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eLearning in Short Bursts: Examining Professional Development Microlearning Videos

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This study examined 80 YouTube microlearning videos that provided insight into how consumers viewed the user-generated content (UGC) using thumbs-up/down ratings and comments. The results found that higher scores in the Morain & Swarts (2012) instructional design quality (IDQ) framework and the Attention, Relevance, Confidence, and Satisfaction (ARCS) Model (Keller, 1987) showed a relationship with the thumbs up/down icon and consumers' comments. The highest production and consumption ratings were in Relevance and Satisfaction in the ARCS Model and the affective design in the IDQ framework. Consumers noted that the talking head video format enabled them to observe the presenter in the UGC, demonstrating confidence, self-efficacy, and audience engagement as a subject matter expert. The findings provided insights for technical communication instructors or anyone interested in creating relevant video content to meet consumers' expectations for a microlearning video of four minutes or less.

Keywords: Microlearning videos, professional development, instructional design

Introduction

Microlearning is informal learning, which involves spending a few seconds up to about 15 minutes learning a subject matter that deals with single letters, short texts, or complex tasks (Hug, 2005). A microlearning video can be defined as microcontent of small chunks of information focusing on a single definable idea or topic in informal learning (Hug, 2005). Microlearning has become popular in the 21st century, allowing students to break away from traditional learning systems and absorb information in small pedagogical chunks for better comprehension.

YouTube ranked the number one choice for watching videos, with over five million videos uploaded every minute (YouTube, 2022). While anyone can access a YouTube video, the question remains whether the viewer can effectively learn the subject matter without experiencing frustration due to the absence of instructional design elements (Morain & Swarts, 2012) or polished production styles (Hansch, Hillers, McConachie, Newman, Schildhauer, & Schmidt, 2015). A viewer who watches a poorly designed video will most likely not finish watching in its entirety but will find alternatives in the same subject matter that are more suitable for their learning needs.

The purpose was to examine Professional Development (PD) microlearning videos from YouTube using two existing frameworks. The IDQ framework and the ARCS Model helped analyze each video's quality and content (the production) and the consumers' thumbs up/down and comments (the consumption). The findings provided insights for technical communication instructors or anyone interested in creating relevant video content to meet the consumers' expectations for a microlearning video of four minutes or less.

Literature Review

Microlearning is a technology-enhanced learning format that converts complex information into smaller chunks for a specific outcome or learning goal (Allela, 2021). Microlearning content is less time-consuming for the learner and is adapted to the short attention span of today's impatient learners (Beste, 2021). The microlearning environment delivers instruction using videos, documents, screencasts, and other methods to meet the demands for short, quick, and easy access to needed information (Taylor & Hung, 2022). Video can work powerfully as a provider of knowledge. A well-placed video can act as a bridge between the textbook and the learner's understanding of the text (Paolo, Wakefield, Mills, & Baker, 2017). Short instructional videos can make a considerable impact on the learner. Short video lectures involve a shorter amount of attention, so the cognitive load on students can be absorbed more conveniently (Beheshti, Taspolat, Kaya, & Sapanca, 2017).

Microlearning videos should only address one key idea or instructional task since they are intended to be short, concise, and topic-centered (physical design). The microlearning video should have a plan such as a script, storyboard, visuals, and a sequential flow (cognitive design). An interactive microlearning video will drive learner engagement and employee performance (affective design) [Allela, 2021]. During the COVID-19 pandemic, microlearning increasingly became an instructional approach due to the flexibility of the format as manageable small "bite-size" chucks to attain information more effectively (Dixit, Yalagi, & Nirgude, 2021; Singh & Banathia, 2019). Microlearning videos are approximately three minutes or shorter and have a higher engagement for learners (Guo, Kim, & Rubin, 2014).

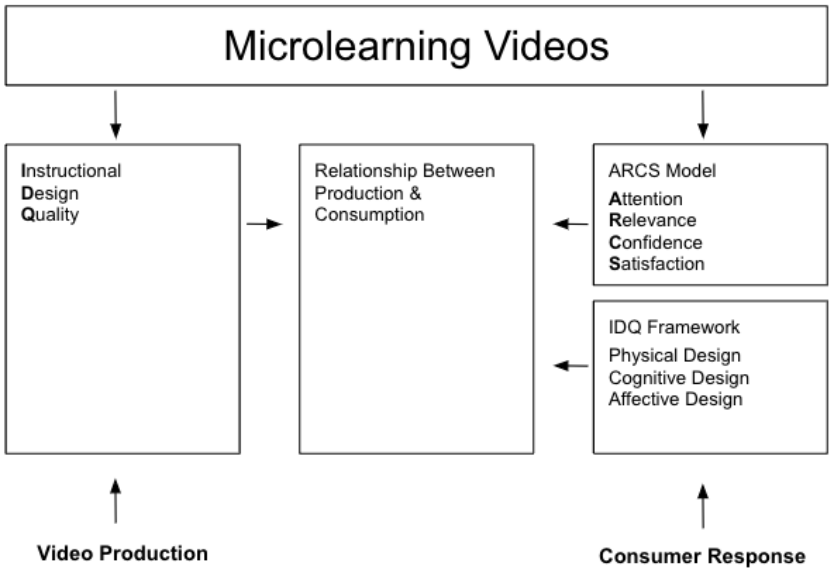
A current literature review has found microlearning studies in health-related topics such as clubfoot, nursing, and orthodontics. However, they have yet to be identified in PD microlearning videos intended for the public. A 2019 study on user comments, views, and dislikes was conducted on entertainment and political videos but did not address the video length, content, or motivation (Möller, Kühne, Baumgartner, & Peter, 2019). In the content marketing YouTube study, the engagement framework was used, and a codebook was developed for the four factors of this framework; interactivity, attention, emotion, and cognition, that was used on 50 brands (Wang & Chan-Olmsted, 2020). In a university classroom, YouTube videos were studied for their pedagogical benefits (Jackman, 2019), as another higher education study provided specific advantages of using YouTube videos for teacher educators and teacher trainees. One of these benefits was that teacher educators used shorter YouTube video clips, approximately five to 10 minutes, that could help teacher trainees learn the content without overload or losing their focus for longer videos that are 30 minutes long (Srinivasacharlu, 2020). Although these studies were rich in content analysis, they did not address microlearning, evaluating instructional videos, or whether the user was satisfied with the video. This research aims to address a gap in the existing literature in this underexplored area.

Project Description

This study combined the Morain and Swarts (2012) Instructional Design Quality (IDQ) framework for assessing online instructional videos and the ARCS Model. The IDQ framework rubric consists of physical, cognitive, and affective designs. Within these three designs were three elements. The physical design elements corresponded with access, viewability, and timing. The focus on the screen relevant to the instruction was centered on access or accessibility. Viewability deals with audio, video, or text quality. Timing is the pacing of the video for the end-user or viewer. The cognitive design elements were accuracy, completeness, and pertinence. Accuracy is the content presented without factual errors or execution. Completeness is the organizing superstructure that defines tasks and forecasts steps and objectives. Pertinence relates to the content of the instructional goal and instructional purpose. The affective design correlates with confidence, self-efficacy, and engagement. Confidence is the narrator's confidence, knowledge, and skills in presenting the subject matter. Self-efficacy is if the viewers complete the tasks of the focus of instruction. Engagement is the viewers' interest and motivation.

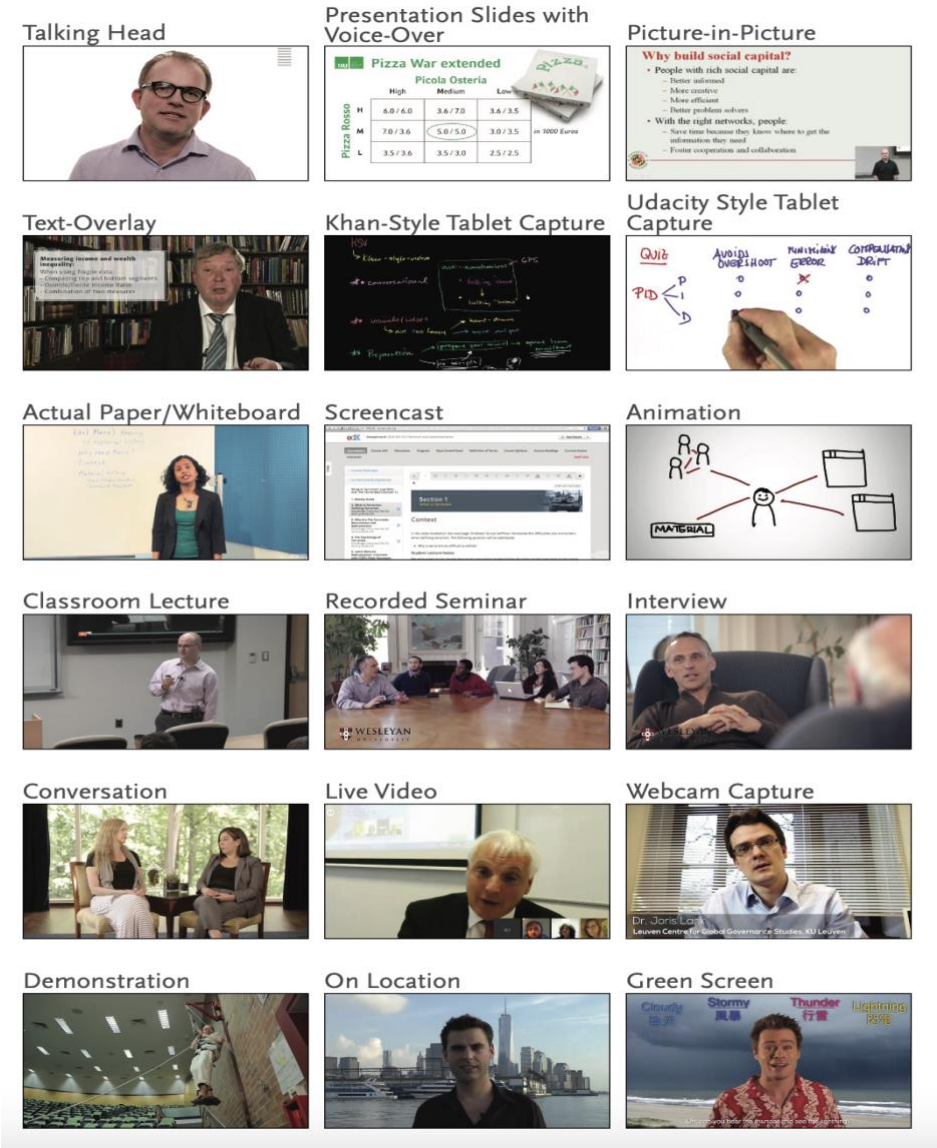
Keller's (1987) ARCS (Attention, Relevance, Confidence, and Satisfaction) Model consists of four elements. Attention captures the learners' interest with active participation, humor, conflict, variety, and real-world examples. Relevance uses language, analogies, or stories that can link to the learners' previous experience, perceived present worth, perceived future usefulness, models of success, or provide choices. Confidence helps learners believe they can succeed by facilitating self-growth, communicating objectives and prerequisites, providing feedback, and giving them control over their learning process. Satisfaction is divided into intrinsic motivation (curiosity, pride, interest, praise) and extrinsic motivation (rewards, promotions, benefits, and prizes). The conceptual framework in action is shown in Figure 1.

Figure 1.
Conceptual Framework in Action



Eighteen commonly used video production styles can help or hinder the pedagogical objectives and desire to learn outcomes depending on the style chosen and the effectiveness to the consumer (Hansch, et al., 2015). The typologies of video productions in Figure 2 display an overview of the different styles.

Figure 2.
Typology of Video Production Styles



Of the 467 microlearning videos reviewed, 387 were disqualified because they did not meet the six requirements: a maximum length of four minutes, spoken and written in English, uploaded in the past three years, a minimum of five comments, focused on the PD topic of interviewing for a job, did not sell a product or service, and created as UGC, not a corporation. Eighty microlearning YouTube videos were chosen for this study. Table 1 displays the six criteria elements used to identify microlearning videos.

Table 1
Criteria Used to Identify Microlearning Videos

Criteria (Source)
1. Duration of four minutes or less (YouTube)
2. Spoken and written in the English language (YouTube)
3. Uploaded within the past three years (YouTube)
4. Minimum of five comments per video (YouTube)
5. Focused on the PD topic of interviewing for a job, including virtual conference calls, interview tips, and effective virtual meetings (YouTube)
6. Not corporate-made or advertised a product or service (User-generated content)

Every video was viewed twice and coded among three dimensions: the Morain and Swarts IDQ assessment rubric (2012), the ARCS Model, and the consumers' thumbs up/down and comments. Each video's typology of video production styles was counted in every video to learn if the chosen style could help or hinder the pedagogical objectives (Hansch, et al., 2015). The typologies of video productions were actual paper/whiteboard, animation, classroom lecture, conversation, demonstration, green screen, interview, Khan-style table capture (chalk and talk), live video, on-location, picture-in-picture, presentation slides with voice-over, recorded seminar, screencast, talking head, text overlay, Udacity style tablet capture (chalk and talk), and webcam capture.

The IDQ framework and the ARCS Model were used to understand the consumer's responses to a single completed video using their thumb reactions and comments. In addition, the IDQ was used to analyze the characteristics indicated by the framework by using the Likert scale of a 1-5 rating. A second coder coded a random sample of videos using a Likert scale to agree on the frequency ratings. Cohen's kappa coefficient was used to determine inter-rater reliability. The inter-rater reliability score was 0.73, indicating substantial agreement.

The study did not examine the videos' content, but the videos' quality was measured from the inclusion criteria for the two hypotheses.

1. The first hypothesis was that if the IDQ framework (production) resulted in high scores, then the thumbs up/down icon (consumption) and consumers' comments (consumption) should have more positive results.
2. The second hypothesis was that as IDQ scores increase, viewer comments will be rated more positively than negatively.

This study did not use content analysis to quantify and analyze the videos' meanings and relationships, words, themes, or concepts. Still, scoring was used to count the number of thumbs-up and down, the total number of thumbs, and the number of positive, neutral, and negative comments. The consumers liked or disliked the video and displayed their feelings with thumbs reactions and positive, neutral, or negative comments. Quantitative descriptive statistics, inferential statistics, and Pearson's *r* were used.

Results

Only eight of the 18 (44%) typologies (Hansch, et al., 2015) were used in the 80 videos. The most popular video was talking head, followed by demonstration, text overlay, and presentation slides with voice-over. Table 2 displays the eight commonly used typologies of video production styles.

Table 2
Most Frequent Typologies of Video Production

Rank	Typology	n	%
1	Talking Head	56	70
2	Demonstration	40	50
3	Text Overlay	20	25
4	Presentation Slides with Voice-Over	4	.05
5	Animation	3	.04
5	Interview	3	.04
6	Actual Paper/Whiteboard	1	.01
6	On-Location	1	.01

Using the Likert scale with one as poor and five as good ratings per video, of the 80 videos, 23 (28.75%) received the maximum score of 15 points that exhibited the characteristics indicated by the IDQ framework (physical, cognitive, and affective design). Sixty-one videos (0.76%) rated between 11-15 points. These 23 videos were rated highly because they exhibited high-quality video production from the IDQ framework in all three categories. Thirty-eight (47.5%) videos were rated 11-14 points. They rated well in the nine elements of the IDQ framework but needed to include some critical factors in the physical, cognitive, and affective designs. Seventeen (21.4%) videos received a rating between 6-10 as they conveyed some of the IDQ framework elements. These videos were more at risk for consumers to click out of before completion since they needed to execute better results in one, two, or three design elements. Two videos (2.5%) scored three points each and were placed in the 0-5 lowest rating category, indicating that a high-quality video production from the IDQ framework was not displayed. Each design category needs to improve many elements to receive a higher rating. See Table 3 for the number of videos by IDQ ratings.

Table 3
Number of Videos by IDQ Ratings (n = 80)

0 – 5		6 – 10		11 - 15	
#	%	#	%	#	%
2	2.5%	17	21.4%	61	76.3%

Consumers rated the microlearning videos with more thumbs-up than thumbs-down. Among the 80 videos reviewed, there were 113,904 thumbs-up and 6,620 thumbs-down ratings. The most significant number of thumbs-up ratings for a single video was 21,000, and the lowest number of thumbs-up ratings was zero. The largest number of thumbs-down ratings for a video was 1,903, and the lowest number of thumbs-down ratings was zero. The average (mean) number of thumbs-up ratings was 1,423 (*SD*=3067.15). The average (mean) number of thumbs-down ratings was 82.75 (*SD*=236.56). See Table 4 for the summary of thumbs up and thumbs down ratings.

Table 4
Summary of Thumbs Up and Thumbs Down Ratings (n = 80)

Thumbs	n	Mean	SD	Min	Max
Up	80	1423.80	3067.15	0	21,000
Down	80	82.75	236.56	0	1,903

In March 2021, YouTube mentioned they were testing a few new designs for the thumb icon in response to creators' feedback on their well-being and dislike campaigns, but these did not go into effect until November 2021 (YouTube, 2021). Since the data collection was completed in October 2021, YouTube's thumbs-down icon did not affect this study.

The total number of consumer comments related to the ARCS Model was counted. Each comment was viewed and placed in a positive, neutral, or negative category for Attention, Relevance, Confidence, and Satisfaction. Of the 1,537 ARCS Model comments, Relevance had a total of 522 comments with an average (mean) of 6.90 (*SD*=10.46) per video, and Satisfaction had a total of 977 comments with an average (mean) of 12.21 (*SD*=17.71) per video. The median for Relevance was three, and the mode was six. The median for Satisfaction was six, and the mode was four. The analysis of this data revealed that consumers felt a connection with the videos, perceiving them as purposeful and engaging, which satisfied them while watching. See Table 5 for the video comments by ARCS component and sentiment.

Table 5
Video Comments by ARCS Component and Sentiment

	Attention		Relevance		Confidence		Satisfaction		TOTAL	
	n	%	n	%	n	%	n	%	n	%
Positive	1	25	533	97	4	100	938	96	1,476	96
Neutral	1	25	18	3	0	0	23	3	42	3
Negative	2	50	1	0	0	0	16	1	19	1

Of the 1,537 ARCS Model total comments, 1,476 (96%) were positive, with an average (mean) of 18.45 (*SD*=25.73) per video. The total ARCS Model neutral comments were 42 (.02%), with an average (mean) of 0.53 (*SD*=0.99). The total ARCS Model negative comments were 19 (.01%), with an average (mean) of .24 (*SD*=0.78).

Of the 977 total comments in the Satisfaction category, 938 (96%) were positive comments with an average (mean) of 11.73 (*SD*=17.22) per video. Since most Satisfaction comments were positive, comments such as, "That was very professional and very helpful," or "So well done, so clear, direct, and just the right amount of energy," demonstrated the consumers' desire to engage positively with the content creator. The total Satisfaction neutral comments were 23 (0.02%), with an average (mean) of 0.29 (*SD*=0.75). The total Satisfaction negative comments were 16 (0.01%) with an average (mean) of 0.20 (*SD*=0.72). The median and mode were aligned with the mean and displayed similar results. The higher numbers were in the positive comments (median = 5.50 and the mode = 5), while they were very low for both the neutral and negative categories (median = .00 and the mode = 0).

Of the total ARCS Model comments, Relevance had 552 comments and was the second highest category with an average (mean) of 6.90 (*SD*=10.46) comments per video. For positive comments related to Relevance, 533, the average (mean) was 6.66 (*SD*=10.22). With just 18 neutral comments and one negative comment, the data revealed that consumers self-selected and actively provided positive feedback, elaborating on how these videos could be beneficial. Comments such as "super informative and all useful information" were classified in this category. In the neutral comments related to Relevance, the average (mean) was 0.23 (*SD*=0.64). The negative Relevance comments average (mean) was 0.01 (*SD*=0.11). This data displayed that

the consumer's comments on Relevance were overwhelmingly positive. Since commenting on videos is another form of engagement with UGC, consumers can self-select whether to interact. See Table 6 for the consumer comments by ARCS component and sentiment.

Table 6
Consumer Comments by ARCS Component and Sentiment (n = 80)

ARCS Component	Sentiment	#	Mean	SD	Min	Max	%
	Positive	1	.01	.11	0	1	25
Attention	Neutral	1	.01	.11	0	1	25
	Negative	2	.03	.15	0	1	50
	Positive	533	6.6	10.21	0	54	96
Relevance	Neutral	18	.23	.63	0	3	3
	Negative	1	.01	.11	0	1	1
	Positive	4	.05	.35	0	3	1
Confidence	Neutral	0	.00	.00	0	0	0
	Negative	0	.00	.00	0	0	0
	Positive	938	11.73	17.22	0	96	96
Satisfaction	Neutral	23	.29	.75	0	4	2
	Negative	16	.20	.71	0	5	1

As with the ARCS Model, the raters used the IDQ framework to view and count the number of comments and place them in a positive, neutral, or negative category in the physical, cognitive, and affective design. There were 1,678 IDQ consumers' comments, with an average (mean) of 20.98 (*SD*=38.69) per video related to the IDQ framework. The affective design had the most comments, with 1,670 (99%) per video. The three subcategories or subscales in affective design are confidence, self-efficacy, and engagement (Morain & Swarts, 2012). Consumers wanted to participate in commenting about the video because the content creator inspired confidence by presenting themself as knowledgeable and skilled, or the video persuaded them that they could complete the tasks that were the focus of instruction, or they were interested and motivated to want to engage. The cognitive design had the second-most comments, but there were only five. The physical design had the fewest comments per video, with three. See Table 7 for the consumer comments by IDQ design component and sentiment.

Table 7
Consumer Comments by IDQ Design Component and Sentiment

	Physical Design		Cognitive Design		Affective Design		TOTAL	
	n	%	n	%	n	%	n	%
Positive	3	1	5	1	1,277	77	1,285	77
Neutral	0	0	0	0	306	18	306	18
Negative	0	0	0	0	87	5	87	5

For positive comments in the physical design, the average (mean) was 0.04 (*SD*=0.34) per video. The average (mean) was 0.06 (*SD=0.56)* per video for the positive comments in the cognitive design. For the positive comments in the affective design, the average (mean) was 15.96 (*SD*=32.33) per video. The median and mode for the positive comments in the physical design were zero. The median and mode for the positive

comments in the cognitive design were zero. The median positive comments for the affective design were 5.00, and the mode was zero. This indicated that the videos positively influenced most consumers, and they wanted to express their feelings and emotions by taking the time to write comments. See Table 8 for the consumer comments by IDQ design element and sentiment.

Table 8
Consumer Comments by IDQ Design Element and Sentiment (n = 80)

IDQ Design Element	Sentiment	#	Mean	SD	Min	Max	%
Physical Design	Positive	3	.04	.33	0	3	1
	Neutral	0	.00	.00	0	0	0
	Negative	0	.00	.000	0	0	0
Cognitive Design	Positive	5	.06	.55	0	5	1
	Neutral	0	.00	.00	0	0	0
	Negative	0	.00	.00	0	0	0
Affective Design	Positive	1277	15.96	32.32	0	205	76
	Neutral	306	3.83	11.31	0	86	18
	Negative	87	1.09	4.35	0	26	0.5

In social science research, the p-value is a statistical measure used to determine the significance of the results. It represents the probability of observing the data or something more extreme if the null hypothesis (which assumes no effect or relationship) is accurate. A p-value of less than 0.05 ($p < .05$) is commonly used as a threshold for statistical significance. This means there is less than a 5% chance that the results occurred by random chance alone, suggesting that the observed effect or relationship is likely real and meaningful. When the p-value exceeds 0.05, this typically concludes that there is insufficient evidence to reject the null hypothesis. It is essential to note that a statistically significant result ($p < .05$) does not prove causation; it simply indicates that the data support an effect or relationship worthy of further investigation (Mertler, Vannatta, & LaVenia, 2021; Greenland, Senn, Rothman, Carlin, Poole, Goodman, & Altman, 2016; Sullivan & Feinn, 2012).

There was only one correlation between the characteristics defined by the IDQ framework in microlearning videos to the consumers' ratings and comments. For the relationship between the characteristics defined by the IDQ and the ARCS Model comments, the data revealed a statistically significant difference for Relevance with $p = .039<.05$. There was a relationship between the IDQ score and the Relevance comments. Since the majority commented positively, the consumers either understood the goal orientation, learning goals that matched their motives, or the content had some familiarity that could relate to their personal experience. The figures suggested that when IDQ scores were rated high, positive Relevance comments were also rated high.

1. The first hypothesis was that if the IDQ framework (production) resulted in high scores, then the thumbs up/down icon (consumption) and consumers' comments (consumption) should have more positive results.

   The null hypothesis was rejected for the thumbs up to thumbs up/down since there was a weak positive correlation with $p = 0.64.>.05$. For the ARCS Model, there was a weak positive relationship for Attention with $p = .336>.05$. The r value for Attention was .109. There was a statistically significant correlation in Relevance with $p = .039<.05$. Pearson's r indicated that when IDQ scores rated high, the positive Relevance comments also rated high. The r value for Relevance was .231, the only element that revealed a statistically significant correlation. Confidence showed a weak positive correlation with $p = .785>.05$. The r value for Confidence was -.031. Satisfaction displayed a weak negative correlation with $p = .448>.05$. The r value for Satisfaction was -.086. All three

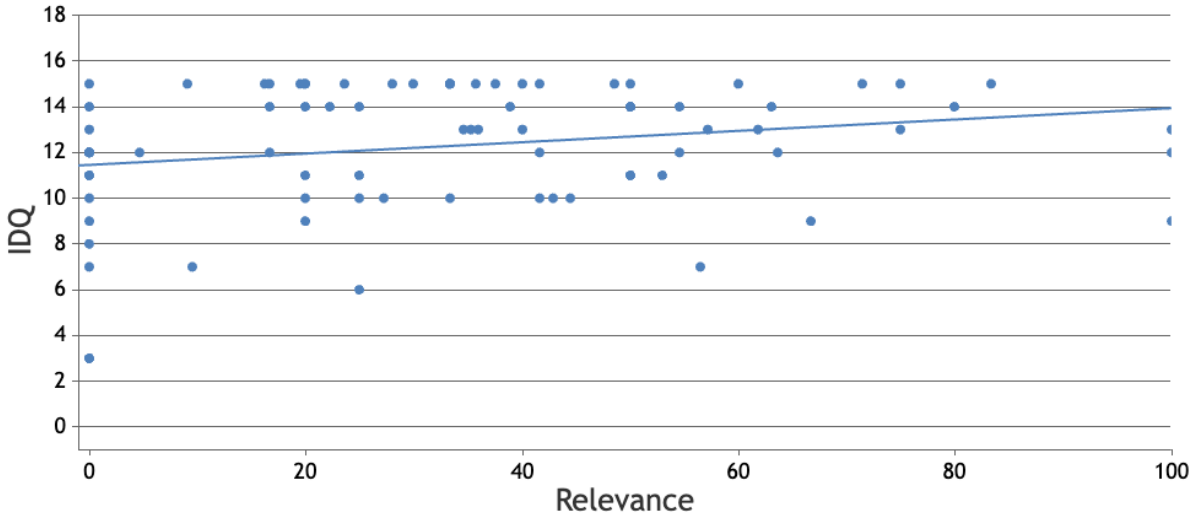
physical, cognitive, and affective designs in the IDQ framework had a weak positive correlation. The physical design $p = .336>.05$, cognitive design $p = .336>.05$, and affective design $p = .311>.05$. Pearson's r was .109 for the physical and cognitive designs and .115 for the affective design.

2. The second hypothesis was that as IDQ scores increase, viewer comments will be rated more positively than negatively.

   The null hypothesis was rejected for Attention $p = .336>.05$, Confidence $p = .785>.05$, Satisfaction $p = .448>.05$ in the ARCS Model. There was a correlation between the combined IDQ scores and Relevance in the ARCS Model with $p = .039<.05$. The alternative hypothesis did occur as the IDQ framework (production) resulted in high scores, and the consumers rated their comments positively for Relevance in the ARCS Model. This hypothesis was tested and compared to the data that indicated this phenomenon to be true. See Figure 3 for the Relevance relationship between the characteristics defined by the IDQ and the ARCS Model comments.

   The null hypothesis was rejected in the physical design $p = .336>.05$, cognitive design $p = .336>.05$, and affective design $p = .311>.05$ in the IDQ framework.

Figure 3.
Relevance relationship between the characteristics defined by the IDQ and the ARCS Model comments



Discussion and Conclusion

The ARCS Model and IDQ frameworks revealed not only the production quality of the UGC but also added the consumers' responses. Blending the two frameworks provided a deeper understanding of production and consumption.

The microlearning video technique of informal learning, divided into smaller chunks of information on a single topic (Hug, 2017), can keep consumers engaged. The talking head video production typology (Hansch, et al., 2015) received the highest consumer ratings and can be attributed to the affective design in the IDQ framework. The talking head implies that the consumers wanted to visually see the presenter in the video to have the ability to make an informed decision about whether they were trustworthy. Trustworthiness can help foster a social partnership that can lead to deeper learning (Mayer, 2014). The consumers wanted to bond with an online one-way social relationship with the talking head narrator. They could see and hear if the presenter showed confidence as a subject matter expert, used self-efficacy to persuade them to complete the tasks that were the focus of instruction, and kept their interest and engagement. Their response with the thumbs icon and comments reflected their engagement. It is the simplest and most cost-effective video format with a single person talking into the camera.

There were several limitations to this study. YouTube has over one billion videos, and it is easy to hit saturation using a keyword search on any subject matter. The UGC creators need to use targeted keywords and ensure that the YouTube search engine optimization (SEO) is optimized with a video title, description, and thumbnails. YouTube uses these elements for searchable videos; however, if the UGC creator does not have a good description, YouTube's SEO will not pick up the description and match the keywords of the person searching for the content (Varagouli, 2021). No matter how well the video has been produced, with over 2.1 billion users worldwide, resulting in more than one billion videos watched daily (Ceci, 2022), users need help finding potentially valuable data and information.

YouTube videos were exclusively used for this study and did not include any other video sources or other sites with UGC. The 80 videos do not reflect the entire population but only a sample. The research software does not represent a deep analytical analysis to understand consumers' thoughts when using the thumbs icon and typing comments. What we do know is that the consumers are engaged to spend their time providing the narrator feedback. However, we do not understand why. Using a phenomenological approach to focus on the consumers' experiences, why they interpret the video with a thumbs up/down icon, and the need to leave or not leave a comment would gain a deeper understanding of their motives after watching the microlearning video. A mixed-methods study using quantitative statistical analysis and qualitative approaches using focus groups, interviews, and observations could enrich this study, where these tools fall short.

There were more thumbs up and positive comments in the 80 videos than thumbs down and neutral or negative comments. There are many reasons why consumers click the thumbs up icon, such as the content resonated well with them, the voice-over and overall production met their expectations, the background was not distracting, and the presenter was attractive or had a great voice. We can only assume that the consumers provided honest feedback, but we cannot verify this information or understand the nature of their satisfaction. Trustworthiness and reliability are essential factors since consumers may not be telling the truth for various reasons (Cypress, 2017). There were more reactions from the thumbs than comments, which could be attributed to several factors, such as it takes less time to click on the thumbs icon, or consumers may have clicked out of the video earlier and could not be bothered to spend time to write a comment. Since YouTube does not share identifiable private information, we know consumers were motivated to self-select and show their support.

This study signified that consumer satisfaction could be reached if the Professional Development topic resonated well when the talking head video typology was used, the presenter displayed themselves as a subject matter expert, the duration of the microlearning video was four minutes or less, and the physical, cognitive, and affective designs of the IDQ framework displayed a good balance. With over one billion videos online on multiple platforms accessible 24/7 globally, technical communicators and UGC users can use this study as a guide in creating their PD microlearning videos or any subject matter for all consumers. While every element in the instructional design framework is essential, it is recommended that technical communicators find the right balance to develop a microlearning video with a duration of four minutes or less, incorporate the talking head video typology, and engage with their consumers for the best results.

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