Right Brain Education in the Digital Age: A Mixed Method Analysis on Facebook and Instagram Posts

1.Introduction

In today's intellectually demanding world, Right-brain education (Hickein,2009, p. 6), which emphasizes the cultivation of creativity and intuition, has emerged as a popular choice among parents seeking to unlock their child's full potential. Social media with its vast reach and engagement, has become fertile ground for disseminating right-brain education practices. This study employs a mixed method analysis on a comprehensive dataset of Facebook and Instagram posts related to right-brain education to answer the research question 'How does the content, sentiment, and engagement of right-brain education posts on Facebook and Instagram reflect the evolution of this educational approach?'.

2.Related Work

Revolutionary research in right-brain education highlights the rapid development of brain from infancy, emphasizing the importance of continuous adaptation in parenting approaches to support children's growth (Hickein,2009, p.15-16). According to raising superstars (n.d.), right-brain education has a positive impact on many aspects of child development, including memory, creativity, problem-solving skills and physical coordination.

Below are two prominent theories that underpin right brain education:

- Hermann's Brain Dominance Theory (Hermann,1996), suggests individuals favour either the left or right hemisphere of the brain, with right-brain education specifically stimulating the right hemisphere (MindTools, n.d.).

- Gardner's Multiple Intelligences Theory (Gardner,1983), proposing various forms of intelligence beyond traditional academic intelligence, with right-brain education incorporating activities that engage multiple senses and learning styles (Cherry,2023).

Social media platforms like Facebook and Instagram play an important role in disseminating information about right-brain education and connecting parents and educators to explore its potential. Influencers are attracting users with success stories and feedback from parents, contributing to the growth of right-brain education communities online.

Moreover, it's also crucial to acknowledge the researches where the concept of left- and right-brain learning has been discredited, emphasizing the need for whole-brain engagement in effective teaching (Dajung et al., 2022, p.3-4). The study of brain lateralization remains an ongoing area of research (Shmerling, 2022).

3.Data

This study utilises a collection of Facebook and Instagram posts promoting right brain education, extracted from public pages that actively engage in posting right brain education content. The data is retrieved as .csv files through CrowdTangle, a public insights tool from Meta by searching for relevant keywords and specific pages. CrowdTangle's advanced search and filter options, as well as its comprehensive coverage across multiple platforms, made it the preferred data source. However, CrowdTangle's accessibility is limited to academic institutions. Therefore, to acquire the necessary

data, I sought assistance from my professor, providing the IDs of top pages and time duration, while my professor retrieved the information on my behalf. The IDs of the top pages were manually filtered from the platforms using the keyword "right brain education." The time frame was chosen to be the last five years, as the oldest of all the posts was from 2018.

4.Methodology

As comprehensive analysis of all posts is impractical due to the vast quantity of data, a sample of the highest-scoring posts is analysed to gain deeper understanding of the factors that contribute to their success. This qualitative analysis involves examining the multi-modal elements of these posts, including linguistic, visual, and presentational aspects, to identify common themes, patterns, and linguistic strategies that resonate with the audience.

To complement this qualitative analysis, a quantitative examination of the type of posts is conducted, analysing its overall frequency in high-scoring posts. This provides insights into the impact of post types on audience engagement and overall post performance.

Additionally, sentiment analysis is conducted using VADER approach due to its proven accuracy in identifying sentiments, particularly in informal and sarcastic texts (Malde,2020). This enables us to identify and interpret the prevalent emotions and sentiments promoted through the posts.

5.Analysis and Results

The dataset is divided into Facebook and Instagram subsets for detailed analysis. The figures used in this analysis are part of the codebooks in Appendix A.

5.1. Facebook Analysis

A comprehensive analysis of Facebook posts from right-brain education pages revealed a strong preference for visual communication. Photo posts constituted over half of the content, followed by text posts and videos (Figure 1). Word cloud analysis of post descriptions (Figure 2) indicated that "child", "parenting", "baby," "learning," and "flashcard" were the most frequently used terms, suggesting the prominence of flashcard techniques in right-brain education activities.

Figure 1: Different Post types on Facebook

Figure 2: Frequently Used Words in Facebook Posts

Top-performing posts based on their overperforming score were overwhelmingly photos accounting for 64% of the top posts (Figure 3). This suggests that photo posts possess a greater ability to capture people's attention.
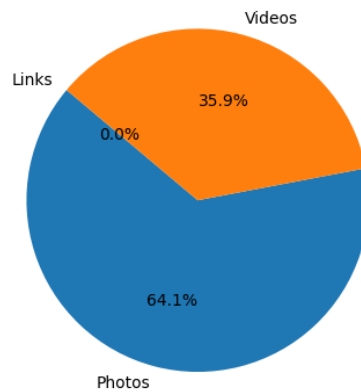
Figure 3: Percentage of Top Performing Facebook Posts

An analysis of the sentiments expressed in post descriptions using VADER sentimental analysis revealed a prevalence of positive sentiment (Figure 4). Among the posts examined, a majority exhibited positive sentiment. This suggests that positive messaging resonates with the target audience and aligns with the overall tone of right-brain education.
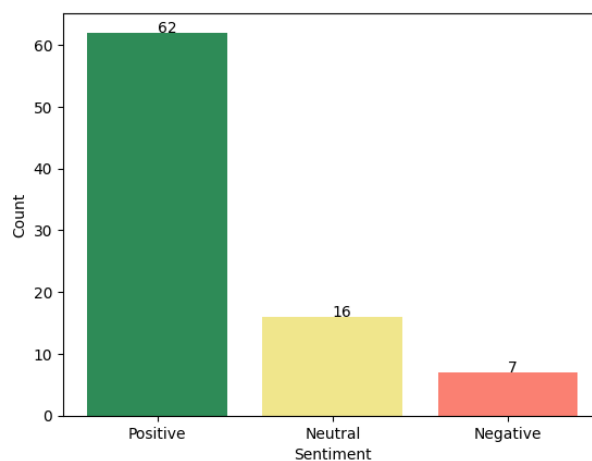

Figure 4: Sentimental Analysis of Post Messages_Facebook

Examining tokenization of positive and negative sentiment descriptions revealed recurring words like "child" and "baby" in both categories (Figure 5). However, negative posts incorporated terms like "failure"," angry", "challenge," and "frustrated," suggesting the expression of obstacles and frustrations (Figure 6). POS tagging showed a variety of grammatical categories, with nouns being the most prevalent as in Table 1.

Figure 5: Frequently Used Words in Positive Description Posts

Figure 6: Frequently Used Words in Negative Description Posts

Table 1: Tokens and respective tags of positive and negative descriptions from top 10 descriptions (Facebook)

Negative Descriptions		Positive Descriptions	
Tokens	Tags	Tokens	Tags
Worried	JJ	Comment	NNP
childs	NNS	favorite	RB
brain	NN	hold	NN
Did	NNP	months	NNS
find	VB	dress	NN
new	JJ	Flashcards	NNS
biggest	JJS	time	NN
challenge	NN	dad	NN
How	WRB	play	NN
remembering	VBG	father	NN
awesome	NNP	offer	VBP
little	JJ	often	RB
Your	PRP$	Brain	NNP
teacher	RB	early	JJ

A closer examination of these pages revealed that they all boast a significant following, ranging from 3,000 to 29,000. Not only that, but each page maintains a publishing frequency of up to 10 posts per week. Furthermore, all of the pages utilize WhatsApp business accounts, which educators utilize to promote their classes and activity products.

To understand what resonates with the audience, the top 20 most engaging photos and videos were analysed. The photo posts either showcased children engaging in right-brain education activities or explained the concept of right brain education, while videos focused on providing tips for handling toddlers or language development of babies through flashcards. This analysis reveals that these pages promote a diverse range of content, encompassing both educational activities and gentle parenting advice. These posts were visually appealing and employed vibrant colours, attracting a wider audience.

5.2. Instagram Analysis

A comprehensive analysis of Instagram posts revealed a clear preference for visual storytelling over videos. Albums accounted for over 70% of the posts (Figure 7), aligning with Instagram's emphasis on photos and visual narratives.
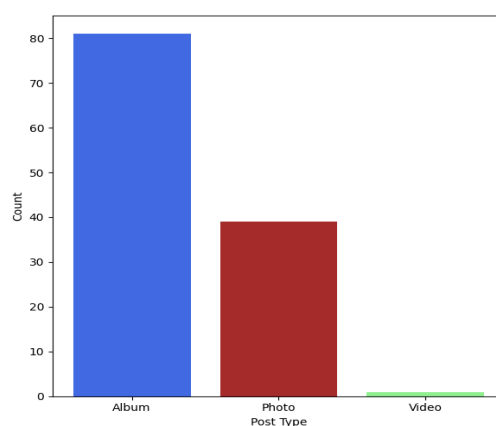

Figure 7: Different Post types on Instagram

Word cloud analysis of Instagram captions (Figure 8) revealed recurring terms like 'parent,' 'child,' 'right brain,' 'rbe,' and 'comment.' This suggests a more casual and informal approach to captioning on Instagram, as evidenced by the abbreviation 'rbe' for 'right-brain education'.
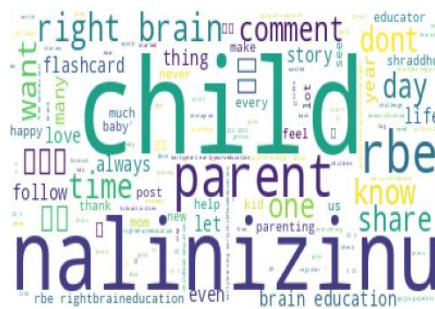

Figure 8: Frequently Used Words in Instagram Posts

An examination of top-performing Instagram posts indicated that both videos and albums contribute equally to their success (Figure 9). This highlights the versatility of visual content on the platform. However, the absence of videos among the top-performing posts further supports the conclusion that albums are more effective in capturing user attention.
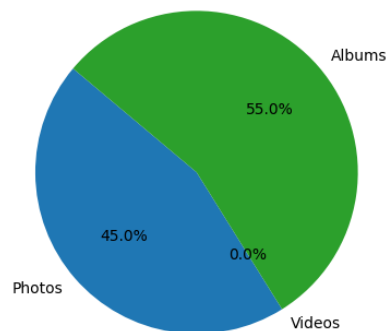

Figure 9: Percentage of Top Performing Instagram Posts

Applying VADER sentiment analysis to top-performing posts revealed a predominance of positive sentiment in captions (Figure 10). This aligns with the overall positive tone of right-brain education and resonates with the target audience.
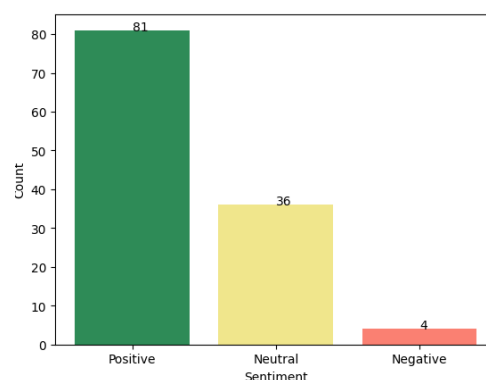

Figure 10: Sentimental Analysis of Post Captions_Instagram

Additional tokenization and POS tagging of positive and negative sentiment captions revealed that a wide range of word categories are used, suggesting that the language used in captions is not limited to specific topics or grammatical structures as seen in Table 2.

Table 2: Tokens and respective tags of positive and negative descriptions from top 10 descriptions (Instagram)

Positive Descriptions		Negative Descriptions	
Tokens	Tags	Tokens	Tags
years	NNS	A	DT
age	NN	life	NN
Learning	VBG	Lets	NNS
anyone	NN	lesson	NN
thought	VBD	Open	NNP
Our	PRP$	I	PRP
Education	NNP	recent	JJ
holding	VBG	Many	JJ
makes	VBZ	ignored	VBD

A comparative analysis of positive and negative sentiment posts on Instagram revealed common terms such as "child," "baby," "mom," "parent," and "rbe." However, negative sentiment posts exhibited a higher frequency of words like "feel," "blame," "delivery," and "c section," hinting that negative Instagram posts often pertain to childbirth experiences.

Figure 11: Frequently Used Words in Positive Description Posts

Figure 12: Frequently Used Words in Negative Description Posts

Each Instagram page had a diverse follower base, ranging from 20k to 58k followers. Interestingly, all pages experienced a steady increase in followers, with an average growth of 500 per page since the time I have started analysis. This indicates that these pages effectively engage their audience and expand their reach.

Finally, I examined the top-performing posts, most of which were albums promoting right-brain education for children. Even though categorized as albums, these posts primarily consisted of images with text content on colourful backgrounds. This suggests that creators are utilizing visually appealing text-based content for effective communication.

5.3. Comparison of Results Between Facebook and Instagram

Table 3 shows a summary of the Facebook and Instagram analysis based on different features.

Table 3: Summary of the Facebook and Instagram analysis

Feature	Facebook	Instagram
Content type	Photo posts dominate (over 50%)	Visual storytelling, primarily albums (over 70%)
Sentiment	Predominance of positive sentiment	Predominance of positive sentiment
Top-performing posts	Photos perform better (64%)	Albums and videos perform equally well
Captions	Limited keyword usage, suggesting captions may not be prioritized	Wider range of keywords, but lack of focus on specific topics or grammatical structures
Followers	Substantial following, ranging from 3,000 to 29,000	Significant range in follower count, from 20k to 58k
Growth	Pages maintain a posting frequency of up to 10 posts per week	Pages experienced a noticeable increase in followers (average growth of approximately 500 followers)
Top-performing posts	Photos featuring children engaging in activities and videos providing parenting tips	Albums promoting right-brain education for children aged 1 to 3

Overall, right-brain education pages on both Facebook and Instagram focus on visual communication and positive messaging.

6.Conclusion

Right-brain education is a relatively new field, and there is a growing body of research on its effectiveness. This study has shown that Facebook and Instagram are powerful platforms for promoting right-brain education. The mixed method approach allowed for a comprehensive understanding of the topic, combining the strengths of both qualitative and quantitative methods. It provided valuable insights into the content, formats, sentiments, and motivations that shape this discourse. The findings suggest that a combination of visual storytelling, positive messaging, and engaging captions is key to success. Further, the study highlights the importance of understanding the unique characteristics of each platform to tailor content effectively. Future research could explore influencers' marketing strategies and analyse the impact of social media on parental perceptions and decision-making.

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Appendix A – Google Colab Coding Notebooks

Facebook Codebook

COMM742_Research Essay coding_Facebook.ipynb - Colaboratory (google.com)

Instagram Codebook

COMM 742_Research Essay Coding_Instagram.ipynb - Colaboratory (google.com)