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Innovating Online Journalism: New Ways of Storytelling

Shirish Kulkarni[a], Richard Thomas ![ID][b], Marlen Komorowski ![ID][c,d] and Justin Lewis[e]

[a]Monnow Media Ltd, Monmouthshire, UK; [b]Department of Media and Communications, Swansea University, Swansea, UK; [c]JOMEC - School of Journalism, Media and Culture, Cardiff University, Cardiff CF10 1FS, UK; [d]imec-VUB-SMIT (Studies on Media, Innovation and Technology), Vrije Universiteit Brussel, 1050 Brussels, Belgium; [e]JOMEC - School of Journalism, Media and Culture, Cardiff University, Cardiff CF10 1FS, UK

ABSTRACT

Journalism faces a number of challenges: patterns of news consumption have changed and audiences for traditional news outlets are declining. In this context, we explore whether the "inverted pyramid" model – a system of news writing that arranges facts in descending order of importance, which remains predominant in journalism – is the most effective way of communicating information online. Based on a mixed-methods approach using qualitative data from workshops and expert consultations, we developed a series of new "prototypes" of online news storytelling and tested them with a wide range of audiences (N = 1268). Building on earlier work, we find that linear forms of storytelling - rarely used in news - are more effective in transferring knowledge to news consumers and are seen as more engaging, convenient and useful than the traditional inverted pyramid. We then identified key principles that should underlie a more user-focussed approach to narratives in online news.

1. Introduction

Two decades ago, Pavlik (2000) predicted that ongoing technological changes and the emergence of the internet would have a profound impact on both journalistic work processes and news content. To date, research in this area has often focussed on the implementation of new technologies on news-making activities. This includes, for example, research on multi-media news creation (Ursell, 2001) or data-driven journalism practices (Parasie and Dagiral, 2013). What has received less attention - in both academia and newsrooms – are more fundamental storytelling practices in news-making.

The ongoing changes in consumer behaviour and the increasing audience migration to online news inform a strong case for innovation in the way we tell news stories. Ofcom (2020) found that in recent years, there has been a considerable increase in the number of people in the UK accessing news via online platforms rather than traditional platforms like print, the radio or television. Younger audiences - especially 16–24-year-olds - are now more likely to use the internet for news than TV (79% vs. 49%).

The so-called "inverted pyramid" (IP) - a system of news writing - that arranges facts in descending order of importance – has long been a cornerstone of journalism practice and storytelling (Norambuena et al., 2020). The IP is still the predominant way of writing "hard news" stories, even though the internet and new media allows for a plethora of new ways of storytelling and creates opportunities for more interactive engagement with news. As audiences for traditional forms of storytelling continue to decline (especially amongst younger cohorts), it is important to ask whether there are more informative and engaging alternative ways to tell news stories. Our research was guided by two questions:

- Is the IP structure still the best way to convey to news in the new media context?
- How might we develop and test new potentially more informative and engaging forms of news storytelling?

We addressed these questions with a two-stage mixed-methods approach. First, we gathered qualitative data from a series of workshops and stakeholder consultations to develop a number of principles that might support a more user-focussed approach to online news storytelling. These were subsequently developed into a series of new "proto-types" for online news storytelling. Second, their general appeal and usefulness were then tested with a large-scale audience survey (N = 1268).

2. From the Inverted Pyramid to Narrative Storytelling

While news will partly appeal to readers, viewers and listeners because of its content, the way in which that content is presented often determines its impact. When using the telegraph at the beginning of the nineteenth century, journalists sent news in paragraphs (Canavilhas, 2007), where the imperative was to communicate facts in order of importance (Pöttker, 2003). This created a very particular kind of information hierarchy, in sharp contrast to a chronological narrative structure in which events are reported in the order in which they occurred, and where the culmination of the story comes at the end (Norambuena et al., 2020; Thomson et al., 2008; Van Krieken, 2018; Walters, 2017). The IP model was advantageous for print, allowing editors to cut copy from the bottom upwards without losing the key elements of the story (Lewis, 1994; Pöttker, 2003). With information prioritised over suspense (Van Krieken, 2018), the IP made news faster to write, and, as newspapers became daily disposable commodities (Lewis, 2017), often faster to read (Rabe, 2007).

By the early twentieth century, the IP style became fully established as the most effective and economical model for the communication of news (DeAngelo and Yegiyan, 2019). Although this style is associated primarily with newspaper journalism (Knobloch et al., 2004) it was also appropriated by broadcast journalism despite the fact that some of the logic behind it – such as ease of print editing - no longer applied (Lewis, 1994), and, much later, online news in new media outlets. It fits well with the increasing emphasis on breaking news (Lewis and Cushion, 2009), and has come to be strongly associated - wrongly, in our view - with objectivity, with an emphasis on fact rather than journalistic interpretation (Kleemans et al., 2018; Nee and Santana, 2021; Norambuena et al., 2020; Pöttker, 2003). Although history is necessarily chronological, the notion that linear narratives signify a "less objective" account has become an ingrained

assumption. The IP thereby continues to dominate both old and new media platforms (Chadwick, 2017).

Despite the possibilities of new media, the IP's dominance in news remains formidable, entrenched in long-standing routines and forms of training (Gynnild, 2014). But its efficacy as a form of communication is coming under increasing scrutiny. For some, the IP is "past its currency" (Kleemans et al., 2018: 2109) and has become "something of a dinosaur" (Yaros, 2006: 287). It is recognised that the IP model involves performing interpretative roles (Ward, 2009: 299). Indeed, rather than simply being an objective account, the IP is, in many ways, a more structured interpretive intervention than the linear narrative, where journalists necessarily impose a hierarchy of factual importance in the recounting of unravelling histories.

Especially, the emergence of new modes of news delivery has triggered the reexamining of the efficacy and suitability of the IP (Ytreberg, 2001). Because the IP "is not structured as a simple narrative" (Ytreberg, 2001: 360) it only represents one end of a news story, leaving the other end open (Kosara, 2017) and prone to simply petering out as it covers detail with decreasing value, relevance and interest. As a consequence Bragg (2000) sees the strict, formulaic IP as inhibiting "creativity and freedom", while Giles (2004) suggests the non-linear IP structure might be more complex for audiences to navigate.

Even before the emergence of online news, research suggested that more linear narrative approaches are far more effective in holding people's attention and conveying information (Lewis, 1994). DeAngelo and Yegiyan (2019: 388) note the IP's "reliance on the receiver to access previously stored knowledge as they continue through the story". While the IP calls on significant cognitive resources, the resources that are left may be insufficient for audiences to efficiently compute the story overall (Kleemans et al., 2018). And as the rigidity of traditional structures has come up against the online, "journalists often discuss the concept of storytelling or, more precisely, the narrative structure of news" (Emde et al., 2016: 608).

Scholarly work often focuses on the ways in which the structural elements of news can influence recall, understanding and perception. In a forerunner to this research, the impact of narrative on levels of understanding and engagement was tested by Machill et al. (2007), who gave audiences two versions of a news story - one using the IP and the other based on a more innovative linear narrative. Their research showed that the linear narrative was perceived as more interesting and more successful in communicating information. Thereafter, audience attitudes to the value of narrative within news have been researched from various perspectives (see Tamul et al., 2019 for a full summary).

Research has also explored other forms of storytelling, examining the style and context of news. This includes, for example, the increasing crossover between news and comedy/satire genres that make clear attempts to inform and explain as well as entertain (Kilby, 2018). Indeed, Hardy et al. (2014) suggest that comic forms of narrative are actually more effective than traditional news in communicating factual information. Mihelj et al. (2009) explored the ways in which different styles of news narrative are used in different contexts, and how the narrative conventions of television news create different discourses. Nee and Santana (2021: 15) found that long form journalistic storytelling makes the "story" the primary objective and "news" elements more secondary.

There is, however, an understandable caution about abandoning the IP model, which audiences have come to understand and associate with news. Emde et al. (2016) for example, suggest that while audiences more easily process "narrative news", this may only apply to younger news consumers for whom the context and background are important. And introducing narrative is not necessarily a panacea: DeAngelo and Yegiyan (2019: 400) found that IP stories "were not only recalled earlier and more accurately, but also resulted in less time spent on story webpages"; while "narrative stories were recalled later and with less accuracy—even though users spent more time on the story webpages".

The caution has kept the IP orthodoxy firmly in place, and after generations of adherence to the IP, narrative journalism only enjoys "marginal status" (Van Krieken and Sanders, 2019: 10), limiting the empirical basis for assessing its efficacy. But if journalistic fundamentals such as the inclusion of emotion can be reimagined (Wahl-Jorgensen, 2020), challenging the relevance of established news reporting formats remains critical, especially in the context of declining news audiences for most traditional news formats. At the very least, research into narrative structures within news appear to support assertions that the IP is now only one journalistic option, "alongside more creative, less structured narrative styles" (Johnston, 2017: 14).

As Birkner et al. (2018: 1124) ask: "have the developments in online journalism turned the inverted pyramid model upside down?" Our contribution to this important journalistic debate is to develop the "scattered field" of narrative journalism research (Van Krieken and Sanders, 2019: 13) by conducting a multi-point comparison between various journalistic storytelling structures. By employing an innovative methodological approach embracing the "experiences, motivations and emotions" (Witschge et al., 2019: 974) of a range of storytelling practitioners, we can make both a theoretical and practical intervention in the search for the most efficient and audience-friendly ways to impart news and information.

3. Methodology

We chose a mixed-methods approach, with qualitative approaches informing a quantitative audience study (Johnson and Onwuegbuzie, 2004). In the first (1) theoretical phase of the research, qualitative data from (a) expert consultations and (b) workshops was gathered and analysed, leading to the creation of a series of experimental prototypes. In the second (2) empirical phase, we tested the principles and subsequent prototypes identified in phase 1 with online news audiences.

The (1) first phase of research included a series of (a) semi-structured interviews with 12 experts in journalism and storytelling and two workshops with news consumers and storytelling experts from diverse backgrounds. These interviewees were selected through a purposive sampling method (Bryman et al., 2008) in order to provide a broad range of perspectives from across the journalism, technology and storytelling fields. Interviews were conducted between October and December 2019 (see Table 1). Initial contact was made via email, and in person/remote interviews arranged as appropriate. These interviews generally lasted between 30 min and an hour and were conducted either in person or via telephone or Skype/Zoom. The interviewees included five newsroom leaders / digital news experts from different media outlets including the BBC, ITV,

Table 1. Interviewees' experience and background.

Role / Area	Organisation	Experience (years)	Area of expertise
Digital news	BBC News Labs	30	Journalism / Digital news
Digital news	BBC News Labs	15	Journalism / Digital news
Digital news	BBC News Labs	10	Journalism / Digital news
Academic	Cardiff University	20	Journalism
Academic	Cardiff University	30	Journalism
Game Designer	Half Mermaid Productions	22	Storytelling
Newsroom	ITV News	22	Journalism
Digital news	Financial Times	15	Journalism / Digital news
Comedian	Freelancer	30	Storytelling
Puppeteer	Freelancer	15	Storytelling
YouTuber/Scientist	Freelancer	10	Storytelling
Academic	Washington & Jefferson College	20	Storytelling /Anthropology

and the Financial Times, three senior journalism academics, and experts on storytelling from outside journalism, including a puppeteer, a game designer, a YouTuber and a comedian.

Because the interviewees had a range of entry points on journalism, the interviews were semi-structured to allow the interviewees to focus on areas they felt were most important (Longhurst, 2003). Topics in the interviews were chosen to inform the development of innovative approaches to news storytelling, including: the need for storytelling; how users engage with storytelling and the purpose stories fulfil; the efficacy of current journalism; how journalism might better use storytelling tools/approaches, and potential editorial innovations that might help journalism increase audience engagement and understanding.

Two (b) workshops[1] were also conducted during the interview phase. The first was with news audiences often seen by mainstream news providers as hard to reach: a group of fifteen young people aged between twelve and seventeen years old from BAME backgrounds. The group was recruited through the Ethnic Youth Support Team, an organisation which runs the All-Wales BAME Engagement Programme for the Welsh Government. The young people were invited to work with one of the authors in a session, lasting approximately 75 min, modelled on participatory action research protocols. Notes taken were later coded for a thematic analysis.

The group began by watching a traditional TV news programme (a recent edition of the BBC's News at Ten), and then gave feedback. A broader discussion then explored the thoughts of the workshop attendees about the barriers they face to accessing and engaging with news. Questions addressed included: if/how the young people engaged with news, what the barriers to engagement were, what changes to the way news is presented might make them more interested in consuming news. These questions elicited a range of responses which were used in the preparatory phase of the research to inform the framework development, notably around the levels of detail and complexity of both the editorial and product layers of the prototypes. The second workshop looked at what we might learn from traditional (non-news) storytelling techniques and how they might be applied to journalism, bringing together seven storytellers, journalists, technologists with a group of students to share experience, analysis and insight. The session lasted a full day, and included a mix of co-learning, discussion and critical analysis of storytelling techniques.

Table 2. Survey respondents demographics and breakdown of self-assessment of how informed participants rated themselves (on a 10-point scale).

Age range	Under 24	25–34	35–44	45–54	55+	Total answering question
Age distribution	23.5% (250)	35.5% (378)	22.2% (236)	10.8% (115)	8.0% (85)	100.0% (1064)
How well informed	6.34	6.48	6.83	6.84	7.26	6.63 (1204)

The insights gathered from the (a) interviews and the (b) two workshops (in total 19 experts on journalism and storytelling and 15 news consumers), were coded and analysed. Combined with insights from the research literature, the interviews and workshops built up a rich body of material. This was analysed iteratively to identify key themes, concerns and viable proposals for new storytelling models, and led to the identification of key principles for online news storytelling, which formed the basis for creating a series of prototypes.

The storytelling prototypes (described in more detail below) all addressed the same story - the government's decision to go ahead with the development of the HS2 high-speed rail link announced on 11th February 2020 (see https://www.bbc.com/news/business-51461597). This story was announced on the day of the second storytelling workshop, and was chosen for its typicality as a hard news story, with a broad context and a wide-ranging impact that had developed over time. The original story also uses the IP storytelling style.

In the (2) second phase, we tested the new storytelling prototypes with a sample of 1268 people across the UK. Recruitment was carried out by a user research recruitment company[2], giving us access to their network of pre-screened research participants. Participants were chosen to provide a representative sample of the wider population, with mix of demographics such as age gender and education, but with a deliberate skew towards younger groups, who are most likely to have abandoned traditional forms of news (Ofcom, 2020). The questionnaire was created in the Survey Monkey platform (https://www.surveymonkey.com). While most respondents answered most questions, not all questions were mandatory, so the overall N varies across the range of variables. Table 2 gives the age range of the sample and shows that older audience members were, according to self-assessment on a 10-point scale, a little more likely to consider themselves well-informed.

We used the original BBC News article (which embodied the traditional IP style of narrative and the habitual approach to news writing) as control to test against our prototypes. We used BBC branding on all our prototypes, so the "brand" was perceived as the same across all the stories being tested. Respondents were assigned randomly to each prototype, with subsequent checks to ensure that the samples for each prototype possessed broadly similar demographic characteristics.

After a series of introductory questions about users' consumption of news and their current knowledge of the issues surrounding the topic of the article, the respondents looked at one of the prototypes or the original news story. First, each participant was asked to rate the degree to which they felt they knew about the news (1 being the least informed and 10 the most informed). We then asked a series of questions to gauge their responses to the story and perceived changes to their level of knowledge. Respondents rated their reaction to the story across a number of different response categories, ranking them on a 5-point Likert scale from "strongly agree" to "strongly disagree" (see Annex for full list of survey questions).

4. Findings

4.1. The Identified key Principles of Online News Storytelling

Drawing on previous research and interview responses from the storytelling and journalism experts and user workshops, we identified five key principles for formulating more effective online news storytelling. Our approach was user-focused, and at the core of each of these principles are the needs of citizens as news consumers. We started with the overarching concept of (1) narrative, which previous research suggests may be at the heart of more informative storytelling, and which was a recurrent theme in our interviews. A further four principles emerged as key issues in the interview/workshop phase: (2) content, (3) context, (4) agency, and (5) tone.

(1) **Narrative:** Machill, Köhler and Waldhauser's (2007) audience study gave a clear indication that using a linear narrative was seen as more interesting and more successful in communicating information. This idea was developed by a number of our interviewees as well. So, for example, an anthropologist with expertise in storytelling talked about how, as humans, we are "hardwired for stories" because they serve an evolutionary role as "virtual reality simulators of the world". The IP structure conflicts with how we commonly understand stories (e.g., a traditional three act dramatic structure), "annihilating suspense" (as our interviewee put it) and thereby creating a kind of cognitive dissonance. Indeed, all the storytelling specialists amongst our interviewees found journalism's use of the IP structure anomalous, as it conflicted with all the techniques they routinely use to engage audiences. Participants in the user focus group also described the IP structure as "confusing", "backwards" and "difficult to understand".

(2) **Content:** Research indicates that traditional ideas about the hierarchy of content in a news story are largely driven by habit and convention, rather than an exploration or understanding of the needs and thought processes of news consumers. Online news, in particular, is well positioned to rethink these conventions (Bull, 2007), which are not inherent in the objects of journalistic work (Pöttker, 2003). Similar ideas were expressed by especially several of the non-journalist experts. Users in the focus group said they wanted "more information that helped them understand what was going on in (my) life", and "less politics, because it doesn't help me understand the story".

(3) **Context:** A running theme raised in both the interviews and workshops was the desire for news to provide more context so that stories could be better understood. Mainstream news coverage tends to prioritise breaking or at least "moving" news, but often to the detriment of context, analysis or understanding (Lewis and Cushion, 2009). The focus on breaking news felt confusing to workshop participants who didn't read the news every day, giving them no comprehensible entry point to ongoing stories. Many felt that too much knowledge was assumed, a key barrier to their engagement or understanding. The importance of context also was also highlighted in our expert interviews. For example, one interviewee felt the habitual focus on moving stories meant climate change – something which is happening gradually, over time – didn't fit comfortably into the traditional modes of journalism:

"For me, context is everything and the reason the news is important is because it fits into a wider context and helps clarify the situation. As a scientist, a new report or paper can't be understood meaningfully unless it's put into a wider context". Users in the focus group also reported, for example, feeling confused by a focus on relatively small, line-by-line details of Brexit negotiations when they rarely got the "zoom out" to the wider picture to help them understand its broad implications.

(4) **Agency:** Both workshop participants and storytelling experts told us that agency was important on both the input and output sides of news coverage. Agency connects with narrative, and storytellers spoke about how they work to leverage our inbuilt sense of curiosity to drive engagement, and suggested ways that journalists could use similar techniques. For example, online displays of news enable news consumers to interact with the text, and audiences could choose which information they want to display. Keng and Ting (2009: 479) suggest that interactivity creates "interpersonal interaction" enhancing "aesthetic experiences as well as playfulness". An interview referenced for example the richness of Nintendo's Zelda games which have detailed environments which give players the space to simply explore things which feel interesting - not to fulfil an objective or complete a task, but simply to satisfy one's natural curiosity. He described how we often fall down Google or YouTube "rabbit-holes", leveraging our curiosity and agency to find out and learn new things.

(5) **Tone:** One of the strongest responses from the user workshop with young people was that the voice that traditional news media uses to communicate is "old-fashioned" and "formulaic". In the same vein, the Reuters Digital News Report found that just 16% of users worldwide agreed that "the news media uses the right tone" (Newman, 2020). Hardy et al. (2014) suggest that comic forms of narrative are often more effective communicators than traditional news. While the use of comedy in mainstream news may raise other issues, interviewees felt that online journalists in particular need to find modes of address, which are more suitable for modern forms of consumption, rather than leaning heavily on habits drawn from newspaper writing. This was particularly evident in the user focus group we carried out with young people. When watching a flagship BBC News bulletin, they reported being bored or distracted within a minute of the programme starting - a key problem to be addressed.

We used these principles (1-5) to create four different prototypes for news storytelling to test against the original BBC version. Each of the prototypes uses a broadly (1) linear narrative style, albeit in different formats and structures. Each prototype approached the story with a user-focussed "what do I need to know" question – encapsulated in our second content (2) principle - focussing on the most useful content for understanding the broad scope of the story rather than habitual journalistic conventions about news value. This meant a move away from prioritising the "on the day" element of the story - what Lewis (2017) describes as a commodified approach to news – and paying more attention to deeper background and understanding. We then used different prototypes to stress (3) context, (4) agency and (5) tone. Three of the four prototypes enabled, in varying degrees, the user to choose how they consumed the story, expressing their own agency in how they navigated – perhaps in line with their particular interests or the way their curiosity naturally took them. The nature of tone is difficult to isolate or categorise, but the overall approach was to write the stories in a simple, clear and

straightforward way, in line with principles from the developing field of content design and limiting the use of what might be called "journalese". The prototypes and their relation to the principles described above were as follows (see also Figure 1):
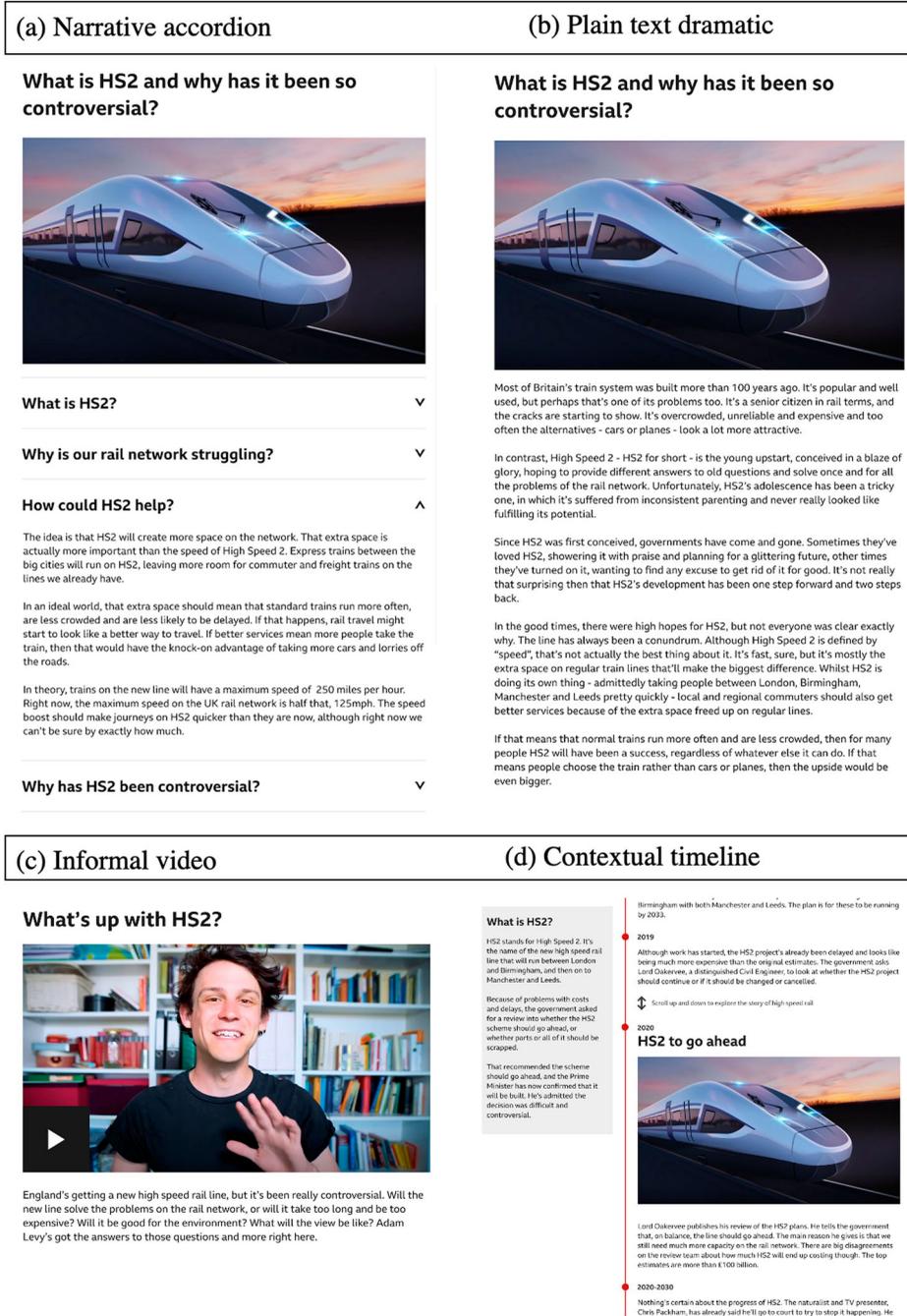

Figure 1. The four developed prototypes of online news storytelling.

(a) **Narrative Accordion:** This prototype builds on (4) agency and narrative, telling the story in a linear narrative, separated by expanding and collapsing questions. The user can choose to read these questions from start to finish - working through the narrative in a straightforward, linear way – or read the story in a non-linear way, allowing their interest in particular questions to guide how they consume the story.

(b) **Plain Text Dramatic:** This prototype was designed to directly test the value of linear narrative style - as opposed to the IP. It is written in plain text, using a traditional three-act narrative structure. This was designed to draw the reader through the story in a linear narrative style, but with a sense of "character", "dilemma" and "resolution".

(c) **Informal Video:** This video was designed to test responses to an informal and playful (5) tone, to see whether this might help engagement, knowledge transfer or information retention. Using a treatment similar to those seen on *The Daily Show*, or *Patriot Act* with Hasan Minhaj, if less didactic and partial, the video tells the story in a gently humorous way, building on a linear narrative style.

(d) **Contextual Timeline**: This format was designed to focus on placing the story in (3) context, in a timeline display. The story aimed to deprioritise the "on the day" event, opting instead for a broader longitudinal view which gives the user a range of possible entry points. The timeline looks forwards as well as backwards, giving users a sense of what might happen next as well as what's already happened. Users can choose where and how to engage with the timeline and can scroll, scan or read whichever sections they find most interesting, giving the readers agency. The foregrounding of context and agency in this prototype may have a disruptive impact on the linearity of the narrative.

4.2. Testing the Principles

Using the percentage of respondents who spent more than three minutes reading or viewing each story, we get a broad sense of how long it took for each one to be consumed. Given that users knew they were going to be asked a series of questions after viewing the story, we can assume that they viewed all, or at least the majority, of the story. So, for example, 85.2% of users who watched the (c) Informal Video spent more than 3 min on it, which reflects the time it takes to watch the 3'42" video. Table 3 shows that of the written stories, the *Original BBC version takes the longest to consume*, closely followed by the (b) Plain Text Dramatic prototype. The (d) Contextual Timeline and the (a) Narrative Accordion were consumed more quickly. This is useful to bear in

Table 3. Breakdown of how long readers took over each prototype.

	Original Article	(a) Narrative Accordion	(b) Plain Text Dramatic	(c) Informal Video	(d) Contextual Timeline
Less than 1 min	0.9	1.5	0.8	0.7	4.3
1–2 mins	12.5	19.1	9.6	2.5	33.6
2–3 mins	26.3	32.8	29.7	11.7	32.1
3–4 mins	31.9	34.8	31.7	73.5	22.1
5 + mins	28.4	12.2	28.1	11.7	7.9
% taking more than 3 min	60.3	47.0	59.8	85.2	30.0
Total	**100.0* (232)**	**100.0* (131)**	**100.0* (249)**	**100.0* (283)**	**100.0* (140)**
N			1035		

mind when considering the data that follows, and suggests that the use of narrative is *not* necessarily a more time-consuming way to tell a news story as is often suggested.

We asked our respondents to rate (out of 10) how well-informed they felt about HS2 *before* they looked at the version of the story randomly assigned to them, and how informed they felt *after* reading/watching the story. This question may have an inbuilt bias towards traditional forms of news, which may "feel" more informative because it "looks like news' (as we shall see shortly, the original article performed notably better on this than on most other questions).

Table 4 shows the difference between the "after" rating and the "before" rating, which produces a useful measure of "added value". This is, of course, a subjective measure: there may be a difference between *being* informed and *feeling* informed. However, despite taking less time to consume, the (a) Narrative Accordion format provided 24.3% more (perceived) added value for readers than the original article (2.96 value added rating compared to 2.38), and was, according to this measure, the best performing prototype, emerging as the more efficient method of delivering news, both in terms of speed and the extra value it adds for news consumers.

We can also see some differences between age groups. The (a) Narrative Accordion was especially strong amongst younger respondents, who also responded well to the (b) Plain Text Dramatic and (c) Informal Video versions (in marked contrast to respondents over 55).

To explore audience engagement and understanding in more detail we asked a series of questions about the experience of reading/watching the original and the prototypes. These questions fell into three broad categories (see also Annex for an overview): (i) assessing their experience of engagement with the news item (so, for example, how interesting, enjoyable, useful and relatable they found it); (ii) commenting on more stylistic and functional dimensions (such as the language, layout, format, and visual appearance); and (iii) the public service and democratic impact of the news item (so, for example, whether they now felt more comfortable discussing the news with their friends and family, or whether they better understood the information presented in the news article).

Because there is no clearly understood lexicon of the value and purpose of news, we used a range of (often similar) terms to probe these three areas. Questions asked participants to rate various aspects on a scale, or to rate the degree to which they agreed with statements about them. In all, there were 16 evaluative categories, summarised in Table 5. We analysed the scores for each prototype and identified the top three rated prototypes in each category. For comparison, we used a points system assigning 3 points to a top position, 2 for a 2nd place and 1 point for a 3rd place.

Table 4. The "value added" provided by each prototype.

	Original Article	(a) Narrative Accordion	(b) Plain Text Dramatic	(c) Informal Video	(d) Contextual Timeline
Under 24	2.65	3.85	2.54	2.32	1.62
25–34	2.20	3.41	2.72	1.63	1.72
35–44	2.32	2.53	1.99	1.74	1.65
45–54	2.48	2.00	2.25	2.08	1.48
55+	2.18	3.10	1.12	0.99	2.29
Average	**2.38**	**2.96**	**2.23**	**1.84**	**1.48**
N	552 participants answered both questions				

Table 5. Summary of participants impressions about the prototypes and numerical synthesis of the findings.

	Original Article	(a) Narrative Accordion	(b) Plain Text Dramatic	(c) Informal Video	(d) Contextual Timeline
Most INTERESTING		TOP	3rd	2nd	
Most ENJOYABLE		2nd	3rd	TOP	
Most USEFUL	2nd	TOP		3rd	
Most RELATABLE	3rd	=TOP		=TOP	
(i) TOTAL ENGAGEMENT	**5**	**11**	**2**	**9**	**0**
Rated LANGUAGE		TOP	3rd	2nd	
Rated LAYOUT	3rd	TOP		n/a	2nd
Rated TONE		2nd	3rd	TOP	
Rated FORMAT	3rd	TOP		n/a	2nd
Rated NAVIGATION		TOP	3rd	n/a	2nd
Rated VISUAL	TOP			2nd	3rd
(ii) TOTAL STYLE/FORM	**5**	**14**	**3**	**7**	**7**
Increased sense of how affects decisions		3rd	2nd	TOP	
Increased ability to take part in a debate	2nd		3rd	TOP	
Increased understanding problems with current network		3rd	TOP	2nd	
Increased confidence in discussing with friends/family	2nd	TOP	3rd		
Increased confidence in understanding the impact	2nd	TOP		3rd	
Increased confidence in being able to decide if it's good or bad	3rd		TOP	2nd	
(iii) TOTAL IMPACT ON UNDERSTANDING	**7**	**8**	**10**	**11**	**0**
OVERALL SCORE	**15**	**32**	**15**	**27**	**7**

We can observe, in broad terms, a link between all three broad areas: with the (a) Narrative Accordion (once again) and the (c) Informal Video performing consistently well. However, some of these links appear stronger than others. While the (d) Contextual Timeline scored comparatively well in terms of form and function (especially in terms of layout, navigation and format), it received poor scores for both engagement and democratic or public service impact (suggesting that the former is generally a prerequisite for the latter), with no top three ranking on any questions in these two areas. This was the most overtly interactive of the prototypes, and its scores suggest that most respondents were put off by the work required to make sense of the story *and* the lack of narrative structure created by multiple entry points.

Overall, these findings suggest a focus on engaging audiences will have more impact than a focus on the more functional aspects – such as ease of navigation and visual appeal – of a news story. While the (a) Narrative Accordion, the (c) Informal Video and the (d) Contextual Timeline all scored well on form and functionality, only those that *also* scored strongly on engagement (the Narrative Accordion and the Informal Video) appeared to have a strong impact on public understanding. Respondents may have appreciated the (d) Contextual Timeline's formal features, but their lack of engagement appeared to limit what they could learn from it.

In the same vein, scores for the (b) Plain Text Dramatic version which, as the name suggests, focused on the strength of the narrative with minimal formal features (like strong visuals or interactive layout), had the poorest scores for form and style but very strong scores for its impact on public understanding. It was the best performer in three important areas, ranked as the most informative, the most likely to increase

understanding of the context, and – a key test from a democratic perspective - the one best able to give respondents what they need to make an informed judgment about HS2. The fact it did not score particularly well on engagement measures (although scoring higher than the original PS version for interest and engagement) may therefore be indicative of the underlying power of a strong linear narrative to communicate information.

The (a) Narrative Accordion not only created the most added value but was, overall, the most successful (despite being at a disadvantage on some measures because it contained little visual material), scoring consistently well across most categories. Respondents found it interesting, useful and relatable, and it scored highest for generating confidence in understanding its impact and being able to discuss it with family and friends. Respondents were also very positive about its layout, format and navigation, suggesting that it successfully achieved the right balance between interactivity and narrative engagement.

The (c) Informal Video also scored well overall (especially considering that three of the functional measures were not directly applicable to the video format), indicating that a more playful tone can, as others have found (Hardy et al., 2014), enhance public understanding. Indeed, this version had (albeit only marginally) the highest scores for impact on public understanding. The scores may also reflect the advantages of a video format, where messages and narratives can be underpinned by dramatic imagery and action, although it is worth noting that its most positive scores were in those areas where people appear to have responded to the style/tone rather than the format (so it scored highest in terms of relatability, enjoyment and tone).

The original BBC Article - which embodies a traditional and widely used approach to storytelling in online journalism – was the top scorer in only one area, reflecting the quality of its visual content. But in this case, a picture might not - as the saying goes - tell a thousand words. Despite the familiarity of the IP format, its acknowledges undoubted professionalism and strong production values, it compares poorly across many of the key measures in our survey. It is perceived to be the least interesting and least enjoyable and was only the 4th best version in terms of its impact on public understanding. This provides strong additional evidence that the IP is not the most effective model for communicating news. Indeed, the process of creating the prototypes revealed how the IP model's focus on the moving "newsworthy" aspects of the story – notably the views of politicians – were not especially helpful if the focus was to engage audiences and increase public understanding.

To shed further light on the four alternative models of news, we asked people to make implicit comparisons between the prototypes and traditional IP format, comparing "the design and content of this news article to others you have read in your own time" across six criteria (see Table 6), three of which were also referred to in stand-alone questions. The first four questions have a strong focus on engagement, and by these measures the (c) Informal Video - the most overtly entertaining version with the strongest focus on direct engagement with its audience - performs very strongly. The last two questions are, perhaps, the most fundamental for judging the success of a news story, and while the (c) Informal Video also does well here, the (a) Narrative Accordion is seen as the most useful, and the (b) Plain Text Dramatic as the most informative.

Table 6. Comparing the prototypes with traditional news.

	(a) Narrative Accordion	(b) Plain Text Dramatic	(c) Informal Video	(d) Contextual Timeline
When compared with others you have read, how ENGAGING	3rd	2nd	TOP	
When compared with others you have read, how FRIENDLY	2nd	3rd	TOP	
When compared with others you have read, how INTERESTING	2nd	3rd	TOP	
When compared with others you have read, how RELATABLE	2nd	3rd	TOP	
When compared with others you have read, how USEFUL	TOP		2nd	3rd
When compared with others you have read, how INFORMATIVE	3rd	TOP	2nd	

5. Conclusion

These results are suggestive rather than definitive. They raise a number of questions about the lack of a common language about the purpose of news, throwing up a series of potential contradictions. So, for example, Table 6 suggests that the prototype that was ranked as the least "useful" was also ranked as the most "informative" – when we might have expected the two terms to be more closely related. We are also aware that more work is needed to test the link between different models of news and actual (rather than perceived) levels of public knowledge.

But our research does help establish a strong empirical and theoretical case for the potential in developing new formats for the way we present and communicate news. And they cast further doubt on the conventional wisdom – and long-established journalistic principle – that the IP model of news storytelling is the most succinct and effective way to deliver news to its audience. Even though the BBC was, by some distance, the top news choice for our respondents, the original BBC version was neither succinct (taking longer than most others to consume) nor effective in increasing public confidence (in the subject) or understanding.

We were aware of the possibility that the unfamiliarity of the prototypes - all four moved away from the IP focus on the "moving" or "breaking" element of a story - may work against them, introducing elements of confusion because they did not "look like news'. The fact that users responded *immediately* to some of these new formats is however indicative of their potential. Even in the brief time available to craft new forms of storytelling, some of our prototypes performed *significantly* better than the classic, tried and tested pyramid version.

All three of the more successful prototypes contain strong narrative elements, which emerges as perhaps the strongest underlying feature in effective news communication. The overall success of the Narrative Accordion prototype – which combines both narrative with an element of interactivity - might seem to indicate that this was the most effective alternative. However, we see this as the first research and development stage of exploring new forms of news storytelling. The Informal Video version also performed well across most measures, while the Plain Text Dramatic prototype, for all its simplicity, was notably effective in promoting a sense of public understanding.

As Gynnild (2014) suggests, the "most critical factor for journalism's impact on society in the future is not the accessibility of high-tech tools. It is the professional fostering of news professionals who are intrinsically motivated to explore, contest, and further develop meaningful journalistic approaches within the contexts they are operating." Just as journalism is defined by changing and dynamic technology, funding models, choice and audiences, the established norms of news making processes must also be less fixed. While the professional norms, habits and preferences exercised by journalists might be much less easy to redefine, our research suggests that it might be innovation in the narrative structure that makes online news more engaging, convenient and useful than the alternatives currently available.

Notes

1. The first workshop was carried out in collaboration with the Ethnic Youth Support Team in Swansea and the second with support of academics at the University of South Wales.
2. https://www.peopleforresearch.co.uk/

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ORCID

Richard Thomas 🄳 http://orcid.org/0000-0003-3511-5628
Marlen Komorowski 🄳 http://orcid.org/0000-0003-1944-9855

References

Birkner, T., E. Koenen, and C. Schwarzenegger. 2018. "A Century of Journalism History as Challenge: Digital Archives, Sources, and Methods." *Digital Journalism* 6 (9): 1121–1135.
Bragg, R. 2000. "Weaving Storytelling Into Breaking News." *Nieman Reports* 54 (3): 29.
Bryman, A., S. Becker, and J. Sempik. 2008. "Quality Criteria for Quantitative, Qualitative and Mixed Methods Research: A View from Social Policy." *International Journal of Social Research Methodology* 11 (4): 261–276.
Bull, A. 2007. "Training: A Matter of Degrees." *British Journalism Review* 18 (3): 54–59.

Canavilhas, J. 2007. "Web Journalism: From the Inverted Pyramid to the Tumbled Pyramid." *Biblioteca on-line de ciências da comunicação*.

Chadwick, A. 2017. *The Hybrid Media System: Politics and Power*. New York: Oxford University Press.

DeAngelo, T. I., and N. S. Yegiyan. 2019. "Looking for Efficiency: How Online News Structure and Emotional Tone Influence Processing Time and Memory." *Journalism & Mass Communication Quarterly* 96 (2): 385–405.

Emde, K., C. Klimmt, and D. M. Schluetz. 2016. "Does Storytelling Help Adolescents to Process the News? A Comparison of Narrative News and the Inverted Pyramid." *Journalism Studies* 17 (5): 608–627.

Giles, B. 2004. "Thinking About Storytelling and Narrative Journalism." *Nieman Reports* 58 (1): 3.

Gynnild, A. 2014. "Journalism Innovation Leads to Innovation Journalism: The Impact of Computational Exploration on Changing Mindsets." *Journalism* 15 (6): 713–730.

Hardy, B. W., J. A. Gottfried, K. M. Winneg, et al. 2014. "Stephen Colbert's Civics Lesson: How Colbert Super PAC Taught Viewers About Campaign Finance." *Mass Communication and Society* 17 (3): 329–353.

Johnson, R. B., and A. J. Onwuegbuzie. 2004. "Mixed Methods Research: A Research Paradigm Whose Time has Come." *Educational Researcher* 33 (7): 14–26.

Johnston, M. P. 2017. "Secondary Data Analysis: A Method of Which the Time has Come." *Qualitative and Quantitative Methods in Libraries* 3 (3): 619–626.

Keng, C., and H. Ting. 2009. "The Acceptance of Blogs: Using a Customer Experiential Value Perspective." *Internet Research* 19 (5): 479–495..

Kilby, A. 2018. "Provoking the Citizen: Re-examining the Role of TV Satire in the Trump Era." *Journalism Studies* 19 (13): 1934–1944.

Kleemans, M., G. Schaap, and M. Suijkerbuijk. 2018. "Getting Youngsters Hooked on News: The Effects of Narrative News on Information Processing and Appreciation in Different Age Groups." *Journalism Studies* 19 (14): 2108–2125.

Knobloch, S., G. Patzig, A.-M. Mende, et al. 2004. "Affective News: Effects of Discourse Structure in Narratives on Suspense, Curiosity, and Enjoyment While Reading News and Novels." *Communication Research* 31 (3): 259–287.

Kosara, R. 2017. "An Argument Structure for Data Stories." *Proceedings of the Eurographics/IEEE VGTC Conference on Visualization: Short Papers*, 31–35.

Lewis, J. 1994. "The Absence of Narrative: Boredom and the Residual Power of Television News." *Journal of Narrative and Life History* 4 (1–2): 25–40.

Lewis, J. 2017. "Quick and Dirty News: The Prospect for More Sustainable Journalism." In *What Is Sustainable Journalism? Integrating the Environmental, Social, and Economic Challenges of Journalism*, edited by P. Berglez, U. Olausson, and M. Ots, 3–18. New York: Peter Lang.

Lewis J., and S. Cushion. (2009) The Thirst To Be First: An Analysis of Breaking News Stories and Their Impact on the Quality of 24-Hour News Coverage in the UK. *Journalism Practice* 3(3). 304–318.

Longhurst, R. 2003. "Semi-structured Interviews and Focus Groups." *Key Methods in Geography* 3 (2): 143–156.

Machill, M., S. Köhler, and M. Waldhauser. 2007. "The Use of Narrative Structures in Television News: An Experiment in Innovative Forms of Journalistic Presentation." *European Journal of Communication* 22 (2): 185–205.

Mihelj, S., V. Bajt, and M. Pankov. 2009. "Television News, Narrative Conventions and National Imagination." *Discourse & Communication* 3 (1): 57–78.

Nee, R. C., and A. D. Santana. 2021. "Podcasting the Pandemic: Exploring Storytelling Formats and Shifting Journalistic Norms in News Podcasts Related to the Coronavirus." *Journalism Practice*, 1–19.

Newman, N. 2020. Journalism, Media and Technology Trends and Predictions 2020. Available at: http://www.digitalnewsreport.org/publications/2020/journalism-media-and-technology-trends-and-predictions-2020/ (accessed 12 October 2020).

Norambuena, B. K., M. Horning, and T. Mitra. 2020. "Evaluating the Inverted Pyramid Structure Through Automatic 5W1H Extraction and Summarization." Proc. of the 2020 Computation+ Journalism Symposium. Computation+ Journalism, 2020, 1–7.

Ofcom. 2020. *News consumption in the UK:* 2020. Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0013/201316/news-consumption-2020-report.pdf (accessed 10 October 2020).

Parasie, S., and E. Dagiral. 2013. "Data-Driven Journalism and the Public Good: "Computer-Assisted-Reporters" and "Programmer-Journalists" in Chicago." *New Media & Society* 15 (6): 853–871.

Pavlik, J. 2000. "The Impact of Technology on Journalism." *Journalism Studies* 1 (2): 229–237.

Pöttker, H. 2003. "News and its Communicative Quality: The Inverted Pyramid—When and Why Did It Appear?" *Journalism Studies* 4 (4): 501–511.

Rabe, R. 2007. "Inverted Pyramid." In *Encyclopedia of American Journalism*, edited by S. L. Vaughn, 223–225. New York: Routledge.

Tamul, D. J., J. C. Hotter, S. Vazire, et al. 2019. "Exploring Mechanisms of Narrative Persuasion in a News Context: The Role of Narrative Structure, Perceived Similarity." *Stigma, and Affect in Changing Attitudes. Collabra: Psychology* 5 (1): 51.

Thomson, E. A., P. R. White, and P. Kitley. 2008. ""Objectivity" and "Hard News" Reporting Across Cultures." *Journalism Studies* 9 (2): 212–228.

Ursell, G. D. 2001. "Dumbing Down or Shaping up?" *New Technologies, new Media, new Journalism. Journalism* 2 (2): 175–196.

Van Krieken, K. 2018. "Multimedia Storytelling in Journalism: Exploring Narrative Techniques in Snow Fall." *Information* 9 (5): 123.

Van Krieken, K., and J. Sanders. 2019. "What is Narrative Journalism? A Systematic Review and an Empirical Agenda." *Journalism*, 1464884919862056.

Wahl-Jorgensen, K. 2020. "An Emotional Turn in Journalism Studies?" *Digital Journalism* 8 (2): 175–194.

Walters, P. 2017. "Beyond the Inverted Pyramid: Teaching the Writing and all-Formats Coverage of Planned and Unplanned Breaking News." *Teaching Journalism & Mass Communication* 7 (2): 9–22.

Ward, S. 2009. "Journalism Ethics." In *The Handbook of Journalism Studies*, edited by K. Wahl-Jorgensen, and T. Hanitzsch, 295–309. New York: Routledge.

Witschge, T., M. Deuze, and S. Willemsen. 2019. "Creativity in (Digital) Journalism Studies: Broadening our Perspective on Journalism Practice." *Digital Journalism* 7 (7): 972–979.

Yaros, R. A. 2006. "Is it the Medium or the Message? Structuring Complex News to Enhance Engagement and Situational Understanding by Nonexperts." *Communication Research* 33 (4): 285–309.

Ytreberg, E. 2001. "Moving out of the Inverted Pyramid: Narratives and Descriptions in Television News." *Journalism Studies* 2 (3): 357–371.

ANNEX: Survey questions

Question

How long do you spend reading and/or watching news per day in total?

On a scale of 1–10, where 10 is fully informed and 0 is not informed at all, how informed do you feel generally about news and current affairs?

Which channels/platforms do you use to access the news?

What are your top 3 providers of news?

Thinking about why you are interested in certain news topics, please rate the following in order of importance:

- If the topic/conversation directly impacts me
- If the topic/conversations if of interest within my social group
- If the topic/conversation is a particular interest of mine
- If the topic/conversation is about my local area
- If the topic/conversation is an area I have previous knowledge of

Thinking about why you choose to read/watch the news, how important are the following?

- I want to be able to confidently discuss the topic with friends/family/colleagues
- I want to be fully aware of how the topic in question impacts me
- I want to feel involved in wider society, and understand what's going on nationally
- I want to continue to learn
- None of the above

Which of the following would prevent you from continuing to watch/read the news? (Please select as many as applicable)

- Jargon/Complicated Language
- No previous knowledge/understanding of topic
- Negative tone
- Too much politics
- Lack of impartiality
- Lack of relevance to you personally
- No interest in topic
- Repetition of the same topic
- Dislike of news source
- Other (please specify)

Have you heard of HS2? (High Speed 2, the high speed rail line that will link London with Birmingham, Manchester and Leeds)
Where have you heard HS2 mentioned before?

- Television
- Newspapers (printed)
- Radio
- Newspapers (online)
- Social media
- Friends/Family/Colleagues
- None of the above

Where 10 is fully informed and 0 is not informed at all, how informed do you feel about HS2?
Please detail what you know about HS2?
Which of the following benefits do you think HS2 offers?

- Faster, more frequent train service
- Direct connection between 8 of 10 of the UK's biggest cities
- More destinations within an hour's reach
- Low carbon travel
- Reduction in road traffic
- Generate jobs
- None of the above

Based on your current knowledge of HS2, how confident do you feel about the following?

- Taking part in a conversation with a friend/colleague about HS2
- Understanding the impact HS2 will have on your family/friends
- Making a decision on whether you believe HS2 is a good or bad thing

Do you understand what the key problem is with our current railway network?
Do you know how you might take part in the debate around HS2?
Do you know how you might be able to affect decisions about HS2?
Do you know what's likely to happen with HS2 in the next 20 years or so?
Based on your current understanding, to what extent do you agree with the following statement: "The construction of HS2 will bring lots of benefits"?
Have you clicked the link above and read the news article in full?
Are you now ready to answer questions related to the article you have just read?
Which version of the link did you use?

- Mobile phone
- Desktop/laptop/tablet

Having read the article, where 10 is fully informed and 0 is not informed at all, how informed do you now feel about HS2?
How long did you spend reading the article?
Which of the following words would you use to describe the tone and feel of the article?

- Formal
- Comprehensive
- Casual
- Brief
- Conversational
- Serious
- Light
- Gossipy
- Incoherent
- Succinct

- Lengthy
- Wordy
- Other (please specify)

Please detail your understanding of HS2 now!
Which of the following benefits do you now think HS2 offers?
Thinking about the article you just read, how would you rate the following?

- Your interest in the article
- How enjoyable you found the article
- How useful you found the article
- How relatable you found the tone/language

Thinking about the article you just read, what did you think of the following?

- Language
- Layout
- Tone
- Format
- Navigation
- Visuals/images

Do you now understand what the key problem is with our current railway network?
Do you now know how you might take part in the debate around HS2?
*The design of this article meant you could navigate around, deciding what to read, when. How did this affect your experience?

- It made reading more engaging
- It made me trust the information more
- It made me feel in control of how I read news
- It made me understand the information better
- It made the experience more convenient

Do you now know how you might be able to affect decisions about HS2?
Do you now know what's likely to happen with HS2 in the next 20 years or so?
Having read the article, how confident do you now feel about the following?

- Taking part in a conversation with a friend/colleague about HS2
- Understanding the impact HS2 will have on your family/friends
- Making a decision on whether you believe HS2 is a good or bad thing

Having read the article, to what extent do you now agree with the following statement: "The construction of HS2 will bring lots of benefits"?
Comparing the design and content of this news article to others you have read in your own time, to what extent do you agree with the following?

- This article is more engaging
- This article is more informative
- This article is more interesting
- This article is more relatable
- This article is more useful
- This article is more friendly