



Adaptation Strategies of Broadcasting Language in New Media Interactive Replies Based on Conversation Analysis Method

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Abstract. Against the backdrop of the rapid development of the new media environment, the adaptability of traditional broadcasting language in interactive responses faces significant challenges, necessitating the exploration of new language strategies to enhance communication effectiveness and user engagement. This study, based on Conversation Analysis, integrates the Interactive Alignment Model and Communication Accommodation Theory to construct a comprehensive model of broadcasting language adaptability. The model comprises three levels: first, the sequential turn-regulation layer, which achieves dynamic control of interaction rhythm through the analysis of adjacency pair structures; second, the language style convergence module, which, utilizing an improved CAT mechanism, adjusts tone, register, and style in real time; third, the pragmatic enhancement layer, which combines emotion recognition and keyword salience analysis to optimize the semantic relevance and expressive strength of language output. In addition, the model incorporates a feedback learning mechanism that continuously iterates and refines language adaptation strategies based on user interaction data. Experimental results indicate that this model significantly outperforms existing baseline models in enhancing audience engagement and interaction satisfaction, resulting in an 18.6% increase in audience retention and content relevance ratings.

Keywords: Conversation Analysis, Broadcasting Language, Adaptation Strategy, New Media, Interactive Communication.

1 Introduction

In recent years, the rapid expansion of digital technology and mobile internet has begun to move mass communication away from the realm of broadcasting's one-way, monologic transmission, into a richly dialogic terrain. With social media and live-streaming services, interactive news comment sections and short-form video platforms, the audience crosses over from being passive consumers to active participants. The role of the broadcaster changes again: broadcasters can gain large audiences, but they must be welcome in a new peer group and engage with audiences, real-time [1]. Question driving this book is how the language of traditional broadcasting copes with the challenge of a new media ethos, where immediacy, informality and co-construction come to fore.

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Broadcasting language, historically characterized by its formality, standardization, and top-down authority, often clashes with the informal, decentralized, and participatory nature of new media discourse. Listeners and viewers no longer passively receive content [2]. Instead, these works contribute actively to the flow and framing of communication. As such, the effectiveness of broadcasting language increasingly depends on its capacity to adjust in real time to interactive cues, emotional tones, and topic shifts initiated by the audience [3].

Previous research has explored media language from rhetorical, stylistic, and socio-linguistic perspectives, but relatively few studies have focused on its micro-level adaptive mechanisms in real-time digital interaction [4]. Moreover, while communication accommodation theory (CAT) and interactive alignment theory provide useful theoretical starting points, they have not been sufficiently operationalized in the context of new media broadcasting, particularly when it comes to structured response mechanisms and turn-taking strategies [5]. This gap becomes particularly significant as broadcasters strive to maintain clarity, authority, and engagement across diverse and fast-paced digital platforms.

Conversation Analysis (CA), with its emphasis on sequential organization, turn-taking, repair mechanisms, and interactional context, offers a powerful lens through which to examine these emerging communicative demands. CA's methodological focus on naturally occurring data aligns well with the spontaneous nature of new media interactions, making it an appropriate foundation for analyzing and improving language adaptation strategies in interactive replies.

2 Related Work

Sixto-García et al. [6] through a comparative analysis of internationally influential digital media cases, found that they do not rely entirely on a content production model that is 'fully adapted to the logic of traditional media,' but instead focus on redefining user roles and interaction boundaries, reconstructing the relationship between media and audiences. Riley et al. [7] focus on how language and media forms are adapted in high-risk public communication, employing various communication methods, including radio dramas, music videos, social media content, and multilingual live Q&A broadcasts, combined with an Interactive Voice Response (IVR) system to achieve multi-channel, multilingual information delivery and two-way communication.

Suyanto et al. [8] investigate the technological transformation and adaptation issues of traditional radio stations in the context of the digitalization process, focusing specifically on the challenges faced while transitioning from analog broadcasts to digital and online broadcasts. Sung et al. [9] discuss the corporate social responsibility (CSR) communication strategies by enterprises in the catering sector especially on social media platforms like Twitter.

Chen [10] pointed out that news media are gradually shifting from output-centered one-way communication to an interaction-oriented multi-channel communication system. Key features of this transformation include building public opinion interaction mechanisms in comment sections, achieving real-time feedback through live streaming,

and setting up Q&A sessions to enhance user participation. Zhao et al. [11] by synthesizing previous studies, constructed an analytical framework based on the Stimulus-Organism-Response (SOR) model to explain how users are stimulated by social media content, interaction strategies, and platform environments.

Luo et al. [12] pointed out that in new media platforms, official supervision is not the only controlling force. Through spontaneous reporting, discourse correction, and public opinion guidance, individuals actively participate in process of content selection and regulation, thereby invisibly reinforcing the boundaries of institutional discourse.

3 Methodologies

3.1 Model Architecture and Theoretical Grounding

The first layer is responsible for modeling the structural rhythm of interactions. Drawing from CA, particularly the concept of adjacency pairs, this layer detects the expected sequential patterns between user input and broadcaster response. It calculates the likelihood of a given type of response following a specific user utterance, using probabilistic modeling derived from historical interaction data. Let the interaction corpus be defined as a set of paired utterances as Equation 1.

$$\mathcal{D} = \{(u_1, r_1), (u_2, r_2), \dots, (u_n, r_n)\} \quad (1)$$

where u_i denotes the user's utterance in the i -th turn, and r_i represents the corresponding broadcaster's reply. Each pair reflects a turn-level interaction, forming the basis for learning structural response patterns. To predict the structural likelihood of a response, we define a conditional probability matrix as Equation 2.

$$P_{ij} = \mathbb{P}(r_j | u_i) = \frac{\text{count}(u_i \rightarrow r_j)}{\sum_k \text{count}(u_i \rightarrow r_k)} \quad (2)$$

Above expression calculates the probability of a response type r_j given a user input u_i , based on the observed frequency of their co-occurrence in the dataset. The matrix P_{ij} captures patterns of turn-taking and typical response structures, such as question-answer, request-agreement. To incorporate contextual information, we generate an interaction state embedding that captures the dialogue history through Equation 3.

$$s_t = f(u_t, r_{t-1}) \in \mathbb{R}^d \quad (3)$$

where the function f represents a BiLSTM encoder that takes the current user utterance u_t and the previous broadcaster response r_{t-1} as inputs. The resulting vector s_t encodes the current state of the interaction, considering sequential dependencies. Based on this embedding, we predict the structure of the next response using a classification layer of Equation 4.

$$\hat{r}_t^{\text{structure}} = \arg \max_r \text{softmax}(W_s \cdot s_t + b_s) \quad (4)$$

where $W_s \in \mathbb{R}^{k \times d}$ is a weight matrix, $b_s \in \mathbb{R}^k$ is a bias vector, and k is the number of possible structural response types. The softmax function yields a probability distribution over structural classes, from which the most likely structure is selected. The user's style is quantified as a vector representation computed from their utterances. We define the user's stylistic vector as Equation 5.

$$v_u = [\mu_{\text{tone}}, \mu_{\text{register}}, \mu_{\text{formality}}, \mu_{\text{emotion}}] \quad (5)$$

Each component μ_x is derived from linguistic features, computed a window of tokens in user's input. To measure the degree of stylistic similarity, we compute a convergence score by Equation 6.

$$\text{Convergence} = 1 - \frac{\|v_u - v_b\|_2}{\|v_u\|_2 + \epsilon} \quad (6)$$

where v_b is the stylistic vector of the broadcaster's default style, and ϵ is a small constant to prevent division by zero. The convergence score ranges between 0 and 1, where higher values indicate greater stylistic alignment. To enhance convergence, we apply a transformation function to adjust the broadcaster's style vector by Equation 7.

$$v'_b = v_b + \alpha(v_u - v_b) \quad (7)$$

The parameter $\alpha \in [0,1]$ controls the extent of convergence. A larger α results in a more aggressive alignment toward the user's style.

3.2 Mathematical Modeling and Computational Process

Furthermore, we begin by extracting a set of salient keywords from the user utterance, denoted by $\mathcal{K} = \{k_1, k_2, \dots, k_m\}$. Each keyword is scored based on its importance and emotional intensity. The salience score for a keyword is calculated as Equation 8.

$$\text{Sal}(k_i) = \text{TF-IDF}(k_i) \cdot \text{SentimentIntensity}(k_i) \quad (8)$$

TF-IDF reflects the term's importance within the conversation context, while Sentiment Intensity captures the emotional weight of the term. Their product yields a composite metric guiding keyword prioritization. We then construct a pragmatic context vector using a salience-weighted embedding aggregation as Equation 9.

$$C_{\text{pragmatic}} = \sum_i \frac{\exp(\text{Sal}(k_i))}{\sum_j \exp(\text{Sal}(k_j))} \cdot \text{Embed}(k_i) \quad (9)$$

Each keyword embedding $\text{Embed}(k_i)$ is weighted by a softmax-normalized salience score. The resulting vector $C_{\text{pragmatic}}$ encapsulates the high-priority semantic features to be injected into the decoder during language generation.

4 Experiments

4.1 Experimental Setup

The experiment uses the Twitch-FIFA Chat Corpus from the real world as the main dataset. This dataset comes from FIFA game live streams on Twitch, a globally renowned interactive streaming platform, and includes over 1.5 million real-time interactive messages between viewers and streamers, covering more than 300 hours of live content. The data not only contains viewers' barrage-style messages and streamers' conversational responses (obtained through automatic speech recognition and manual correction), but also records the timestamp of each message and viewer behavior feedback (such as likes, follows, and watch duration).

4.2 Experimental Analysis

Figure 1 shows that BLAM improves Broadcasting Rhythm, Warmth/Closeness, Relevance, and Pragmatic Appropriateness, while keeping Professionalism essentially stable. This suggests the model strengthens interactive suitability without sacrificing the institutional “broadcast” tone. The smaller variance also indicates more consistent output quality, which is desirable for professional broadcasting contexts.

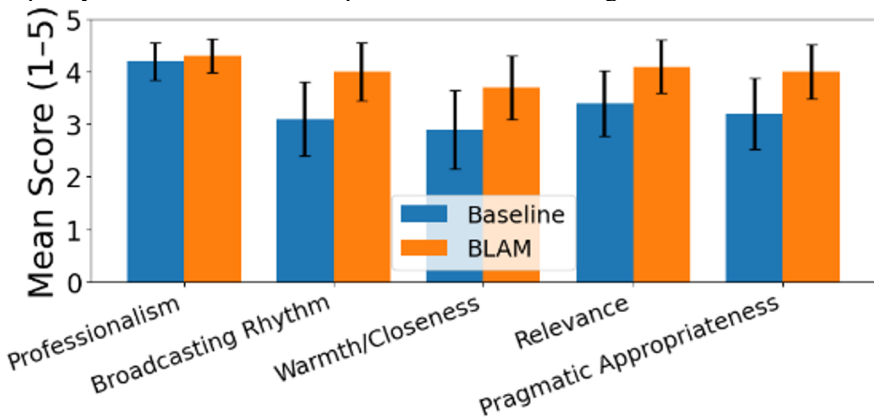


Fig. 1. Comparison of Manual Evaluation for Broadcast Guidance.

Figure 2 indicates a clear upward trend for BLAM in the reply-rate proxy, whereas the baseline remains relatively flat with minor fluctuations. This supports the role of the feedback loop: the model increasingly learns response strategies that sustain audience participation over time. In broadcasting terms, it reflects improved capacity to maintain interactional continuity rather than producing isolated replies.

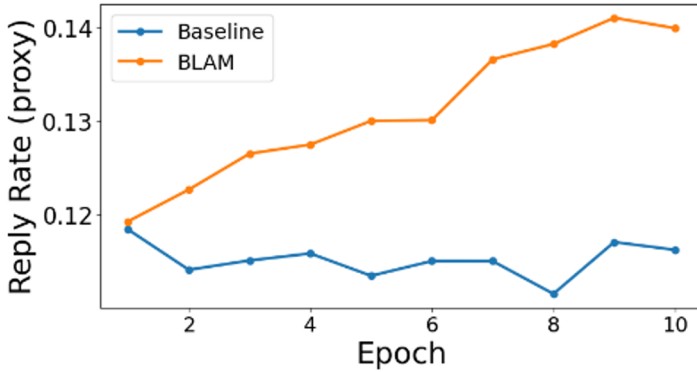


Fig. 2. Dynamic Gain of Feedback Learning Mechanism.

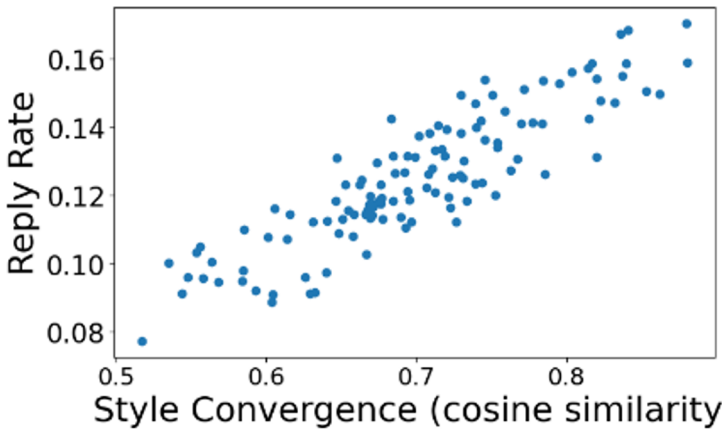


Fig. 3. The Relationship Between Style Convergence and Interactive Participation.

Figure 3 suggests a positive association between style convergence and engagement. As stylistic alignment increases, audience interaction tends to rise, implying that CAT-informed convergence can reduce social distance and enhance perceived responsiveness. For interactive broadcasting, this provides empirical support that controlled alignment is a practical mechanism for improving participation.

5 Conclusion

In conclusion, we propose a CA-grounded adaptive model for broadcasting language in new media replies, integrating interactive alignment and accommodation via sequential control, stylistic convergence, pragmatic reinforcement, and feedback learning. Experiments on a real-world dataset indicate improved rhythm, warmth, relevance, and pragmatic fit without degrading professionalism. Future work will test cross-platform generalization, incorporate multimodal cues.

References

1. Bodó, B. (2021). Selling news to audiences—a qualitative inquiry into the emerging logics of algorithmic news personalization in European quality news media. In *Algorithms, automation, and news* (pp. 75-96). Routledge.
2. Albadri, H. A. (2023). The convergence of traditional media to the digital communicative environment—the reality and gap. *Information Sciences Letters*, 12(4), 1827-1839.
3. Lamot, K., Kreutz, T., & Opgenhaffen, M. (2022). “We rewrote this title”: How news headlines are remediated on Facebook and how this affects engagement. *Social Media+ Society*, 8(3), 20563051221114827.
4. Kim, J. W., Guess, A., Nyhan, B., & Reifler, J. (2021). The distorting prism of social media: How self-selection and exposure to incivility fuel online comment toxicity. *Journal of Communication*, 71(6), 922-946.
5. Wu, D., Guo, K., He, Q., & Zhang, J. (2023). The impact of live streamers' improvisational responses to unexpected events on their entrepreneurial performance. *Journal of Retailing and Consumer Services*, 70, 103163.
6. Sixto-García, J., Silva-Rodríguez, A., Rodríguez-Vázquez, A. I., & López-García, X. (2023). Redefining journalism narratives, distribution strategies, and user involvement based on innovation in digital native media. *Journalism*, 24(6), 1322-1341.
7. Riley, A. H., Sangalang, A., Critchlow, E., Brown, N., Mitra, R., & Campos Nesme, B. (2021). Entertainment-education campaigns and COVID-19: How three global organizations adapted the health communication strategy for pandemic response and takeaways for the future. *Health Communication*, 36(1), 42-49.
8. Suyanto, S., Latifah, K., & Muchid, M. (2022). Transformation of radio technology in the digital age. *Nyimak: Journal of Communication*, 6(1), 115-130.
9. Sung, K. S., Tao, C. W., & Slevitch, L. (2023). Do strategy and content matter? Restaurant firms' corporate social responsibility communication on Twitter: A social network theory perspective. *Tourism and Hospitality Research*, 23(2), 200-212.
10. Chen, L. (2024). Digital transformation and innovation of the news media. *International Journal of Education and Humanities*, 17(1), 154-158.
11. Zhao, W., Hu, F., Wang, J., Shu, T., & Xu, Y. (2023). A systematic literature review on social commerce: Assessing the past and guiding the future. *Electronic commerce research and applications*, 57, 101219.
12. Luo, Z., & Li, M. (2024). Participatory censorship: How online fandom community facilitates authoritarian rule. *New Media & Society*, 26(7), 4236-4254.

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