JOURNALISTICA
2023, pp. 91-113
https://doi.org/10.7146/journalistica.v17i1.136864

Bringing it to the classroom

An empirical study of using a hands-on model for creating digital storytelling

STEFFEN MOESTRUP
Danish School of Media and Journalism

KARSTEN VESTERGAARD
Danish School of Media and Journalism

Abstract

The article introduces the *Digital Story Model* and discusses the student experiences of applying the model. The model is made with the ambition to improve and enrich digital stories created by journalism students, professional journalists, and other kinds of digital storytellers. In the study, we adopt an action research approach and test the model in an international classroom setting with 85 journalism students representing 35 countries. The findings of students' experiences with applying the model point to a number of strengths and weaknesses. Strengths include the model's usefulness as a structuring and planning tool, to improve creativity, as a shared language in an international group and as an assistance in considering the potential story modalities. Shortcomings include the model preventing creativity and creating standardized stories, the model being mostly beneficial for inexperienced reporters and being too linear. The study concludes that the model is significantly useful when it comes to enriching digital storytelling but there is a need to revise the model further and to alter the way it is presented in the classroom.

KEYWORDS
digital storytelling, digital journalism, action research, digital story model, narrative journalism

Introduction

Why do our students – in a course on digital journalism – continuously use text as their primary modality and then consider other modalities as icing on the cake? Why don't they take advantage of the many modalities offered by technological developments when creating digital storytelling? And why don't they consider the entangled relationship between form and content? It is questions like these that form the primary motivation for the work presented in this article.

As educators of students within the fields of journalism and interactive design, we are dealing with students who to a large degree are working with the art of telling stories. No matter if we are focusing on a journalistic long read, a news report or a piece of interactive design, there is always an element of mediated storytelling at work (Schudson, 2011, p. 186). It is essential that the students acquire knowledge of and experience with the various tools at hand that they can use to tell stories. Our experience has been that many students fall back on the tools that they are most familiar with. For journalism students, this is often the modality of text. It is a flexible modality. Easy to work with. Does not demand much technical savviness nor create much technical difficulty. Therefore, it quickly becomes the main building block of stories.

The research on digital journalism and in particular the research focusing on longer formats, feature journalism and multimedia storytelling seems to support our classroom experience. As pointed out by among others van Krieken (2018) and Hiippala (2016) text is often the primary modality when it comes to storytelling in digital journalism.

This is not necessarily bad or wrong. Text is without doubt a very useful and very flexible modality. However, it is unfortunate if text is primarily chosen as modality because it is the easy path or perhaps because the storyteller is not familiar with the other options.

Based on our experiences in the classroom and reading the literature in the field, it is our impression that there is room for improvement. Our work with *The Digital Story Model* is a step towards this improvement (the model and a user guide can be found in appendix 1). With the model, it is our aspiration that students and storytellers can use the model as a processual guide in the making of stories. Furthermore, we hope the model can challenge the "text first" way of thinking when it comes to creating stories and hopefully enrich the storytelling landscape.

This article will present the development of the model as well as experiences applying the model. The central focus of the article is to investigate how the students assess the model and its applicability.

This focus was chosen because the model was developed in co-creation with the students which has led to the follow research question:

> RQ: Which strengths and shortcomings do the students experience when working with *The Digital Story Model*?

We adopt an action research approach consisting of a mix of data which will be presented and discussed in the method section. Before doing so, we will dig further into the literature on digital storytelling and the literature presenting hands-on models. A methodological section will be presented before introducing and discussing the findings based on our work with the model in an international classroom setting. Finally, a discussion and conclusion will sum up our work and points to some of the strengths and shortcomings of the model and the necessary future roads to take.

Literature review

This section will address research on digital storytelling in a journalistic context in two parts. The first part will consist of a discussion of the work on the modalities in use in digital storytelling while the second will deal with the various attempts of creating models with some similarity to the work that we embark on.

Digital journalism has in recent years been partly characterized by a renewed interest in doing narrative journalism using digital tools. An extensive study done by Jacobsen, Marino and Gutsche Jr (2015) analyzed 50 long-form multimedia journalism productions published 2012-2013 and claimed the pieces represented a "driving force behind a new period of literary journalism" (2015, p. 2). The content analysis found three main literary functions of the multimedia elements in the data. Firstly, the authors found an interplay of multimedia and literary techniques such as characterization and the use of scenic description to create meaning. Secondly, the analysis highlighted the use of video loops to establish the stories' sense of time, place, and character. And, finally, the researchers found an extensive use of parallax and single-page scroll to create a more linear way of doing narratives. In a more recent study, Dowling (2019) tracks the development since the release of the groundbreaking New York Times production "Snow Fall" in 2012 and by analyzing productions such as "Greenland" from 2015 and "Cocainenomics" from 2015, Dowling finds an extensive use of literary storytelling techniques such as characterization, dramatic tension, scenes and dialogue, which are then placed in an immersive and distraction-

free design "carefully edited and less cluttered with gratuitous interactives" (Dowling, 2019, p. 533). This last observation resonates with the concept 'cognitive container' which was originally used by Dowling and Vogan (2015) to describe storytelling "in which media add-ons work to hold reader attention rather than scatter it to external Web sources" (Dowling & Vogan, 2015, p. 209). The authors underlined the need for cohesion and stylistic unification. A similar point was made by (Moestrup, 2022) where an analysis of a number of digital longform stories from the Danish daily Kristeligt Dagblad demonstrated the use of *digilogue* artefacts, in which analogue media such as handwritten letters, drawings, super 8 video footage and private family photos were digitalized and used to create personalization and cohesion in the storytelling (Moestrup, 2022, p. 177).

Despite the many opportunities in the digital toolbox, several studies have shown that text is still a very fundamental modality in many digital journalism productions. In an analysis of the classic of digital longform journalism – "Snow Fall" – van Krieken concludes:

> Text is used for all three categories of narrative techniques—scene reconstructions, event structure, and viewpoint techniques—and is thus not replaced by other media formats. Rather, text is complemented with audio, video, pictures, and graphics.
>
> (van Krieken, 2018, p. 12).

What is obvious from van Krieken's analysis is that text seems to be the modality around which all other modalities circle and comply with. It is text that ties the piece together and it is text that forms the main narrative. A similar conclusion was reached by Planer, Godulla, Seibert & Pietsch (2022), who examined a range of award-winning digital storytelling from 2011 to 2021. The authors found that "continuous text proved to be the most stringent feature" (Planer, Godulla, Seibert & Pietsch, 2022, p. 609).

In their suggestion for a taxonomy of digital stories, Grabowicz et. al, 2014, suggest differentiating between traditional multimedia and embedded multimedia. The former being defined as a Christmas-tree approach where "multimedia elements like videos, photo slideshows, maps and graphics are add-ons, placed to the side of the main text story like ornaments hung on a tree" (Grabowicz et. al, 2014, para. 1) whereas the latter is characterized by having multimedia elements "integrated into the main story so they're viewed at appropriate points in the narrative" (Grabowicz et al., 2014, para. 1). As pointed out by Andreasen and Giebner, 2021, a content element such as a video cannot be removed in an embedded piece without changing the story. If it is possible to remove the video without any consequence for the story and the cohesion of the story, then we are

probably dealing with a piece of traditional multimedia where the video is merely a piece of ornament (Andreasen & Giebner, 2021, p. 320).

Hiippala's content analysis of 12 longform digital articles used the analytical concept of screen defined as "a transition to another semiotic mode, for instance, from paragraphed text (e.g. text-flow) to a full-screen looping video (e.g. dynamic image-flow) (Hiippala 2016, p. 13). The 12 longform articles contained a total number of 206 screens. 42 % of these screens were the mode of text, 29% were photography, 18 % was video, 4 % was map and only 1 % was animation (Hiippala, 2016, p. 15). Hiippala argues that the choice of text as primary modality is a way to create the cognitive container because "the linear structure of text-flow does not require resolving discourse relations across the layout space, allowing the reader to remain focused on the unfolding narrative" (Hiippala, 2016, p. 17). A similar point has been made by Lassila-Merisalo who argues:

> Multimedia and interactivity add new levels to the "multireferential plane" of narrative journalism, which can strengthen the authenticity of a story. However, too many sensory elements can distract the reader's attention, which weakens the immersive effect.
>
> (Lassila-Merisalo, 2014, p. 10)

We do not object to the immersive and distraction-free characteristics of text. But we do believe that with the right design and a careful attendance to a cohesion between content and style, other types of modalities such as audio, video, graphics, and animation also incorporate the ability of creating immersion and a distraction-free narrative. This point will be further discussed later in this article once we have presented the *Digital Story Model*.

Now we will turn to the second part of the literature review, and examine work done by researchers whose aim has been to develop models or other hands-on approaches to the production of digital storytelling.

In their foundational work on practical approaches to multimedia journalism, Hernandez and Rue take a departure point in a non-hierarchical understanding of modalities. "One isn't better than another", they write in the introduction, (Hernandez and Rue, 2016, p. 2) and emphasize the importance of considering modalities early in the pre-production phase. The authors propose three categories of prototypes called digital story packages that each have different characteristics and are each suitable for different kinds of stories. The main argument from the authors is the need to decide early in the process, what kind of prototype story to build and which modalities to draw on in the specific prototype (Hernandez & Rue, 2016, p.

187). When the digital toolbox become increasingly expanded with new technologies and new platforms, it also becomes increasingly important to decide what to use and what not to use and in the words of Pincus et al to make sure the multimedia elements are placed at "appropriate points in the narrative" (Pincus et al, 2017, p. 749).

This aligns with the main argument from Dunham, 2020, where he states that failed multimedia stories often depend too heavily on just one modality or has too many elements and becomes redundant and repetitious. In the words of Dunham, "clarity of purpose is essential to successful multimedia projects" (Dunham, 2020, p. 317). We have adopted this focus on purpose as a main guideline in the work with the model. This has been done by continuously addressing the value of purpose in the presentation of the model was well as when gathering input from the students as will be addressed below.

Another hands-on approach can be found in the work by Pavel & Pavel, 2017. The authors focus on the genre of interactive documentary and develop a conceptual and analytical framework articulating key dimensions of the genre. The framework is used to analyze 10 interactive documentaries and concludes that there does not seem to be a single design standard but rather a mix of approaches in which "journalists utilize a wide spectrum of techniques in producing and designing interactive documentaries" (Pavel & Pavel, 2017, p. 394). It is our ambition to conceptualize the *Digital Story Model* in a way that allows for this wide range of approaches while still guiding the student and professional user in a fruitful way. Unlike Pavel & Pavel, 2017, it is not our ambition to create a model for analysis of existing stories but primarily to develop a processual model to use for creating stories.

Overall, the literature review points to several relevant findings considering the ambition of this article. Firstly, we found studies highlighting the dominating use of text as the main modality throughout the corpus of digital storytelling in journalism. Secondly, we have discussed studies problematizing the use of modalities in ways that disturb the need for immersive and distraction-free experiences. Thirdly, the literature review has presented a few hands-on approaches to the production of digital journalism where the approaches are characterized by a non-hierarchical understanding of modalities. These different points will inform the analysis and discussion in this article but before reaching that point, we will now turn to a methodological introduction to our work.

Methods

As stated in the introduction to this article, the departure point of our work has been a very practical challenge. The challenge is two-fold; firstly, inspired by the literature review, we have identified the use of text as the main modality in many of the digital stories done by the students and, secondly, we have identified a lack of cohesion and a tendency to multimedia ornamentation (the Christmas tree-approach) in much of their work. In other words, we have the ambition of changing a current practice in a classroom setting; namely to enrich the student's skillset when it comes to creating digital stories.

A beneficial methodological approach, when the aim is to change or improve a practice, is the action research approach. It is beyond the scope of this article to embark on an extensive discussion of the approach, which can for instance be found in Greenwood & Levin, 2006 and Reason & Bradbury-Huang, 2007. In the current work, we subscribe to an action research approach rooted in a journalism education context which has been applied and successfully tested by for instance Grubenmann (2019) and Meier & Schützeneder (2019). In the latter work, the approach was conceptualized and four main principles are deduced. Here is an outline of the principles and how we situate our current work in relation to these principles:

1. The action research of problems must include "possible solutions and their implementation in practice" (Meier & Schützeneder, 2019, p. 202). By suggesting a model for the students to work with, we aim for a possible solution rooted in a practical implementation.

2. Unlike traditional research where the researched is seen merely as objects, "in action research it is the dialogue between the researcher and 'researched' that permits insights to be gained." (Meier & Schützeneder, 2019, p. 202) In our case, the students are seen as dialogue partners because it is the student experiences of working with the model that forms the output of our study. The Digital Story Model can be seen as the research object, but it is through the use of this object and the dialogue surrounding this use that insights are gained.

3. "Research undergoes several cycles that are organized as a learning process" (Meier & Schützeneder, 2019, p. 202). The model is seen as a dynamic instrument that will change according to the experiences of the users. In the first cycle we presented what was initially labelled The Digital Journalism Model. Based on input from the students, this model was altered and refined in the second cycle where it was labelled The Digital Story Model and as we will discuss in the final

paragraph further cyclical processes are to be expected.

4. "The fundamental difference between the science and practice system is acknowledged" (Meier & Schützeneder, 2019, p. 203) and it becomes important "to see one's own practice through an outsider's eyes" (Meier & Schützeneder, 2019 qouting Moser, 1995, p. 14). In our current work, the model is not only used by the students to enhance their practice, but it also becomes an instrument with which the students can critically engage with their own practice. This is done in reflection reports accompanying the journalism product. In the reports students critically discuss how the model has been used and what kind of consequences this particular use has had in their current practice.

The four principles have informed our work and guided us in the phrasing of the research question which we state as:

RQ: Which strengths and shortcomings do the students experience when working with *The Digital Story Model*?

This is the main research question that we will respond to in this article. However, it is necessary to outline the various methods that has informed this work and the cyclical research processes that has been carried out. The current study presented here is the second iteration of an ongoing cyclical process with developing the model.

The first prototype of the model – called Digital Journalism Model – was presented to the students in the first course (see appendix 1). The students applied the model in a group assignment creating a digital piece of journalism. Supplementing the journalistic product was a reflection report where the students discussed their use of the model. Furthermore, eight students participated in focus group interviews where the educators gained more qualitative data on the experiences of the model from a student perspective. Finally, the educators have made use of observations from coaching sessions with the students as well as assessing the product being made with the prototype of the model.

These three types of data (student reflections, focus group interview data and educator observations) have all informed the revision of the model, which resulted in *The Digital Story Model*, that was introduced and applied in the second course. In this course, the students worked in groups and created a larger piece of digital feature journalism making use of the model. Once again, the students have discussed the use of the model in a reflection report and, lastly, we have created a survey which 61 students responded to partially or totally and which 47 students completed. The data from the survey is considered the main data set when responding to our research

question listed above. The questions in the survey were informed by a combination of observations from the educators and reflections from the students stemming from their reflection reports.

Before proceeding to the findings and the analysis, we will briefly discuss some of the weaknesses of the methods applied. As previous research has shown, action research has capabilities when it comes to bridging theory and practice closer together through the holistic and inclusive approach (Grubenmann, 2019: 164 and Fendt & Kaminska-Labbé, 2011). However, in our current study the bridging of theory/academic insights with practice/classroom work had the challenge that we were acting as both researchers looking for data as well as being educators training students and grading them. This two-fold function can be seen as a weakness in action research as it could affect some of the data we have gained as well as how we interpret the data. For instance, there is a risk that the students will sweet talk the educators in order to maintain a good relation when they also receive grades from the same educators. This challenge is one of the main reasons why we chose to also gather data from a survey where the students responded anonymously.

The goal of action research is to "improve practice in a controlled manner (Grubenmann, 2019: 169) and this is somewhat challenged by the two-fold function we have had in the project. In action research the researcher becomes more like a collaborator which can challenge this form of qualitative inquiry.

Furthermore, we cannot directly measure if the practice has been improved only by investigating the experiences the students have had using the model. This would also require an evaluation of the journalistic products being made with the model. This latter aspect is beyond the scope of the paper to include but the lack of it does add to the insecurity of the results in our study. Finally, because the action research approach often involves a great number of mixed data which was also the case in our study, it can be difficult to systemically collect these data as some of them arrive unexpectedly. In many ways, this less systematic element in the method is a strength because it adds a great amount of flexibility and openness to the method. The downside, however, is that the lack of formality can actually make it hard for the researcher to discover the values of the different kinds of inputs that much be gathered more or less while they occur (Grubenmann, 2019: 170).

Before proceeding to the findings, it is necessary to outline the context in which the model was presented and applied, as well as to introduce the model itself.

Context and the model itself

The model has been introduced and tested in two courses at master level in the fall of 2022 at the Danish School of Media and Journalism. The courses are part of an international Erasmus Mundus master in journalism with a class of 85 students enrolled. The students represent 38 different nationalities and have very different skillsets and professional levels which will be presented in further detail below. The international and diverse classroom creates a unique setting for testing the extent of the general usefulness and universality of the model.

Before we present and discuss the main findings from the survey, we will now briefly introduce *The Digital Story Model* (a more comprehensive guide of the model can be found in appendix 1). The students are introduced to the model as a graphical illustration supplemented by a written set of guidelines. This is the model in its graphical version:

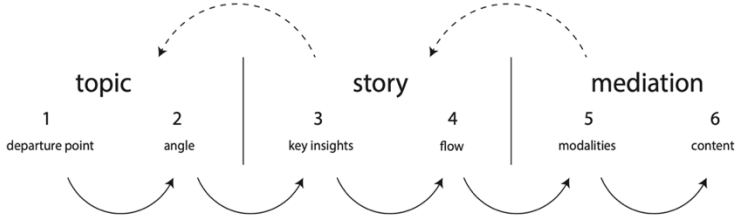

Figure 1: The Digital Story Model

The model consists of six steps: *departure point*, *angle*, *key insights*, *flow*, *modalities*, and *content* which are grouped into three phases: *topic*, *story*, and *mediation*. The arrows pointing from one step to the next step suggest a linear process where one step must be dealt with before moving on to the next step. The vertical lines illustrate, that the user goes from one mindset to another when changing phase. For instance, in the phase labelled *topic*, the user has a broad mindset investigating a lot of opportunities when it comes to different angles. Moving to the next phase, the user has narrowed down the mindset by deciding on the main angle of the story and now focuses on the key elements of this particular story. In the last phase the focus has moved solely to the mediation of the story. However, the dashed arrows on top of the three phases also underline a possibility to move back and revise some of the previous parts of the model due to the developments encountered once the

research of the digital story has begun. As such, the model is linear with circular options when needed.

The first step, *departure point*, consists of the initial idea development of the story. This can be a set task given by an editor, insight from a journalist's surroundings. It can be based on reports gathered or simply an idea shaped in the journalist's mind. In the second step, *angle*, the students start researching their story to get a clearer idea of the story angle which is then phrased as a core sentence starting with the wordings "I want to say that...". The student also decides which audience to target and what kind of platform to use. This is put with a sentence phrased as: "I want to say X to Y, and I will say it using Z" (Y being the audience and Z being the platform or technology to be used such as VR, Instagram-story, web doc etc.).

In the third step, *key insights*, we move into the story phase. In key insights the students find the main building blocks of the piece. What insights will the audience learn from the piece which also translates to, what kind of material the journalist needs to gather (for instance interviews, data, reportage elements etc.). In step 4, *flow*, the students will outline the structure of the piece. Here the angle on the story (step 2) is combined with key insights (step 3) to determine the best structure in which to unfold the story. This can be a linear structure where the students decide on the progression of the individual elements, or it could be a non-linear structure demanding a more interactive user approach. In this step, the style of story is also determined which again is partly dependent on the audience and platform decided upon in step 2.

In step five, *modalities*, the students determine which modalities to use in the story. Often, it will be a good idea to discuss modalities for each key insight and determine which one is most suitable. Modalities are categorized into three types: *static*, *dynamic*, and *interactive*. The static modalities can be experienced as a single impression. This can be text, images, maps, graphs, timelines etc. These modalities don't dictate how and in what order the user is supposed to engage with it. The dynamic modalities are modalities that unfold over time such as audio, video, and animation. Common to these modalities are that you start the modality and experience it while it unfolds. Finally, there is the interactive modalities. These modalities draw upon the other modalities but add a layer of user engagement. These modalities can be things like navigation, interaction, and gamification. You can have a traditional timeline or a timeline you can interact with. You can have images or interactive images. You can even have small games embedded, that consist of several images and sounds to give a game-like experience that perhaps allows the user to understand the story on a new level. It is highlighted in the guidelines that no modality is better than another. It all comes

down to context, the ambition of the story, the intended audience, and what material the journalist can gather within the production time allocated to the story.

Finally, in step six, *content*, the production is taking place. The game is being coded, the audio recorded and edited, the words being written etc. Some of the content production might have started already in step three (key insights) because the research part and the production often take place simultaneously in journalism, but it is here in step six that the content production is finalized. Once again, it is important to underline the circular nature of the model. Different decisions taken in the model progression might affect prior decisions and make it necessary for the user to go back to these steps again. Furthermore, the model is situated in the idea that form and content are dependent on each other and shapes each other. Form is not merely a way to dress up content but also to some degree dictates what kind of content it is possible to create and communicate in each specific story.

Findings

Before presenting and discussing the findings from the survey, we will touch briefly upon the details of the students with which the model was tested. As stated above, the program is an international master program with 85 students enrolled representing 35 different nationalities and primarily working in groups during the assignments. 61 students responded to the survey (N=61), however only 47 respondents completed the entire survey. The class has a diverse professional experience level as illustrated in figure 2.

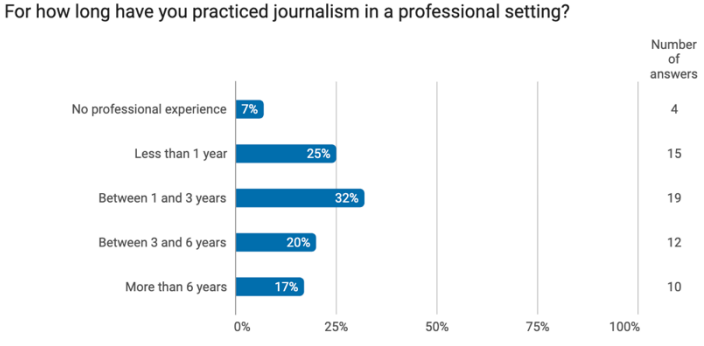

Figure 2: Experience with professional journalism

While only 4 students have no prior experience, most of the class has either less than year (N=15), between 1 and 3 years (N=19) or between 3 and 6 years (N=12). This diversity has made it possible to test the model on students with not only mixed cultural backgrounds but also different experience levels. Now let us turn to the findings from the survey.

Structure and creativity

A significant number of students respond positively to the model when it comes to structuring their work. This can be seen both in the quantitative as well as the qualitative data. In the survey 47 responses were made to the statement "I feel that I became more structured when using the Digital Story Model". A high number of students either somewhat agreed (N=9), agreed (N=20) or strongly agreed (N=11) with this statement while only very few either strongly disagreed (N=1) or disagreed (N=5) as can be seen in the figure below:

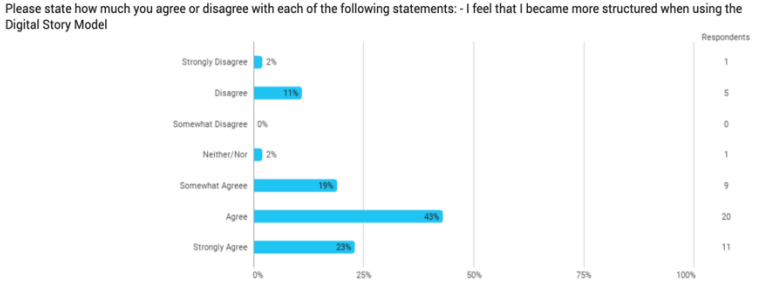

Figure 3: Becoming more structured or not with the Digital Story Model

One of the most repeated qualitative statements about the advantages of applying the model is how it helped structure the workflow. This can be seen in quotes such as these:

> "The digital story model helped me plan and structure my story well in the pre-production phase."

> "The Digital Story Model helped my group put our brainstorm into words and break the story structure into layers so we could better visualize what we were starting to produce."

It seems clear from these statements that the model is particularly useful in the pre-production phase where the students need to decide and design the overall structure of their work. These data can

also be interpreted as a way the model helps the students get to the clarity of purpose as it is phrased by Dunham, 2020. By helping the student to decide on the primary focus of the story – both content-wise and modality-wise – the model makes it easier for the students to stay on track when it comes to the purpose of the story. This will likely also help the students to avoid the risk of having repetitious and redundant modality use as pointed out by Dunham.

The qualitative data, however, also points to some shortcomings when it comes to the structuring abilities of the model. This can be for instance be seen in a statement such as this:

> "The idea gave me structure, but I had to tweak it a lot of time because it's not the way my brain works to produce a digital piece (not in the same order, some stuff comes up at the same time in my mind, etc.)."

This statement perhaps points to a shortcoming in the linear way the model seems to be interpreted by the students. Despite the attempt to visualize the circular aspects in the model by using arrows, it seems some students think of the model as a linear tool. This is underlined in statements such as these:

> "I sometimes felt constrained by making sure that everything in my project fit into the Digital Story Model."

> "Rigidity of the model. Should provide more freedom to explore through cyclical processes and allow room for going for back and forth."

These statements to some extent point to a general weakness with models; that applying a model can be experienced as an unnecessary standardization that limits the wiggle room of the user. As we stated in the literature review, our ambition with making a process model rather than a prototype-guided model such as the one done by Hernandez and Rue (2016) was to allow a greater degree of flexibility. We cannot know how the students would experience a prototype-guided version of our model, but it seems clear that the current process model still needs further revisions in terms of flexibility and wiggle room.

Speaking of wiggle room in relation to structure, it naturally makes sense to investigate the degree to which the model accommodates creativity. From the quantitative data, we can interpret a mixed set of experiences when it comes to the statement "I feel that I became more creative while using the Digital Story Model". Again, we have 47 responses and while 9 respondents disagree with the statement and 4 disagree, we can also find 8 respondents agreeing and 14 respondents somewhat agreeing:

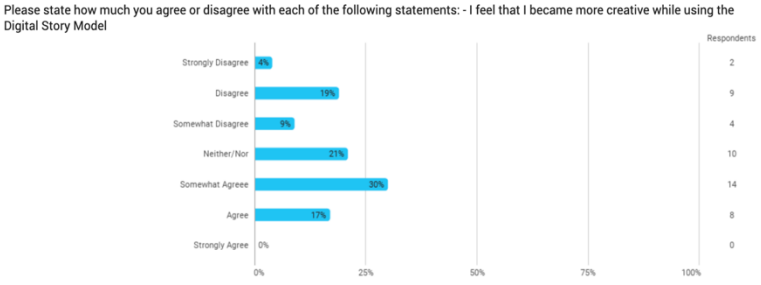

Figure 4: Becoming more creative or not with the Digital Story Model

When we look at the qualitative data, it becomes clear that the aspect of creativity when applying the model is interpreted in quite different ways. Some students find the model beneficial for their creativity. This can be found in statements such as these:

> "The structure actually made my creativity flow better due to the step-by-step guide allowing me to come at it from a variety of different approaches/angles."

> "Induces structure, clarity, creativity and made me think of points I didn't before."

Other students on the other hand find the model to be a hindrance when it comes to creativity. This point is for instance articulated in responses such as these:

> "Maybe a lack of creativity/creates a standardized way of telling stories that don't give space for unique/creative exploration."

> "I think it's a good starting point for green reporters, but for people who have experience, the model restricts our creativity because there is now a "checklist" we need to check while creating stories for the course."

The mixed experiences likely point to two different types of students. Some students seem to get more creative if they get a framework in which to unfold their creativity within while other students feel constrained creativity-wise if they are told to act within a certain of rules or guidelines.

Experience level and teamwork

The last statement is interesting because it is backed up by a number of statements that suggest that the model is mostly useful for inexperienced reporters while students with a larger amount of professional experience find less use of the model. This interpretation of the model and its level of relevance can also be seen in the quantitative data when looking at the responses to the statement "Steps in the Digital Story Model are irrelevant for the creation of digital stories". We have crossed the responses with the different levels of professional experience which results in these results:

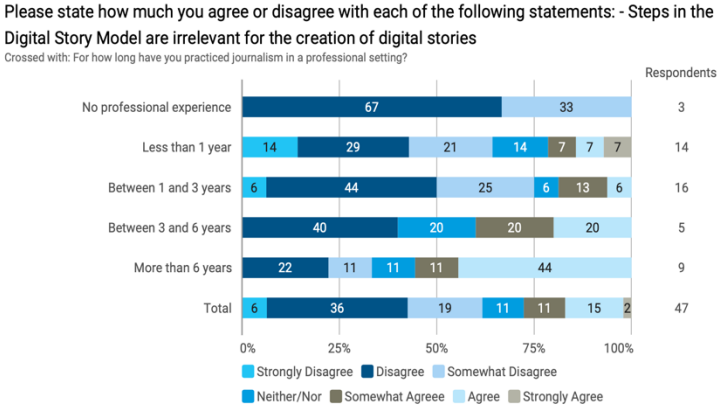

Figure 5: Relevancy of the steps in the Digital Story Model

There is a slight tendency to find the model irrelevant when the respondent has more professional experience while the more inexperienced respondents seem to find the model more relevant. This could indicate that the model is primarily useful in a classroom setting for training purposes and less so in a professional industry setting.

One aspect of relevance that does seem to resonate with most of the class no matter the experience level is the value of using the model as a team. Many statements support this:

> "It's especially useful when doing group work, because it gets everyone on the same page regarding what to expect, how much time and effort to put into it, as well as divide tasks among group members. "

> "I would say that the DSM has been extremely useful to get everyone in my group to understand what we are doing and to work towards the same goal. The model is helpful in decreasing the risk of getting lost in translation."

From these statements it becomes clear that the model has value as a team structuring tool. The students use the model to align the group expectation and as a planning tool when for instance determining who does what in the group. Furthermore, it becomes clear that the international class benefits from the model as a way to find a common work language and to avoid misunderstandings in the process.

Modalities and storytelling

One of the main ambitions with the model is to help the students create better digital stories with a more deliberate use of modalities. This seems to have been partly successful when we look at the survey data. Some students point to the usefulness of the model when it comes to modalities and storytelling. This can be seen in statements such as these:

> "Since now our team had to find a story and focus on it first rather than making the modalities, I think the model worked well because it helped us on crafting the storytelling aspect."

> "I think its focus on modalities is really important because the presentation of stories matters now in the digital era."

> "Making you think about both the story and the modalities from the very beginning. Sometimes you might only think of the story and then the modalities come later and vice versa. In this way, you think about both aspects from the beginning."

These statements resonate with the theoretical scholarship done on digital storytelling that emphasize the value of deciding on modalities early in the production and even pre-production phases (Pincus et al, 2017 and Hernandz & Rue, 2016). From the interview data, we can see that the students seem to understand the modalities in a non-hierarchical way (cf. Hernandez and Rue, 2016, p. 2) keeping an open mind as to which modality might be the best for the purpose at hand.

As stated in the methodological parts of this article, the method we apply consists of mixed methods. When considering to which degree the model actually facilitates better digital stories in terms of a more deliberate use of modalities, it makes sense to address the data of anecdotal observations done by the educators. We have anecdotal evidence suggesting that the stories being done by the student this year - which was the first year the *Digital Story Model* was implemented – are somewhat different to stories produced in previous

classes. For instance, we observe a higher level of cohesion in the stories creating pieces that to a larger degree resonate with the idea of a cognitive container (Dowling & Vogan, 2015, p. 209. Furthermore, we found a larger number of modalities in use as well as a more diverse modality use which has challenged the text-first way of thinking. This is for instance expressed by the use of interactive, information-rich maps and gamified elements such as quizzes and mini games which we have not seen before. We cannot be sure that the model has actually caused these changes and we must underline again that these observations are merely anecdotal evidence. However, in combination with the survey data, it seems likely that the model has been valuable in terms of having a more deliberate modality use for most students.

However, some students have a different experience and state this in comments such as these:

> "The part about modalities becomes a weakness because new journalists may consider thinking about them at first rather than having a solid story."

> "I saw so many classmates using media for no reasons, as if they think the story would automatically be better once they add different components."

From the above statements we can see a diverse set of experiences. Some students find that the model helps them to consider modalities early on and get a better coherence between content and form. Other students, however, have the experience of becoming too modality-focused and giving too little attention to the story. We interpret this as a Christmas Tree-approach (Grabowicz et. al, 2014, para. 1) where the students end up putting a lot of decorative modalities onto a piece while not spending enough time actually researching and building a strong story content wise.

Lastly, we will point out two shortcomings that some students seem to experience in relation to the kinds of stories they produce. These are expressed in statements such as these:

> "I don't think the model as such is bad, but I do believe it really depends on the project one is undertaking."

> "The model is most relevant for stories that need time to produce as it is a little time-consuming to figure out all aspects of the story and put it into a model. It is not relevant to all kinds of stories."

We interpret such statements as having an experience of the model as context dependent. It is not a one size fits all-model but rather a model that is useful for larger projects, preferably team-

based projects and projects with the aim of taking advantage of digital opportunities. Perhaps this mixed experience of the model is terms of whether the model has broad applicability and whether or not it is too time consuming can also be interpreted from the mixed responses to the statement "I will use the Digital Story Model to guide my process if I am making a digital story in the future":

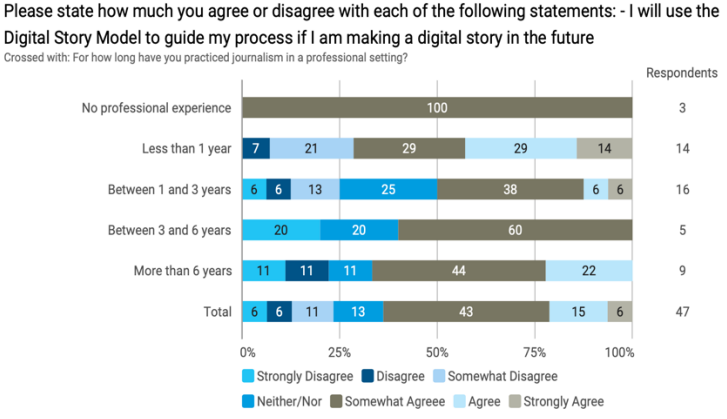

Figure 6: Likelihood for future use of the Digital Story Model based on journalistic experience

From these data we can see that there is a slight tendency for the students with less professional experience to state willingness to use the model in the future whereas more experienced students are a bit more reluctant. However, these data actually do support that the model can be used for both training purposes in a classroom setting as well as practical purposes in a professional industry setting as a majority of respondents with 3+ years of experience do reply that they "somewhat agree" with the statement that they will likely use the model in their future work (60 % of the respondents in the group 3-6 years of experience and 44 % of the respondents in the group with 6+ years of experience).

Discussion and conclusion

In this section of the article, we will sum up our findings, discuss some of the methodological shortcomings as well as some of our anecdotical observations as educators using the model in the classroom and, finally, point to some of the future roads to take regarding the further development of the model.

Our research question was phrased the following way:

Which strengths and shortcomings do the students experience when working with The Digital Story Model?

Based on the qualitative and quantitative data presented and discussed above we can conclude that the student experience a mix of strengths and shortcomings which can be summed up like this:

Strengths:
- Helps the user as a structuring and planning tool.
- Generates a shared language in the group and to allocate what each person in the group does.
- Promotes creativity.
- Helps the user to consider different modalities and keeping an open mind towards each modality.

Shortcomings:
- Seems too linear and not flexible and open enough.
- Standardizes stories in an unnecessary way.
- Prevents creativity.
- Seems too obvious for experienced reporters and is primarily useful for inexperienced reporters.
- Removes focus from the core content of the story due to the model focusing on modalities and form.

Both the strengths and the shortcomings are interesting to notice on three levels. First, the findings give us valuable input regarding the interpretation of the model. Some students have for instance interpreted the model as a very linear tool which was not the idea from our end. Furthermore, it is interesting to notice that some students experience the model as an aid in terms of creativity while other students feel the opposite, that the model prevents creativity. We cannot be sure but perhaps this very mixed experience is explained by people having different attitudes to models on a general level. Some feel that models help them accomplish their ideas and ambitions while others feel constrained and standardized by model usage.

Secondly, the findings point to different suggestions when it comes to the practical presentation and use of the model. For instance, the data suggest a need to underline the circular nature of the model, the aim of considering both content elements as well as form/style elements, the importance of underlining that more is not more in the understanding that more modalities do not necessarily create better digital stories. It is important to frame the model in such a manner when presenting it to classes. From the findings, we can also conclude that the model seems particularly helpful in larger

assignments accomplished in groups and perhaps in particular in groups where the professional experience level is varied.

And finally, thirdly, the findings also suggest some possible revisions of the model. According to the action research approach the desire to improve a practice should be understood as a dialogical and cyclical process. This means that the findings located in this current study should be used for further development and enhancement of the model. We could for instance try and make the circular/dynamic ideas of the model become more evident in the visual representation of the model and we could expand the guidelines to address some of the shortcomings and misinterpretations that our findings have rendered visible. This could for instance be related to the misunderstanding that no research should be done while going through the model which was not the intention from our end.

In this final part of the article, we would also like to point to some of the methodological shortcomings of the setup of our study. Methodologically, it is unfortunate that only a bit more than half of the class, 47 students out of 85, has replied in completeness to our survey while 61 students have either completely or partly responded to the survey. This provides us with some error margin in the data set. However, we can see a diverse group of students among the 47 respondents and based on our knowledge of the demographics of the class at large we cannot see a clear bias selection when it comes to who responded to the survey and who did not. We also cannot locate any attrition in the survey that can explain why 14 respondents did not complete the survey and conclude that this dropout is likely just due to survey fatigue.

The focus of this article has been to present the *Digital Story Model* and to investigate how the students experience using the model. Another research project that would be interesting to carry out as a follow-up study would be to analyze the productions done by the students. As stated in the analysis, we have some anecdotal evidence about the characteristics of the stories produced with the model, but we have not examined this in a systematic way by for instance by comparing the productions from this year with previous productions from other classes that did not use the model. Such an endeavor could be used in combination with the conclusive findings listed above in future revisions of the *Digital Story Model*.

REFERENCES

Andreasen, S. & Giebner, F. (2021). Webdoks: Store historier til små skærme. In L. Rimestad og J. M. Hartley (eds.) *Den undersøgende journalistiks metoder* (pp. 317-337). Samfundslitteratur.

Dowling, D. & Vogan, T. (2015). Can we "snowfall" this? Digital longform and the race for the tablet market. *Digital Journalism*, 3(2), 209-224.

Dowling, D. (2019). Literary Journalism in the Digital Age. In W. Dow & R. Maguire (eds.) *The Routledge Companion to American Literary Journalism* (pp. 529-542). Routledge.

Dunham, R.S. (2020). *Multimedia Reporting*. Springer. https://doi.org/10.1007/978-981-13-6163-0_12

Fendt, J. and Kaminska-Labbé, R. (2011.) Relevance and Creativity through Design-driven Action Research: Introducing Pragmatic Adequacy. *European Management Journal* 29 (3): 217–233. doi:10.1016/j.emj.2010.10.004.

Grabowicz, P., Hernandez, R., & Rue, J. (2014, March 9). Taxonomy of digital story packages. kdmcBerkeley. Retrieved from: https://multimedia.journalism.berkeley.edu/tutorials/taxonomy-digital-story-packages

Greenwood, D. J., & Levin, M. (2006). *Introduction to action research: Social research for social change*. SAGE publications.

Grubenmann, S. (2019). Action Research: Collaborative research for the improvement of digital journalism practice. *Digital Journalism*, 4:1, 160-176. https://doi.org/10.1080/21670811.2015.1093274

Hernandez, R.K. & Rue, J. (2016). *The Principles of Multimedia Journalism: Packaging Digital News*. Routledge.

Hiippala, T. (2016). The Multimodality of Digital Longform Journalism. *Digital Journalism*, 5(4), 420-442.

Jacobson, S., Marino, J. & Gutsche, R. E. (2015). The digital animation of literary journalism. *Journalism*, 17(4), 527–546.

Meier, K., & Schützeneder, J. (2019). Bridging the Gaps: Transfer Between Scholarly Research and Newsrooms in Journalism Education—Toward an Evidence-Based Practice in an Age of Post-Truth and State of Flux. *Journalism & Mass Communication Educator*, 74(2), 199–211. https://doi.org/10.1177/1077695819830021

Moestrup, Steffen. (2022) Det Digitale Jeg: Jeg bliver til i en strøm af nuller og ettaller, som du kan klikke på. In: *Hvad laver JEG her? En lærebog om at bruge sig selv i journalistikken*. København: Samfundslitteratur.

Pavlik, J.V and Pavlik, J.O (2017) Understanding Quality in Digital Storytelling: A Theoretically Based Analysis of the Interactive Documentary. In Friedrichsen, M. and Y. Kamalipour (eds.). *Digital Transformation in Journalism and News Media: Media Management, Media Convergence and Globalization* (pp. 381-396). Springer International Publishing.

Planer R, Godulla A, Seibert D, Pietsch P. (2022) Journalistic Quality Criteria under the Magnifying Glass: A Content Analysis of the Winning Stories of World Press Photo Foundation's Digital Storytelling

Contest. *Journalism and Media.* 2022; 3(4):594-614. https://doi.org/10.3390/journalmedia3040040

Reason, P., and H. Bradbury-Huang. 2007. *The SAGE Handbook of Action Research: Participative Inquiry and Practice.* Sage Publications.

Schudson, M. (2011). *The sociology of news.* W.W. Norton & Company.

Van Krieken, K. (2018). Multimedia Storytelling in Journalism: Exploring Narrative Techniques in Snow Fall. *Information*, 9, 123, doi:10.3390/info9050123

STEFFEN MOESTRUP
Senior associate professor
Research and Development
Danish School of Media and Journalism
sdm@dmjx.dk

KARSTEN VESTERGAARD
Associate professor
Coded design and Interactive Design
Danish School of Media and Journalism
kv@dmjx.dk