

The impact of multimedia design on digital training preferences: A qualitative case study on employees' orientation toward LMS-based content

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Suggested citation: Gürsoy, A. C. (2025). The impact of multimedia design on digital training preferences: A qualitative case study on employees' orientation toward LMS-based content. *Journal of Educational Technology and Online Learning*, 8(4), 460-472

Highlights	Abstract
- Digital training content designed based on multimedia principles was perceived as more engaging by employees. - Traditional text-based materials were found to be monotonous and demotivating. - The findings emphasize the importance of applying Mayer's Multimedia Learning Principles in adult learning within corporate contexts.	This study investigates the influence of multimedia design principles on adult learners' preferences regarding digital training content. A qualitative case study was conducted with six employees from a corporate company in Istanbul, Turkey, employing structured interviews and LMS usage reports. Participants experienced two types of digital training materials: multimedia-based content designed according to Mayer's Cognitive Theory of Multimedia Learning, and traditional text-based content. The findings revealed that participants perceived the multimedia-based content as more engaging, comprehensible, and motivating, highlighting factors such as audiovisual integration, coherence, reduced cognitive load, and personalized pacing. In contrast, the text-based content was described as monotonous, demotivating, and cognitively demanding. The study underscores the importance of applying multimedia principles in corporate e-learning environments to enhance learner engagement and retention.
Article Info: Research Article	
Keywords: digital learning, multimedia principles, learning management system (LMS), adult education	

1. Introduction

In today's continuous learning environment, education is no longer limited to physical settings but has transformed into an experience accessible anytime, anywhere through the opportunities technology offers. In this transformation process, digital platforms such as Learning Management Systems (LMS) have found their place not only in academic institutions but also as fundamental tools of adult education within corporate life. However, the success of these systems is not limited to their technical infrastructure; it also depends on the effective design of their content. Considering adult learners' personal learning spaces, individual differences, motivations for learning, and experiences, it becomes evident that numerous factors should be taken into account in content design. In this study, traditional text-based content refers to instructional materials presented primarily through written text with limited visual or interactive support. In contrast, multimedia learning content integrates text, images, audio, and animation in line with Mayer's Multimedia Learning Principles, which emphasize reducing cognitive load and enhancing engagement through audiovisual coherence (Mayer, 2021; Fiorella & Mayer, 2016).

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This study was partly presented as a proceeding at the 5th International Conference on Educational Technology and Online Learning held between 26-29 August 2025.

Doi: <http://doi.org/10.31681/jetol.1789495>

Received 23 Sep 2025; Accepted 19 Dec 2025

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While previous studies have examined the impact of multimedia principles on learner motivation and comprehension (Stern & Graham, 2019; Ilgaz & Gülbahar, 2017), limited attention has been given to how adult learners in corporate environments perceive and prefer such digital training materials. Therefore, this study aims to address this gap by exploring employees' perceptions and preferences regarding multimedia- and traditional-text-based content in a corporate digital training context.

In this context, evaluating whether instructional materials developed within the framework of Mayer's Multimedia Learning Theory enhance learning through user experience is a worthwhile approach. Conducted as a qualitative case study, this research aims to reveal employees' perceptions and preferences regarding digital training content at a corporate company in Istanbul. The main objective of the study is to examine in depth the impact of multimedia-designed content on users, compared with traditional content.

2. Literature Review

The impact of technology on education has become increasingly evident with the widespread adoption of distance education systems and digital learning content. In this context, Learning Management Systems (LMS) have emerged not only in universities but also as essential tools for adult education within corporate settings (Gunawardena & McIsaac, 2003; Moore & Kearsley, 1996). However, beyond the technical infrastructure of these systems, the design of learning materials that encourage users to engage with and effectively use these platforms is critical. The andragogical theory developed for adult learners emphasizes that individual differences, prior experiences, and intrinsic motivation are decisive factors in the learning process (Knowles et al., 2014). Therefore, digital content designed for adult education should be tailored to the characteristics of these learners.

In this regard, Mayer's Generative Multimedia Learning Theory provides a framework for designing effective learning materials. Mayer (2001) argues that learning is an active cognitive process in which information is selected, organized, and integrated to construct meaningful knowledge. Within this framework, principles such as multimedia integration, temporal and spatial contiguity, coherence, redundancy avoidance, and adaptation to individual differences are highlighted as essential design elements (Akkoyunlu & Yilmaz, 2005; Fiorella & Mayer, 2016). These multimedia principles are directly related to Mayer's concept of active cognitive processing. According to the theory, meaningful learning occurs when learners actively engage in selecting relevant information, organizing it into coherent mental structures, and integrating it with prior knowledge. Principles such as coherence and redundancy reduction support the selection process by minimizing extraneous cognitive load, while spatial and temporal contiguity facilitate the organization and integration of verbal and visual information. In this way, multimedia design principles serve as instructional mechanisms that enable active cognitive processing rather than passive reception of information.

Alongside these theoretical perspectives, several studies have focused on the influence of digital content on learner motivation. A meta-analysis by Stern and Graham (2019) demonstrated that multimedia learning environments significantly enhance learners' motivation and improve learning outcomes. In particular, educational materials enriched with media elements such as animation, video, graphics, and audio have been found to increase learners' engagement and interest in the process. Kim and Lee (2021) analyzed adult learners' experiences in online education and how these experiences varied depending on employment status. Their findings indicate that employed individuals are more inclined toward online learning, with factors such as time management and the applicability of content influencing their decisions. Similarly, Ilgaz and Gülbahar (2017) reported that accessibility, flexibility, individual responsibility, physical distance, and time management are key considerations in digital learning preferences.

On the other hand, Onah et al. (2014) and Jun (2005) examined the high dropout rates in Massive Open Online Courses (MOOCs), identifying factors such as lack of time, insufficient motivation, and limited digital literacy as significant contributors. McMahon (2013) also noted that workload, time constraints, and external factors may hinder the completion of online courses. These studies reveal that both intrinsic and extrinsic factors affect not only learners' participation in online courses but also their persistence and completion. Ilgaz and Gülbahar (2017) highlighted the importance of accessibility, flexibility, and self-

regulation in online learning experiences for adult learners. Recent studies have continued to examine these factors in different settings. For example, Yılmaz (2019) looked into how motivation and cognitive load influence multimedia learning environments. He discovered that learner engagement is greatly affected by content design that reduces unnecessary cognitive processing. Zhang and Zhou (2022) also found that multimedia-based learning environments boost adult learners' engagement and motivation, especially when interactive elements and visuals are used effectively. In the workplace, Kim and Park (2020) noted that multimedia principles can improve employees' participation and satisfaction in e-learning systems by matching design features with learners' professional needs and experiences.

In conclusion, digital learning content should not rely solely on technical infrastructure; it should be supported by learner-centered design approaches. In this respect, multimedia-based design principles hold significant potential to increase learners' interest in educational content and to improve the quality of the learning experience. Content that accounts for adult learners' motivational and cognitive characteristics can yield more effective outcomes in corporate learning environments. However, even with a lot of research on multimedia learning and digital content design, we still do not know much about how adult employees in companies view and experience that content. Most previous studies have looked at academic or distance education scenarios, not workplace learning. This study aims to address this gap by exploring adult learners' views and preferences for multimedia and text-based digital training content in a corporate setting.

This study adds to the existing literature by applying Mayer's Multimedia Learning Theory to adult training in the workplace. By focusing on employees' views and preferences, it offers useful insights into how to apply multimedia design principles to improve engagement and learning effectiveness in professional environments.

3. Methodology

This research used a case study design, a qualitative research method. A case study enables an in-depth, multidimensional examination of a specific situation or phenomenon (Yin, 2018). In this study, the case involved employees from a corporate company in Istanbul with more than 500 staff members who received two types of digital training content: one designed according to multimedia principles and the other based on traditional text-based instruction.

The primary rationale for employing a case study design was the research objective: to understand participants' experiences, perceptions, and preferences regarding the two types of digital training content in their respective contexts. Additionally, this approach allows for data triangulation through multiple sources, thereby enhancing the depth and validity of the findings.

The study adopted a descriptive qualitative case study approach, focusing on employees' experiences with the training modules in the corporate setting. Participants were exposed to both content types, after which in-depth structured interviews were conducted to gather detailed qualitative data. The collected data were analyzed using content analysis techniques. Another reason for choosing this method was its capacity to explore the real-life impact of digital training content and to derive user-centered implications. As emphasized by Yıldırım & Şimşek (2016), case studies are effective in understanding individuals' lived experiences within their social and organizational contexts. In this regard, the study aimed to examine the relationship between content design and learner perceptions, and to generate recommendations for corporate digital training policies.

The study group consisted of adult employees working in different departments of a private corporate company in Istanbul. Participants were selected through purposeful sampling, which intentionally selects individuals most likely to contribute to the research objectives (Çoban & Oral, 2020). The rationale was that employees with prior digital training experience could provide meaningful insights into content design through their in-depth perspectives.

The selection criteria for participants were as follows:

- Having at least five years of professional corporate work experience,

- Having previously used LMS (e-learning platforms) in their current or past organizations,
- Actively engaging with e-learning content,
- Representing diverse departments to ensure variety.

Based on these criteria, six employees from three different departments were included in the study. No restrictions were placed on demographic factors such as age or gender to maximize diversity. For ethical reasons, all participants were anonymized and coded with the letter “K” followed by a number (e.g., K1, K2).

3.1. Data Collection Instruments

The semi-structured interview questions, grounded in Mayer’s (2001) Multimedia Learning Theory and aligned with the research questions, sought to gather participants' perspectives on both multimedia and traditional text-based training and learning materials. These questions went through a process of expert review by an individual knowledgeable in both educational technology and qualitative research in order to consider validity and alignment with the aims of the study (Creswell & Poth, 2018; Yıldırım & Şimşek, 2016). Changes were made to the items as needed prior to conducting the interviews.

Within the framework of qualitative research methods, the primary data collection instrument employed in this study was structured interviews. In qualitative research, the researcher is also considered an integral part of the process, directly responsible for collecting, interpreting, and analyzing the data. In this respect, the researcher contributes actively to the research process itself (Tekindal & Arsu, 2020).

Given that the research design was a case study, which aims to gain an in-depth understanding of phenomena within a specific context, interviews were deemed appropriate for examining complex social phenomena from multiple perspectives. As Yin (2018) emphasizes, interviews are frequently used in case studies to ensure data diversity and capture the multidimensional nature of the phenomenon.

In this study, one-on-one, structured interviews were conducted to elicit participants' perceptions and experiences with digital training content. The interview protocol included questions designed to compare content developed according to multimedia principles with traditional, text-based content, thereby capturing participants' thoughts and experiences. The interviews were transcribed verbatim, producing data suitable for content analysis.

In addition to qualitative data, LMS (Learning Management System) usage reports from the institution where the study was conducted were also analyzed as supporting evidence. These reports allowed the triangulation of interview findings with system-generated data, thereby linking participants' stated attitudes, behaviors, and preferences with objective usage patterns.

3.2. Data Collection and Research Process

The data collection process in this study consisted of structured interviews and supporting document analyses. One-on-one interviews were conducted with participants using a set of pre-structured open- and closed-ended questions, prepared in line with the research objectives. The interview protocol particularly focused on user experiences, perceptions, preferences, and suggestions regarding digital training content designed according to multimedia principles and traditional text-based content.

To ensure that participants engaged in the interview process in a comfortable communication environment, flexible scheduling was applied. Participants were interviewed at times and locations most convenient for them. This approach is considered an important ethical and methodological strategy in qualitative research, as it enhances data quality. Each interview was transcribed verbatim by the researcher.

The data collection process was carried out in accordance with the research's qualitative case study design, emphasizing the contextual understanding and interpretation of individual experiences. Full compliance with ethical guidelines was maintained throughout the process, including the principles of confidentiality and voluntary participation.

The structured interview questions addressed to the participants were as follows:

Table 1.

Structured Interview Questions and Focus Areas

No	Interview Question	Focus Area
1	Which of the two types of training content did you find more effective? Why?	Perceived Effectiveness
2	Which content supported your learning more effectively? What differences did you notice?	Learning Support
3	To what extent did visual, auditory, or animated elements capture your attention?	Engagement
4	Did the training content have an impact on your learning motivation?	Motivation
5	What factors encouraged or hindered you during the completion of the training modules?	Learning Barriers
6	If you encountered difficulties or points of confusion, what did you associate them with?	Cognitive Load
7	Were there any noticeable differences in design between the two types of content?	Design Comparison
8	In your opinion, was the balance between text and visuals appropriate?	Visual–Text Balance
9	How did the presence or absence of narration affect your learning?	Audio Effect
10	Which of these training modules should your organization adopt more widely, in your opinion? Why?	User Preference
11	Did the training content feel more personal, relevant, or distant to you?	Personalization
12	How would you like digital training content to be designed in the future?	Future Design Suggestions

3.3. Data Analysis

The research data in this study were derived from structured one-on-one interviews with participants. The analysis yielded 6 themes, 38 categories, and 334 codes. For each code, participants' statements were directly quoted and incorporated into the analysis.

During the coding process, responses regarding the first and second training modules were separated. Each response was further divided into positive (+) and negative (–) expressions. The participants' answers to the 12 interview questions were examined in detail, and their positive and negative expressions were segmented into statements that served as the basis for the codes.

Coding began with open coding, in which participants' exact words and expressions were recorded without modification. These codes sometimes took the form of a single word, a phrase, or a short sentence. Next, conceptually related codes were grouped into categories. Both the coding and categorization processes were conducted manually by the researcher, without the use of software. Codes were treated as raw data extracted directly from participants' statements and were iteratively organized into categories through repeated reading of the transcripts and contextual interpretation of the original sentences.

From the categories, six overarching themes were identified. To enhance validity, the code–category–theme framework was reviewed by an independent expert, who provided feedback on the classification. Themes were developed by aligning participants' responses with the two types of training content: (1) codes/categories/themes related to the first training module, (2) codes/categories/themes related to the second training module, and (3) codes/categories/themes based on general responses that did not explicitly refer to either module.

Ultimately, three main domains were established, each corresponding to one of the above classifications, and within these domains, six themes were identified. From these six themes, three key conclusions were drawn regarding participants' overall perceptions of digital training content.

In addition to the interview data, the Learning Management System (LMS) reports were described using descriptive document analysis. The reports included quantitative numerical data such as log-in frequency, course completion rates, and interaction logs. This helped validate the qualitative data. The LMS data was

also included so that researchers could cross check each participants' answers during their interviews with how and if they used the LMS data.

3.4. Validity, Reliability, and Ethics

To ensure content validity, the structured interview form was developed in line with the literature and the study's objectives. While preparing the interview questions, Mayer's Multimedia Principles were taken into account, and the items were designed to elicit participants' in-depth experiences and perceptions of digital training content. Expert opinions were also sought, and revisions were made where necessary, thereby strengthening the adequacy in addressing the research questions. Furthermore, diversity across departments and participants' experiences was taken into consideration to enhance the data's contextual validity.

To provide accuracy in the results, the procedures followed guidelines from qualitative research presented by Yıldırım and Şimşek (2016). Experts evaluated the validity of the instrument, and reliability was achieved through consistency checking across codes and by researcher triangulation.

The study was conducted in accordance with scientific and ethical standards, and all participants voluntarily participated. Participants were provided with clear, transparent information about the purpose, scope, and procedures of the research, and their consent was obtained prior to the interviews. No identifying information was disclosed; instead, participants were anonymized and coded as K1, K2, K3, and so on. The collected data were used strictly for scientific purposes and were not shared with any third parties.

3.5. Assumptions and Limitations

The following assumptions underpinned this qualitative case study:

- It was assumed that participants' responses during the structured interviews were sincere and accurately reflected their true experiences.
- It was assumed that participants attentively engaged with both the multimedia-based and the traditional training content and actively participated in the process.
- It was assumed that the interview questions were capable of effectively capturing participants' perceptions and experiences regarding digital training content.

Several limitations should be taken into account when interpreting the findings of this study:

- The research was conducted in a single corporate company located in Istanbul with more than 500 employees; therefore, the results cannot be directly generalized to other institutions.
- The number of participants was limited to six individuals. Although this sample size provided sufficient depth for qualitative inquiry, it limits representativeness for a broader population.

While the sample only included six participants, qualitative studies place value on depth rather than breadth. Each participant provided depth of the topic in their context, allowing for saturation of data and a more credible finding (Creswell & Poth, 2018).

- The study focused exclusively on LMS-based digital training content. Other forms of digital learning (e.g., live online courses, mobile applications) were excluded from the scope.
- The findings are based solely on participants' self-reported perceptions and were not supported by objective performance measures.
- Data were collected within a specific time frame and thus do not account for changes in participants' attitudes and perceptions over time.

4. Findings and Discussion

The purpose of this study was to investigate the perceptions and preferences of adult employees regarding multimedia- and traditional-text-based digital training content in a corporate learning context.

In addition to analyzing the findings from the interviews, LMS usage data was analyzed to corroborate or contrast participants' responses with objective data consisting of login times, module completions, and interactions. These results corroborated the qualitative analyses of the interviews.

The triaging of qualitative and quantitative data sources further enhanced the trustworthiness of the findings and provided a critical lens into employees' engagement with digital training content.

The analysis produced **6 themes, 38 categories, and 334 codes**, which were synthesized into a **concept map** (see Figure 1 for a holistic representation). From these findings, **three overarching themes** were drawn, each supported by corresponding themes:

Conclusions and Themes

1. Unclear, Monotonous, and Low Motivation

- Lack of Engagement and Loss of Motivation
- Low Comprehensibility and Ineffective Presentation

Participants found traditional text-based materials to be dull and hard to understand, which lowered their motivation. This matches what Stern and Graham (2019) reported: that having few multimedia elements reduces learner involvement and motivation. This reduction in learner involvement and motivation can be explained by the cognitive and attentional demands imposed by text-heavy instructional materials. When content relies predominantly on continuous text with limited visual or interactive support, learners are required to maintain sustained attention over longer periods, which may increase cognitive load and lead to mental fatigue. Consequently, learners tend to engage with the material at a surface level, focusing on task completion rather than meaningful engagement with the content.

2. Clear, Engaging, and Motivating

- High Comprehensibility and Effective Presentation
- Engaging and Motivational Learning Experience

Multimedia materials were seen as more engaging and easier to understand. This supports Mayer's (2021) Multimedia Learning Theory and Fiorella & Mayer's (2016) focus on how audiovisual coherence helps improve understanding and memory. From the perspective of Mayer's Multimedia Learning Theory, audiovisual coherence supports learning by facilitating the integration of verbal and visual information within the learner's cognitive system. When narration and visuals are meaningfully aligned, learners can more easily organize incoming information and integrate it with prior knowledge, which reduces extraneous cognitive load and enhances conceptual understanding. This alignment enables learners to focus their cognitive resources on sense-making processes rather than on resolving inconsistencies between information sources.

3. Enhanced User Experience and Learning Participation

- Content Comprehensibility and Presentation Quality
- User Experience and Active Participation in Learning

Participants noted that interactive visuals and narration encouraged active participation. This aligns with Kim and Park (2020), who discovered that multimedia principles boost employee engagement in corporate e-learning environments. The correlation between multimedia principles and learner engagement can be attributed to the interactive and multimodal nature of the content. Features such as visual elements, audio narration, and user-controlled pacing promote sustained attention and active involvement by allowing learners to interact with the material in ways that align with their individual learning preferences. As a result, learners experience a greater sense of agency and engagement, which supports active participation in the learning process.

The analysis produced 6 themes, 38 categories, and 334 codes, which were synthesized into three concept maps illustrating participants' responses to the first, second, and general modules (see Figures 2–4).

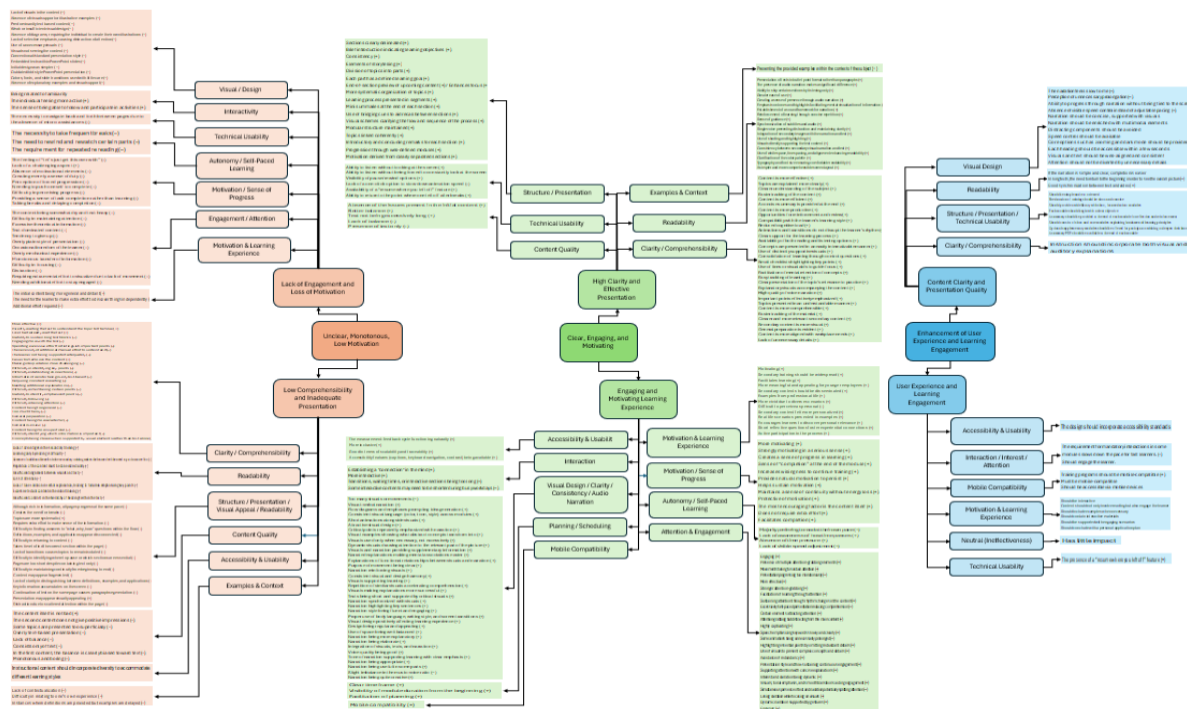


Figure 1. Concept Map of Codes, Categories, and Themes

Note. Orange areas indicate responses about the **first** training module; green areas indicate responses about the **second** training module; blue areas indicate **general** responses not tied to a specific module.

As illustrated in the concept map, three different color codings are used. According to the legend of the map: **orange areas** represent participants' responses related to the first training module, **green areas** represent responses related to the second training module, and **blue areas** represent non-specific responses that were not directly associated with either training module.

Participants' Perceptions of the First Training Module

Findings from the interviews revealed that participants' responses toward the first training module were predominantly negative (–). As shown in Figure 2, under the theme of “Lack of Engagement and Loss of Motivation”, negative statements were concentrated in the codes grouped under the categories of visuals/design, interaction, technical usability, freedom/self-paced learning, motivation/progress, interest/attention, and motivational learning experience. Similarly, under the theme of “Low Comprehensibility and Ineffective Presentation”, participants' responses were largely negative across the categories of comprehensibility/followability, readability, structure/presentation/visuals/readability, content quality, accessibility and usability, and examples and context. These results indicate that the first training module failed to sufficiently capture learners' interest, maintain their motivation, or provide a clear and effective presentation of the content. This outcome can be explained by the misalignment between the design of the first training module and key principles of effective multimedia learning. The absence of visual support, interactivity, and guided pacing limited learners' ability to organize and integrate information meaningfully, which may have increased cognitive load and reduced sustained attention. Consequently, learners experienced difficulty maintaining engagement and motivation throughout the module.

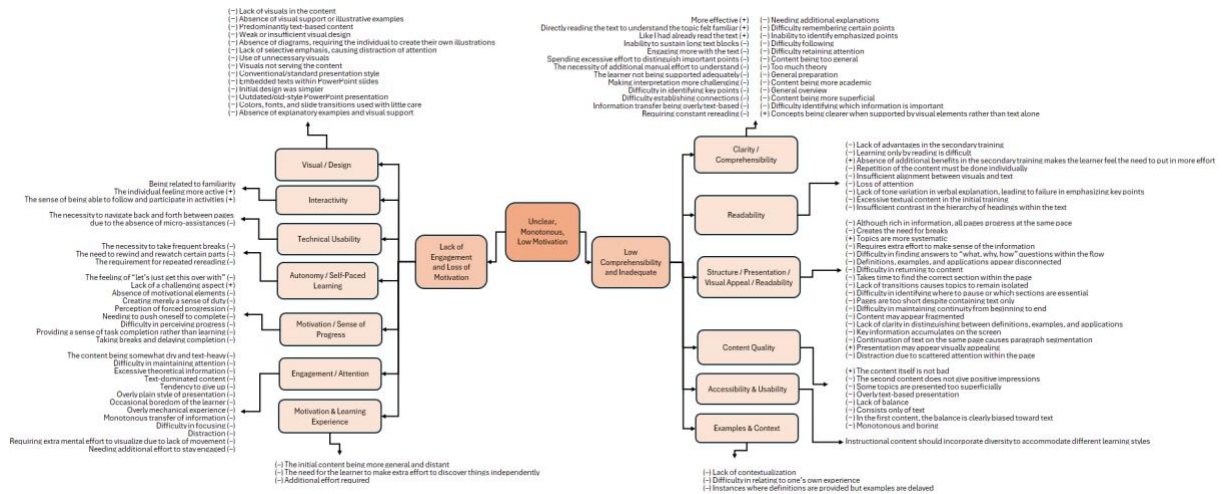


Figure 2. Concept Map of Codes, Categories, and Themes Related to Participants' Responses to the First Training Module

Note. Orange areas denote codes and categories derived from responses about the **first** module.

Sample Participant Responses Regarding the First Training Module

Question: Which of the two training modules did you find more effective? Why?

K3: "In the first module, something was being explained, but it felt as though I was just reading a text. I had difficulty concentrating because I constantly had to read, and the presentation progressed in a very plain manner."

K4: "Since the first module relied heavily on long blocks of text, after a while I felt lost within the text and had to make extra effort to extract the key points."

Question: Which content supported your learning more effectively? What differences did you notice?

K1: "There were some concepts that I struggled to understand in the first module."

K5: "In the text-heavy first module, going back to review was more difficult; it took time to locate the correct section within the page, and sometimes I simply gave up."

Question: Did the training content have an impact on your learning motivation?

K1: "In the first module, I felt the urge to just 'get it over with.' It wasn't particularly challenging, but it also wasn't motivating. I approached it more like a task to be completed."

K3: "In the first module, progressing from start to finish in the same format became tiring after a while. That's why I had to take frequent breaks. The content itself wasn't bad, but the way it was presented could have been more engaging."

Participants' Perceptions of the Second Training Module

Participants' responses to the 12 interview questions regarding the second training module were predominantly positive (+). Under the theme of "High Comprehensibility and Effective Presentation", six categories were identified: comprehensibility/followability, readability, examples and context, structure/presentation, technical usability, and content quality. As illustrated in Figure 3, the difference between participants' responses concerning the first module and those concerning the second module within the same categories reflects a strong tendency toward positive (+) statements for the second module. This positive perception can be attributed to the alignment between the design features of the second training module and learners' expectations for clarity, interactivity, and flexibility. Participants' responses indicate that improvements in content structure, visual support, and usability facilitated easier comprehension and sustained engagement, which contributed to a more favorable learning experience compared to the first module.

Under the theme of “Engaging and Motivational Learning Experience”, nine categories emerged: accessibility & usability, interaction, visuals/fluency/design/consistency/audio narration, planning/scheduling, mobile compatibility, motivation and learning experience, motivation/sense of progress, freedom/self-paced learning, and interest/attention. These categories demonstrate that participants perceived the second training module as more appealing, interactive, and motivating, offering a richer and more learner-centered digital learning experience compared to the first module. These features supported learner motivation by enabling greater control over the learning process and reducing cognitive effort required to navigate the content. Interactive visuals, narration, and self-paced progression allowed learners to engage with the material more actively, fostering a sense of autonomy and involvement. As a result, participants perceived the second module as more learner-centered and motivating than the first training module.

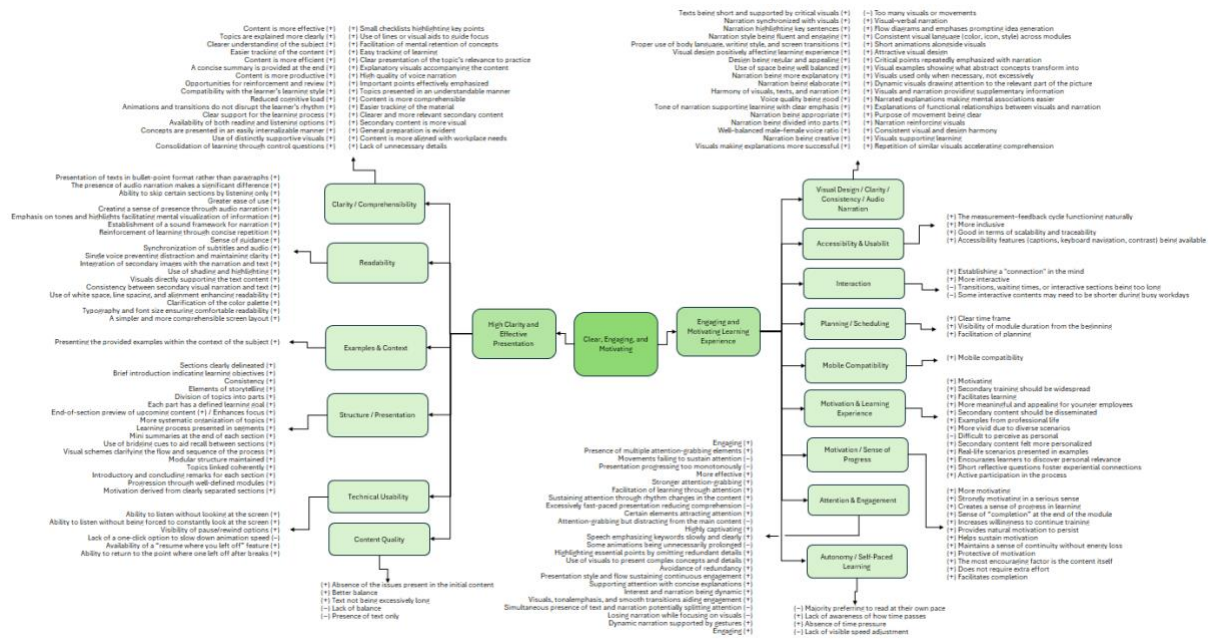


Figure 3. Concept Map of Codes, Categories, and Themes Related to Participants' Responses to the Second Training Module

Note. Green areas denote codes and categories derived from responses about the **second** module.

Question: What factors encouraged or hindered you during the completion of the training modules?

K1: “The greatest motivating factor was the content itself. If the content draws me in, I don’t need any extra pressure to complete it. In the second module, I had no difficulty in this regard.”

K6: “In the second module, the ‘Continue where you left off’ and bookmarking features made the completion process much easier. Returning to the exact point after breaks was efficient both in terms of time and concentration.”

Question: Were there any noticeable differences in design between the two modules?

K2: “Yes, the second module was more colorful and dynamic.”

K3: “Yes, the second module was much better designed. The screen layout was clearer and simpler, and the visual design was more modern.”

Question: In your opinion, was the balance between text and visuals appropriate?

K4: “The audio narration allowed me to make progress even when I couldn’t be in front of a screen during the day; I was able to finish a module while walking with headphones. The narrator’s slower pace at critical concepts helped me focus better.”

K5: “The initial framing through audio narration was very useful.”

Participants' Perceptions of the Process Independent of Specific Training Modules

In the structured interviews conducted with participants, some responses were identified as not being specifically related to either the first or the second training module. These responses were analyzed under the theme of “User Experience and Learning Participation”, which included six categories: accessibility and usability, interaction/interest/attention, mobile compatibility, motivation and learning experience, neutral (lack of impact), and technical usability. Additionally, the categories of visuals, readability, structure/presentation/technical usability, and comprehensibility/followability were grouped under the theme of “Content Comprehensibility and Presentation Quality” (see Figure 4).

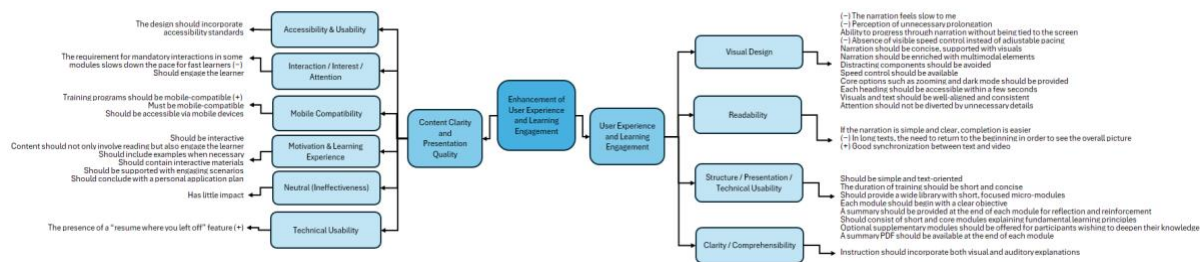


Figure 4. Concept Map of Codes, Categories, and Themes Related to the General Evaluation

Sample Participant Responses on Overall Perceptions of Content and Process

Question: In your opinion, which of these training modules should your organization adopt more widely? Why?

K1: “The second module should definitely be adopted more widely, because it is clearer, easier to follow, and more motivating. If we truly want people to learn something, I believe this type of content is more effective.”

K3: “I think the second module should be expanded, because it both attracts employees’ attention and makes learning easier. Especially for the younger generation of employees, such content will be much more meaningful and engaging. We should not forget that learning is not only the transfer of knowledge, but also an experience.”

Question: How would you like digital content to be designed in the future?

K1: “It should be short, concise, visually supported, enriched with audio narration, and preferably interactive. Not content that I would simply read and pass through, but something that draws me in.”

K3: “It should include visuals and audio narration, and preferably be interactive to immerse the user. The duration should be short but concise. If supported with scenarios that capture my interest, it would be much better. Also, if it is mobile-friendly, I can easily access it during the day.”

K6: “I consider it important that accessibility standards are integrated into the design from the very beginning. Having a summary PDF and a downloadable worksheet at the end of each module would make it easier to reinforce knowledge. In addition, being able to create a personal action plan at the end of the training and send it to myself via email would allow me to transfer what I have learned into my professional life more quickly.”

5. Conclusion and Suggestions

This qualitative case study explored adult employees’ perceptions and preferences regarding multimedia- and text-based digital training content within a corporate learning context. Using semi-structured interviews supported by LMS usage data, the study examined how different instructional design approaches influenced learners’ motivation, engagement, and perceived comprehensibility. The data collected indicate that text-based materials were seen as often dull and hard to move through, and they reported having lower engagement than multimedia-based digital training content – which aligned with Mayer’s Multimedia Principles. Participants felt that when visual, audio narration, and interactivity, were included, they better

understood content and stayed more engaged. These findings support Mayer's Cognitive Theory of Multimedia Learning and demonstrate the significance of audiovisual coherence and segmentation to lower cognitive load and support engagement and learning performance.

The findings indicate a clear contrast between the two training modules. The text-based module was perceived as monotonous and difficult to follow, leading to reduced motivation and surface-level engagement. In contrast, the multimedia-based module, designed in line with multimedia learning principles, supported clearer presentation, sustained attention, and higher levels of learner engagement and motivation.

Recommendations:

From a practical perspective, the findings highlight the importance of prioritizing instructional design quality over content quantity in corporate e-learning environments. Training designers and organizations should focus on incorporating multimedia elements such as visuals, narration, and user-controlled pacing to reduce cognitive load and enhance learner engagement. These results suggest that investments in well-designed multimedia content can contribute to more effective and motivating digital training experiences for adult learners.

Based on the findings, the following recommendations are offered:

- Blend multimedia practices: Add visuals, animations, and audio narration to assist understanding and keep learners' attention.
- Decrease text load and segment material: Aim for short modules that clearly describe key ideas and then use summarizers or checkpoints to strengthen understanding of each module and sustain learning.
- Engage learners through personalization: Offer self-paced opportunities for mobile access to engage learning and measure standards.
- Develop ID leverage in learning design/ Influencing or assessing originality in design: Promote and model professional development of multimedia and andragogical principles among IDs to assure effective digital material development.

Directions for Future Research:

This qualitative study was limited to six participants. Future-research could:

- Utilize a larger/ more diverse sample (apply quantitatively) to support external validity where possible.
- Consider the application of multimedia principles across a number of industries to assess contextual differences.
- Design a longitudinal study to assess the impact of multimedia based content on retention of information and performance.

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