**. Fixed curricula, centralized practices and top-down reforms are being questioned and transformed in these new digital ecosystems.

### ***Emotional and Structural Importance of Digital Voices in Times of Crisis***

The pandemic has had not only cognitive but also **intense emotional effects** on students and teachers. While Lawrance et. al. (2022) and Viner et al. (2020) state that such psychological effects have become widespread, this research shows that these emotions **have transformed into spaces of collective solidarity** through social media.

The prominence of not only individual expressions of emotion but also collective messages of support such as "together", "stay strong", "we are with you", especially in African content, underlines **the digital solidarity capacity of societies**. These discourses can be

interpreted not only as coping strategies of individuals but also as **digital versions of social resistance mechanisms**.

In this context, social media functions not only as information sharing but also as a **psycho-social support environment** and contributes to making education systems more resilient to crises. In terms of social ecology theory, this shows **that emotional needs at the microsystem level can be met through digital environments**.

### ***Theoretical Turn Theory-Findings Integration***

At the end of the discussion, we return to the three theoretical frameworks underpinning the study and re-evaluate the findings in the light of these theories:

**Table 7.**

#### *Theoretical Integrations*

Theoretical Framework			Relation to Findings
Social Ecology Theory (Bronfenbrenner)			Digital platforms have made microsystem-macrosystem interactions visible in moments of crisis.
Social Network Theory			Influential actors and digital nodes played a central role in network structures and managed the flow of discourse.
Digital Discourse Analysis & Citizenship			Emotional, political and strategic content documented the transformation of digital citizenship practices.

## **Conclusion and Recommendations**

### ***Main Findings of the Study***

This study analyzes how school environments in Asia and Africa have been represented on social media platforms in the post-COVID-19 era, revealing the impact of digital discourses on education policies in times of crisis. Using a mixed-methods approach, the study holistically examined both structural social network relations and thematic patterns of content.

The findings are summarized below:

- **Discourses of safety and uncertainty** were voiced by parents and teachers, especially in the Asian sample, and elements such as hygiene conditions, lack of crisis communication and managerial indecision were the subject of intense criticism.

- **Emotional discourses about the educational environment were characterized** by the themes of loneliness, loss of motivation and anxiety in student content, and burnout and problems of belonging in teacher posts.
- **Digital inequality** has been reflected as the main problem that directly limits access to education, especially in African countries, with lack of devices, insufficient internet packages and technological infrastructure problems being intensely voiced.
- **Network analyses** have shown that teachers' unions, NGOs and student organizations are central actors in discourse production and dissemination. These actors not only generate criticism but also intervene in policy-making processes by circulating **alternative solutions**.
- Social media has become **not only a reactive site of grievance**, but also a medium through which **proactive digital citizenship practices** develop and public participation is redefined.

### ***Strategic Recommendations for Educators, Decision Makers and Policy Makers***

In the light of the findings, the following policy and implementation recommendations have been developed:

#### **1. Establish Digital Feedback Systems**

User discourse on social media platforms should be systematically monitored as a source of strategic feedback for education policies. Artificial intelligence-supported digital dashboards should be developed and integrated into decision support systems (Mishra et al., 2022).

#### **2. Establish Psycho-Social Security Protocols**

Digitally accessible psychological counseling services for students and teachers should be expanded; institutional support mechanisms for teachers (psychological supervision, solidarity platforms) should be developed and institutionalized (Tan, 2021).

#### **3. Develop Multi-Layered Dialogue Mechanisms with Digital Actors**

Continuous communication with teacher communities, NGOs and civil initiatives, which are central to the network analysis, should be established to benefit from their field knowledge and incorporate their recommendations into decision-making processes.

#### **4. Apply Regional Response Models to Digital Inequalities**

**Local-level intervention programs** should be implemented in rural and disadvantaged areas, including internet access, device provision and digital literacy trainings; the right to digital access should be redefined at the constitutional level (Olaniran & Uzoka, 2022).

#### **5. Crisis Communication Should Be Revised Based on Social Media**

In possible future crisis situations, social media should be transformed from a passive information tool into an essential component of a fast, participatory and interactive crisis

communication infrastructure.

### **Limitations and Suggestions for Future Research**

#### **Limitations:**

- **Platform Limitations:** Only data was collected from text-based platforms such as Twitter and Facebook. Visual-network-based platforms such as TikTok and Instagram were excluded.
- **Language and Cultural Diversity:** The research dataset is largely based on Turkish and English content. Content in other languages (e.g. Arabic, Swahili, Hindi) was excluded.
- **Intent and Topic Context:** In automated content analyses, complex contexts such as post intent (irony, humor, passive aggression) were not adequately analyzed.

#### **Suggestions for Future Research:**

**Table 8.**

#### *Suggestions*

Research Area		Description
<b>Cross-Cultural Comparison</b>	<b>Discourse</b>	Cultural comparisons of discourse patterns in sub-regions of Asia and Africa should be made.
<b>In-depth Analyses</b>	<b>Qualitative</b>	Content should be enriched with discourse tone, metaphor analysis and contextual intention analysis.
<b>Student Research</b>	<b>Perspective</b>	Youth content on platforms such as YouTube, TikTok and Reddit should be analyzed and the youth perspective should be centered.
<b>Time Series Analysis</b>	<b>Discourse</b>	How discourses change in different phases of the pandemic should be monitored through longitudinal analyses.
<b>Models for Policy Impact</b>	<b>Monitoring</b>	The concrete impact of social media campaigns on policy should be documented through case studies.

## **Conflict of Interest and Ethics Statement**

The authors do not declare any conflict of interest. This research study complies with research publication ethics. The scientific and legal responsibility of the articles published in ISTL belongs to the authors.

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**Author 1:** Research, Resources, Software, Formal Analysis

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