The added value of videos in technical writing

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Paris Diderot University, July 15, 2019

Videos play an important role in our lives, as well as in the daily lives of technical writers. Technical documentation has evolved throughout time and beyond written text, with multiple tools to choose from. This makes us wonder, to what extent is the introduction of videos in technical writing necessary?

Our research article seeks to answer this question, presenting the results of different tests and questionnaires. We will be able to determine how a user reacts to different sources of information, as well as how user experience affects the way a technical writer produces documentation.

Users have different learning styles, one can be verbal and the other visual, and a technical writer should keep that in mind when producing documents. Since everyone is different, having a video as a source helps and includes more people. However videos can be restricting depending on the situations.

Just like user needs, technical writing evolves, and so does technology. With the introduction of various forms of videos and the ability to integrate them in multiple platforms, a technical document can become more than just a traditional user guide. GIFs, chatbots and AI-powered applications are bringing new life to technical writing. Nevertheless, is video still really worth it?

Keywords: technical writing, video, usability, suitability, added value, tool, media, user experience
Acknowledgments

First, we would like to thank Ms. Marie Girard, who gave us the opportunity to compose such a research article.

We would also like to thank every professional who took the time to provide us with evidence on the subject discussed in the present research article, following the technical writing conference held on February 1, 2019 at the Paris Diderot University.

Moreover, we would like to thank all the participants who answered the questionnaire, both posted on LinkedIn and sent to the alumni of the Paris Diderot University, and each and everyone who took part in the three user tests about creating an origami box. This enabled us to have evidence in analyzing, discussing and putting our research article into perspective.

Finally, we are extremely grateful to the English-speaking proofreaders who corrected our article and enabled us to produce an improved and more comprehensible document, giving us good guidance before submitting our work and helping us stay in line with the professionalism required for such an article.
Introduction

A technical writer is expected to produce a comprehensible technical document to their best capabilities. Nevertheless, with the development of technology during the late 20th and early 21st centuries, especially with the gradual integration of the Internet in many aspects of our daily lives, technical writing has taken a more global meaning, incorporating advanced tools of the digital era. Undoubtedly, a multitude of means of communication is now available for technical writers to use, such as videos.

But how important are videos and are they truly that present in our day-to-day lives? A short answer would be yes. The emergence of videos on various technical subjects is a trend at the moment that can be found all over the Internet, and more specifically on social media. Nowadays, our lives are filled with videos: from video conferences to video ads or video promotions. And this does not stop here. In our everyday lives on social media, we often come across cooking tutorials, life hacks, beauty hacks, makeup tutorials, or even user guides on purchased products. This is where technical writers come in. Industry professionals are sometimes required to become script writers and to show creativity, turning a technical process into a video tutorial.

The integration of videos in technical documentation, whatever the software or the platform used, raises concerns in the community of technical writers. Coming from a writing background, the three of us were challenged by this concept, which was new to us. Gradually, but surely, we discovered that it is extremely interesting for a technical writer to have multiple options; however, the need to expand beyond traditional means of technical documentation goes hand in hand with the changes in user demands. And identifying these demands as well as user needs is extremely important in determining whether the final product will provide the adequate user experience that the technical writer is aiming for.

We can argue that a video is more attractive and more in line with the contemporary trends of the digital era. But at the same time, can we really argue that a product needs video support? Does it add more value to the user experience? And, most importantly, should a technical writer focus on the creation of a video instead of the production of a comprehensible written document?

Our research will seek to answer the following question: what is the added value of videos in technical writing? To answer this, we will analyze feedback from several technical writers and results from hands-on tests performed by different users. We will find out how the time to produce a given task varies based on the supporting resource – video only, text only, and video with text. We will pinpoint the most attractive, comprehensible, effective, and efficient source. Finally, throughout our research article, we will determine whether the use of videos also depends on the social context, whereby younger audiences may find a video more comprehensible or older audiences may be used to performing written tasks with more ease. In any case, these results remain subjective and are strongly based on other factors that are not necessarily related to technical writing, such as the level of knowledge, skills, experience and even personal preferences.
1. Methods

To complete our research on the influence and efficiency of videos in technical writing, we chose to be general first and more specific then. This is the reason we made a mind map of all the questions we wanted answers for. Once this was done, we listed the main ideas to build a questionnaire for technical writing professionals. To complete the results of this questionnaire, we designed three user tests starting with a consent form to guarantee the anonymity of the users.

The aim of these user tests was to create a paper origami box with the help of:
- a video procedure (test 1),
- a text-based procedure (test 2),
- a video procedure and a text-based procedure (test 3).

1.1 The Questionnaire

The first choice we made for our research was to build a questionnaire that targets technical writing professionals. It was important to collect data from various people from different age groups, regions and companies, whether they work with videos or not.

This questionnaire was published via Google Forms and shared by email to the Paris Diderot University alumni. Then, to widen the results, we shared it on professional social media such as LinkedIn. We chose to use French as the questionnaire language to target France-based professionals. But we are aware that English could have been an adequate language to use too.

1.2 The User Tests

For the user testing process, we came up with three different user tests. These were 16 minutes long, including the Return on EXperience (REX) step at the end. But before their completion, it was important to make our users sign a consent form, also made on Google Forms.

We chose to separate the test in three parts:
- the consent form,
- the test,
- the REX (annex 1).

The consent form was important for us to guarantee user anonymity. It was also crucial to specify the context of our research to our users.

Then, to target users from different profiles, we broke down the test into three separate ones, as stated before. First, a video procedure test (test 1) to measure the impact of a video procedure only. Then, a text-based procedure (test 2) to measure the efficiency of text in a technical procedure. Unlike the two previous tests, the last test (test 3) mixes a video procedure and a text-based procedure (annex 2) to assess their complementarity.

To conclude the tests, we made three REX via Google Forms to collect feedback from users. This helped to enhance our observation during each test.
1.3 Documentary Research

In addition to our questionnaire and user tests, we relied on scientific articles, specialized books and online forums. This task was not easy to perform, as finding recent data from reliable sources proved challenging.

We favored scientific databases such as Cairn or ScienceDirect first. Then, we looked for information through technical writing forums, videos and blog posts about videos in technical documentation sources.

2. Results

2.2 The Questionnaire

The results of the questionnaire were more significant than we expected. Indeed, more than 78 people answered and less than half of them had already created video content at work. Sharing the questionnaire on the professional social network LinkedIn increased the number of respondents. Similarly, emailing the alumni of the Master's degree had a substantial impact on the number of results.

We were thrilled to gather feedback from professionals of various backgrounds. Their domain of activity are more or less the same according to their position name: Content Developer, Junior or Senior Technical Writer, User Assistance Developer, Team Lead in Documentation and Translation, among others. They all work in France, except two, but are of different nationalities. Among the respondents, 60 are women and 18 are men. Even if most of them are from 22 to 35 years old, ten respondents are more than 46 years old. It is therefore interesting to compare their different experiences in the area, as shown in the following diagram:
Figure 1: Survey result (2019) - Experience of respondents in technical writing

About the usefulness of videos in documentation, eight respondents out of 78 answered that videos are not interesting for users. According to them, videos offer an interest for inexperienced users but not for experienced ones who want to go straight to the point. Over half of the respondents have a preference for video procedures when not at work. Consequently, some respondents are convinced that videos, even short ones, reduce the completion time of a task.

Figure 2: Survey result (2019) - Assimilation time depending on type of procedure
Although a text-based procedure has a longer assimilation period than video-based procedure, respondents all agree that videos are not easy to update and thus may contain some mistakes. This is why 60% of respondents always accompany the video with text. But this is not enough to be as interesting point about search issues with video as a written procedure, said a respondent. Diagrams and screenshots tend to be favored to avoid mistakes but these need to be updated regularly.

2.3 The User Tests

Test 1

As previously said, the first user test involves creating a box with origami paper by watching a video procedure. Four people agreed to participate in this test.

We observed that all the users quickly and successfully created the origami box because three out of four had already practiced origami in their life. However, all four think it was a bit difficult, which is why they all paused the video at each step to complete the procedure without making mistakes. In fact, regular pauses helped to follow each step carefully.

![Figure 3: Survey result (2019) - Necessity of pause in video](image)

In the feedback form, some of the results were quite interesting. Even if users completed the origami box without making any bad folding, they all said that the video procedure was too fast and that the origami paper in the video (plain paper) was not the same one given for the user test (patterned paper). Thus, it was rather difficult to understand some steps and some
foldings. Also, one participant mentioned that it would have been better to see the final result – the final box – to have a visual representation before beginning.

The results of user test 1 show that amateurs and beginners in origami achieved a satisfactory result with a video procedure. It is therefore easy to produce something with a video procedure, but people will always press the pause button to achieve their goals.

During this test, users completed the origami boxes in two to five minutes.

**Test 2**

The second user test was about making the origami box with only a written procedure that contains illustrations. Five people attended the test and, three of which had already tried origami art before.

All users thought they had successfully completed the origami box, but not without difficulties. While three users found the procedure quite easy, two others found it quite difficult. Nevertheless, the reaction at the beginning of the test was similar for all users: they all seemed overwhelmed by the length and difficulty of the procedure. However, as a result, only three users successfully made the expected origami box. The other two made either an improperly sized box or folded the wrong side of the paper.

During the test, we observed two strategies among the users. One of them carefully and slowly read the procedure step by step, while the others read several steps at once, or even skipped some of them, and went back and forth a lot between them. The second strategy shows the necessity for users to read a written procedure several times and to keep in mind only the essential information. This necessity is due to the length, the phrasing, but also the terminology used in some steps. In both strategies, the users have folded and unfolded the origami paper several times, which shows a lack of clarity in some steps.

This user test shows that the understanding time of a written procedure can be very long and frustrating, especially when the user is not familiar with the terminology used or with the technical field in question. Several readings and attempts are often necessary to understand the written procedure, but this is time-consuming and can therefore lead to annoyance. The illustrations are also very helpful to verify the work done. One user made a very interesting comment about this:

“It would have been even more difficult without images. They gave us an idea of the expected outcome and enabled us to know if we had well understood and construed the procedure. In the end, it was not that difficult when I finally understood the logic, but it was hard to start.”

During this test, users completed the origami boxes in eight to sixteen minutes.
Test 3

As previously said, the third user test was interesting because it mixed the two types of procedures: the video and the written one. Only three people attended the test so the following results could be supplemented.

In the feedback form, all users concluded that they completed the test well even if two of them had never tried origami art before. Although we stated at the beginning of the test that users were not the ones evaluated, some of them made comments about how they were not well gifted.

![Figure 4: Survey result (2019) - Background in origami]

Only one user found the test quite difficult, but the two other users met difficulties at some point: the box basics step. One of them started with the written procedure and automatically shifted to the video procedure to overcome the obstacle.

All users used the pause button and sometimes watched the video more than once. They therefore used the video as someone could use text and read it many times. The use of the two procedures simultaneously was highlighted for two of the users: first, the video to see the step, then the text to better understand the step.
At the end of the test, all users agreed that the video was the more helpful procedure of the two, even if the text could have been on its own. Indeed, the video provides better understanding for this type of procedure (origami art). But the text is a great backup when you are lost in the videos steps.
The users stated that the video is a bonus when it comes with a written procedure, whereas the text is welcome when the video is not clear enough. For an origami procedure, a video on its own could be sufficient according to the tested users.

To conclude the test, one user made a comment that was quite interesting:

“It allows us to see the importance of video in some contexts and the importance of writing in others. It can be seen here that the text is not absolutely necessary. Depending on the procedures and products, video and/or written material will be requested.”

During this test, users completed the origami boxes in six to seven minutes.

Summary of the three user tests

**Table 1:** Summary of test results

<table>
<thead>
<tr>
<th></th>
<th>Test 1: Video procedure</th>
<th>Test 2: Written procedure</th>
<th>Test 3: Video and written procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average completion time</strong></td>
<td>3 min 30 seconds</td>
<td>12 min</td>
<td>6 min 30 seconds</td>
</tr>
<tr>
<td><strong>Pain points</strong></td>
<td>The video procedure was too fast</td>
<td>Written procedures can be confusing</td>
<td>The video procedure is not clear enough</td>
</tr>
<tr>
<td><strong>Observation</strong></td>
<td>All users paused the video at each step to avoid making mistakes</td>
<td>Illustrations help to understand each step</td>
<td>A video needs a text backup</td>
</tr>
</tbody>
</table>
3. Discussion

Even if all the users stated that they completed the task well (the origami box), we found out there were disparities in the results. For that matter, some photographs of the origami boxes confirm this difficulty to understand some steps of the user tests.

**Figure 7:** Three origami boxes made during tests 2 and 3 (the first one is the only one properly realized)

Therefore, we could question if the use of videos in documentation enhances the understandability of a written procedure. In this case, this seems to increase difficulty.

These results echo some answers which are the main assumptions emerging from the questionnaire:

- watching video is more attractive than reading text,
- illustrating a procedure or a concept with a video is easier,
- making video represents a cost,
- creating videos and maintaining them up to date is time-consuming for technical writers,
- watching videos can be difficult in some context,
- adding video is not appropriate in certain fields,
- finding and indexing videos in search engines is difficult.

After collecting all these results, assumptions and points of view, we will discuss why videos are in the spotlight for technical writers.

### 3.1 Evolution of Tools in Technical Writing

As the English adage says: “A picture is worth a thousand words”. This means that information can be transmitted with just one image rather than long text. Actually, a long explanation is not always the best solution. It can indeed have the opposite effect: the user can feel lost and may not understand better. Going straight to the point is important these days and this vision is more and more perceptible in our everyday lives. Nowadays, people are more and more multitasking, they do not want to lose their precious time and therefore, want things to be done as quickly as possible.
In every field, tools are evolving and technical writing does not escape this reality. Less than ten years ago, when one wanted to cook, one would read an old cookbook, but nowadays, tutorial videos online have taken over written guides. Media such as videos are now also an information channel for technical writing.

### 3.2 Documentation as a Learning Process

It is appropriate here to remember that documentation serves users. Users read documentation to find answers to their questions, not for their own pleasure. Documentation transfers information from Subject Matter Experts (SMEs) to learners. This transmission can be done by different means. Having different means of transmission is significant because everybody has a different way to assimilate information. Indeed, our brains do not work the same way. For example, some people retain information faster when they rewrite it, while others better retain a visual snapshot of information.

Therefore, it is important to give access to information for everybody by different means, in order to facilitate understandability through documentation. Information can be transmitted by text-based documentation, by videos or even by images in technical writing. Having several models of information enables one to better understand, because the models can go deeper in the explanation.

Moreover, as we have seen during our third user test with origami boxes, when users have the choice to either read a procedure or watch a video, they often switch between one and the other. Offering users the possibility to choose what they prefer is reassuring. The complementarity between channels of information is important, but it can be time consuming for technical writers.

### 3.3 User Experience at the Heart of Concerns

The aim of technical writing is to help the user, giving clear and consistent guidance throughout the document, in a language that is both technically accurate and easy to follow, without distracting the user from the outcome. We believe that technical communication must follow the evolution of language and technology, as well as incorporate these into the document produced.

We have tried three different means of communication. And while technology is allowing us to go further into any activity that requires documentation, sometimes traditional text, or additional information, written or illustrated, can be helpful tools in conveying the message the technical writer is aiming for.

Undoubtedly, a technical writer should pay attention to the disparities among users. Taking into consideration not only the level of technical knowledge of users, but also the fact that we
live in a pluralistic society: with non-native speakers, who also want to fully understand the message we need to convey and produce an adequate result, regardless of their language proficiency and skill.

Besides this aspect, producing several documentation media is important in terms of accessibility. Even when accessibility is not the priority when writing documentation, it is important to remember that some users have disabilities. Whether they are temporary or long-term, these disabilities should be taken more into account as pointed out in the Web Content Accessibility Guidelines (WCAG). Offering accessible documentation with different media is crucial, and to that extent, adding videos to documentation can be useful.

Every document is different, just like every audience. It is important as technical writers that we identify our target audience before putting together our document or video, in order to identify both the language we will use, and the terminology and means through which we will convey our message. User experience should be the center of our concerns, as users are the ones who determine how a document will be produced.

3.4 Digitalization, but at What Cost?

With the evolution of technology, a technical writer now has more than words to convey the message required. Instead of providing more written information in a way that may cause confusion, added values can have a more appealing result. As observed in test 3, whereby users were given a written source accompanied by video imagery, users were more successful. And we are not only limited by these methods. Technical writers are now able to let their spirit run freely, and can work closely with illustrators, video makers, photographers, musicians and computer scientists, aiming at providing an inclusive and comprehensive result.

Indeed, keeping an open mind and working in an inclusive manner is definitely important. However, a technical writer should always take a step back when deciding which means to implement in their work, as specific fields can present their own challenges and limitations for a technical writer. It is definitely interesting and exciting for a technical writer to have all these means at their disposal.

Certainly, videos can provide valuable information and can make the document more user-friendly. However, they require more skill as well as time and creativity to be produced. In reality, few companies or business owners will compromise time from the launch of their product for a video tutorial to be prepared, as they require more time and definitely more specialized staff to prepare.

On the other hand, in cases with no Internet connection, or limited time, watching a video may not be a useful tool in the hands of professionals. Traditional paper sources, although not so environmentally friendly, can be the only solution in those cases.
Even in the Computer Age, many users prefer the traditional written method to be more efficient and more time-effective, as they can scan the documentation to find the answer to their question, instead of watching a long video, which can sometimes make finding the answer more time consuming. With test 3, we have concluded that even though a video can be an easy-to-follow means of communication, especially in craft-making, users will always need another form, which can help them further understand the activities involved.

3.5 The Emergence of New Types of Interactive Content, Better Than Videos?

Nowadays, we begin to identify new types of interactive content in technical writing. While videos have become common in technical communication, the complexity of their production and hosting makes them less popular than before. However, visuals are still crucial to attract attention in technical documentation, whether they are diagrams, videos, animated GIFs (Graphics Interchange Format) or photographs.

Even if animated GIF is not a new concept, it tends to be even more popular than it was 30 years ago. At first, their brief format was interesting for email communication and advertisements, but they are now well considered by technical writers too. According to Joshua Oakes, Content Writer in Vancouver: “[…] Using animated GIFs has several advantages. They are easy to make. And cheap. They are low bandwidth, which matters for some users. When embedded into a document, they start automatically – videos need to be clicked, a barrier to viewing them. By removing the barrier, the GIF ensures that the reader actually sees the content […].” (2017). Indeed, in technical documentation, GIFs are being used for their demonstrative and instructional value. The decorative goal is not favored in our case. They are consequently well fitted to answer the need of immediacy of new users. Is the GIF the new favorite tool of technical writers? Would our written procedure better understood if we include GIFs instead of images?

And how can we talk about user assistance without AI-powered chatbots and applications? With AI (Artificial Intelligence), which is different from AR (Augmented Reality) which mixes reality and digital elements, interactivity has again increased in technical documentation. AI emphasizes the creation of intelligent machines that work and react like humans using context. Companies have been developing new tools to enrich and suggest new information from a picture, text, label or metadata. For example, the spell-checking application, Grammarly, surpasses the immediate translators such as Google Translate or DeepL.

If we talk about Hotjar, a tool which analyzes user feedback and behavior, there is a lot to say. Let us try to understand the amount of information you could collect from your users through session recordings, surveys, among others. Integrating such a tool in your documentation portal to get feedback is a gold mine. It brings not only interactivity with users through on-page polls, incoming feedback pop-ups, but it also helps you to improve your content to keep only the useful information.
Micro-content and contextual help are a current trend in technical writing too. They facilitate contextualization and give material to the bots and IA. Molecular content needs to be autonomous, simple and combinable to predict the future needs of users. In our case, if the users need to find an answer to their question on the procedure they are working on, they can go through the documentation portal or the chatbot to find the answer. When using micro-content, users are looking for a specific piece of information in a larger topic, said Neil Perlin (2019).

Interactive content does not only include videos, but also brings together complementary formats such as the above mentioned. As time goes, technical writers will have to work with such formats not for a decorative goal but to improve readability and attractiveness of the content they produce.

3.6 Conclusion
The purpose of this study is to investigate the added value of videos in technical documentation, especially comparing the written and the video procedures. Our research, questionnaires and user tests clearly demonstrate their interdependency. At first, we are aware that our research can be limited due to the type of procedure we wrote and the specific conditions in which we conducted our research. At any rate, it brings solid foundations thanks to the various tests we conducted to gather several types of users. Nevertheless, we advise further research to validate the results we found, considering things are still evolving. For instance, creating more procedures with a different level of difficulty and about a different technical field, or gathering experienced technical writers to complete the user tests.

In a changing society, user needs have evolved like the technical tools. Technical writers are well aware that PDFs are no longer the future of technical writing. But including videos into document procedures brings questions and problems to solve. Are they always useful? Are they only decorative and best suited to the marketing area? Are they well referenced within the documentation portal and easy to find?

It is true that videos increase understandability in a complex procedure documentation. This need of immediacy has been influenced by the Internet. Consequently, long text remains popular but in certain contexts. Thus, videos partly address this need with their brevity, synthetic presentation and the possibility of using the pause button at any time. But prior analysis of their context needs to be done by technical writers to prevent unnecessary use. As everything else in our life, we need balance, a right dosage.

Today, videos fulfill user needs, for the major part. As we discussed earlier, society is moving along with technology, tools and user demand. But will videos retain their place in the future? It is not sure. They may become obsolete in a near future. The technical writing
domain is constantly changing, as are user needs. This is why we are convinced that AI-powered applications such as chatbots, micro-content and contextual help are the future of technical writing. Written procedures can improve thanks to these new tools and working approach. If videos will not do the job, these will.
Bibliography


About the authors

Claudia Anthonypillai graduated from the Paris Diderot University with a Bachelor’s degree in Applied Foreign Languages. Her internship in Siemens as a Junior Technical Writer, during her Master’s degree in Technical Writing, enabled her to expand her knowledge in this domain and see herself pursuing technical writing as a career.

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She was interested in languages, creation and writing. This lead her to a Master’s degree in Technical Writing in both Clermont-Ferrand and Paris.

She aims to expand her skills in desktop publishing, e-learning and video editing to be a well-rounded professional in the area.
Annexes

Annex 1: Part of the test 3 REX

Retour d'expérience Origami - test 3 (vidéo et texte)

A la suite de la tâche que vous allez réaliser, nous souhaiterions obtenir votre ressenti. Vous pouvez parler librement, nous ne sommes pas là pour juger vos préférences et résultats.

Avez-vous réussi à réaliser l'origami ?

- Oui
- Pas entièrement
- Non

Avez-vous déjà réalisé des origamis auparavant ?

- Oui
- Non

Annex 2: Part of the written procedure delivered during user tests 2 and 3

Test utilisateur

Créer une boîte en origami

Concevoir un rectangle

1. Munissez-vous de votre feuille de papier origami.
2. Placez le côté uni sur la table.
4. Refaites cette étape avec l'autre ligne médiane sans déplier.

Résultat : Vous obtenez deux rectangles de couleur unie l'un sur l'autre.