

A study of evidence-based techniques in journalism education dealing with the climate crisis

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The crux of the matter is that environmental journalism in the climate crisis is a changed discipline, more informative than entertaining, more driven than contemplative – and in this respect our journalism students assimilate and give out more pointed messages.

This paper will seek to illustrate how best we teach climate journalism to under and post graduate journalism students. It will focus on (1) how this work relates to journalism education in general and (2) how other journalism educators could utilise practices outlined here in their own work.

I shall be using case study material as well as general guidance from an MA magazine journalism course and a BA data journalism module that I teach: the MA more entertainment-led, the BA more news-led.

There will be four sections looking at (i) resources (ii) lesson plans (iii) evaluation of process/outcomes (iv) conclusion

Introduction

Journalists base actions on target audiences and their agency makes them arbiters of change. The recent Carole Cadwalldr (The Observer (2022)) libel victory exercises the great tenet of journalism, uncovering corruption in the public interest. Her journalism follows in a long line stretching back to John Lilburne, Elizabeth Johnson, and Gerrard Winstanley.

These pamphleteers/writers felt morally obliged to stand up for ordinary working people just as journalist educators of today have an obligation to teach students how to effectively impart warnings about the climate crisis based upon incontrovertible scientific data.

Trivia in journalism is non-essential industry, a diversion in these times where diversions encompass an increasingly narrower space. When the UK is hitting 40.2 degrees C (Met office. (2022)), Bangladesh is inundated, Pakistan is hitting 51 degrees C (Newsday Pakistan (2022)) and mid-west America has four-year droughts (National Geographic (2022)) not to mention Australia (Greenmatters (2021)) and Southern Europe (DW.com (2021)) (BBC 2022) on fire, the role of journalists is to stick to the facts (Randall 2016). The focus on political personalities and wrongdoing is immaterial to the facts which point to systemic lying and failure on climate on a grand scale (Chomsky (2022)).

The journalism lecturer has ethical agency here.

Section (i) Resources and foundational teaching techniques

The theoretical basis for this work is drawn from educationalists who have specialised in evidence-based techniques. Geoff Petty who has written comprehensively on this subject (Petty 2018) underpins the framework with inclusivity. Evolutionary theory points to how humans have not taxed the brain, not utilised it to

its full potential (Medical News Today 2018). This is where challenge comes in.

Journalism educators who instil challenge into their teaching strategy create student interactivity, especially by encouraging weaker students who will work harder (Petty 2013) to understand complex climate reporting issues.

Young people aged 16-25 are prone to climate anxiety (Harrabin (2021)) hence a sensitive approach is imperative in the pedagogical framework when planning sessions. I have encountered students having panic attacks in class in one or two more extreme cases and in situations such as these it is necessary to adopt a solutions-based approach.

For example, when showing UG and PG data journalism students the NASA climate map (NASA (2021)) this can have a visceral effect and as with all the extremes of climate change: birds falling out of the skies in India (The Express Tribune (2022)); dead cattle and giraffes in the Horn of Africa (BBC (2022)) care is required with the framing so that all students understand the ensuing contextual analysis.

The big picture here is to invite students who appear to have only basic understanding to work harder by asking them questions. Diagnostic questioning (Petty 2009) is important and multiple choice where the process is gradual and measured, both literally and figuratively. Always experimenting in other words and refusing to sit comfortably on the plateau is the position to adopt as educator in this setting ([Ericsson, Krampe, and Tesch-Römer 1993](#)). The learner is out of their comfort zone, and you have to chivvy them through this process.

A revised version of Doug Lemov's No opt out (Lemov (2021)) is instructive here, so when teaching how to interpret global temperature rises here is a dialogue I'll have which illustrates the strategy being used.

So, I will have already explained that the global average temperature rise is currently 1.2 degrees C above pre-industrial levels and that 1.5 degrees is already locked in and demonstrated the irrefutable scientific process to fully comprehend this. Now I want the class to understand how within 15-20 years 1.5/2 degrees C is actually 5-7 degrees C and I use guidance and whiteboard.

Here's how the process unfolds:

Me: What's the first thing we do with this one? Aysha?

Aysha: Don't know

Me: Amrit?

Amrit: We need to look at the earth and see that the average temperature of 1.5/2 degrees is for all the earth. We live inland where temperatures are much higher and in 25 years could be 5 to 7 degrees hotter. (Kohler, Lenton, Scheffer, Svenning 2020)

Me: Very good, but please tell us why?

Amrit: Because the earth is 70 percent water and 30 percent land so temperatures on land will be higher.

Me: Right, in which case what's the first thing we need to do Aysha?

Aysha: Realise the earth is 70 percent water

Me: Exactly, good. And why?

Aysha: So, we realise land temperatures could be 5 to 7 degrees hotter.

Me: Excellent, well done Aysha

This process works because you always return every time to a student who doesn't succeed with a question. The reasoning behind this is students begin to anticipate this return and get prepared for an answer they can give. It's a way of generating careful listening to their peers to engender the right answer and have the correct justification of why that is the case, knowing that they'll have to explain this themselves in short order.

The more of these "why?" questions we ask with climate comprehension exercises is essential as without them students do not understand, and so have a tendency to tune out or forget.

Resources that can be used to enable a process of positive engagement and active learning are becoming ever more prevalent. In an interview carried out by the author with Charlotte Bonner, National Head of Education for Sustainable Development at The Education and Training Foundation (ETF), she said: "There's many people working to help the education system transition so that we're preparing young people for their potentially adverse futures." Some bodies that are helpful in providing teaching resources include:

[Our Shared World](#)

[Teach the Future](#)

[Global Action Plan](#)

Bonner (Bonner. (2022)) added: “We work closely with organisations such as [Students Organising for Sustainability](#) to try and share knowledge and practice across the tertiary education sector – between FE and HE.”

Section (ii) Lesson Plans

Much of my data journalism teaching to a mixed UG and PG group regarding climate is done using workshop formats. This is both practical and enabling to all. There is also the opportunity for support roles. So, during the semester I will bring in professionals from the Guardian data team to give two, two-hour specialist tuition workshops on how to deal with climate data on Excel and Googlesheets and how to utilise data visualisations in climate investigations (Goodey 2015).

The results from these workshops and workshops-plus-support comes in the form of bridging possibilities (Petty 2013) which are manifold as exhibited in these two examples of workshops on data visualisation (both unsupported) the first entitled:

Example One:

Consider how advanced data viz can be used in a worthwhile manner and why, where do they fit in the pattern of an investigative feature on climate change...

Spend 45 minutes analysing these three sites...(15 minutes per site) British Antarctic Survey/ NASA sea level calculator/Greenpeace Ocean surveys.

(1) Analyse who is their target audience on your own.

(2) Analyse the success they have in reaching that audience on your own, writing down your findings

As a pair pick one of the three sites and come to agreement based upon peer reviewing each other’s answers as to the answers to (1) and (2).

(Evaluate the pros and cons of the site in terms of attractiveness, clarity, accessibility, and usability.)

My evaluation of process and outcomes follows for 10 minutes to round-up.

Then come the killer questions (Petty 2013).

How did you do that? This focuses on the process.

What can take away from this for your plan for your investigative feature in terms of viz and delivery/presentation in particular?

Example Two

The second example is a more advanced version of Example One with additional snowballing.

Part One

Take a detailed look at the following FT/NYTimes data sites and analyse four viz which interest you considering accessibility/interactivity/clarity.

<https://www.ft.com/ft-data>

<https://flowingdata.com/tag/new-york-times/>

Now partner up and peer review each other’s work.

Now move into groups of four and each explain your peer reviews.

My evaluation of process and outcomes follows in a 10-minute round-up.

Part Two

Take a detailed look at the following three (animated) viz from NASA earth warming - Guardian Data Team – UN environment.

https://climate.nasa.gov/climate_resources/139/graphic-global-warming-from-1880-to-2018/

<https://www.theguardian.com/environment/2019/nov/05/most-countries-climate-plans-totally-inadequate-experts>

<https://www.unenvironment.org/interactive/emissions-gap-report/>

Analyse for salient points dealing with a recent history of climate change with a partner.

Move into groups of four and using these three sources and your previous work in Part one of this exercise produce a simple cheat sheet guide viz to the current statistical situation on the Climate Emergency.

Action help:

This animated viz is quite helpful for your purposes:

<https://www.youtube.com/watch?v=V8TEHZMJjW8>

Also use the FT guide to visualisation hand-out as guidance on which format to use.

Section (iii) Evaluation of process and outcomes

When planning lessons such as these above, based upon climate science it is important to remember that the learning aims of getting a digestible take on statistics suitable for your target audience match up closely to the activities.

It is all too easy to focus on the science and end up with too abstruse results. This is all about simplification which is where the second arm of my teaching comes in with MA Magazine journalism students, where it is best considered through the prism of evaluating the process and outcomes, as the teaching process takes a more generalist approach.

Over the last seven years MA magazine students at Kingston have produced magazines themed on thrift, diversity, woke issues but not specifically about the environment and climate crisis issues.

In that time there was one climate crisis front cover which statistically is significant when compared to national consumer magazines where celebrity will still take pride of place on front covers nine times out of ten.

Rather than taking a whole class approach as with the data journalism module with magazine students the process is one of zoning and differentiation techniques (Petty 2018).

With these students you start off with a less standardised knowledge base. Data journalism students have that across-the-board knowledge of dealing with the climate crisis through analysis of spreadsheet data/international reports/journals and through skills with data visualisation suites.

The knowledge-base of how to write magazine features or produce multimedia packages (videos podcasts) on the climate crisis is less standardised with magazine students.

What zoning and differentiation do is allow the workshop session to go ahead at a pace that suits the particular students' groupings.

A Zoning example:

A 2hr magazine production workshop is in process, and it is themed around news input, the majority of the session will be taken up with students working (on either their magazine website or print magazine) in teams of designers, subs, writers, and editors. Having opened the session with a 5-minute scan of some apposite examples of climate news stories in national publications I will monitor the teams by sitting in on each group for 15 mins and adopting 'correcting practice' surgeries on their magazine's climate stories in terms of design of pages, subbing, feat writing, or final copy-editing - depending on the group I'm sitting in on.

This monitoring will focus upon ease of access, clarity, and targeting along with two-way feedback where they will question and accept my improvements just as I will listen carefully to their feedback particularly on demographics and targeting and there will be this two way, almost peer review process, which takes features forward in terms of the copy editing, design, and sub-editing.

These practice-based sessions are essential to the magazine production process. It can take 5 sessions to get 50 percent attainment of relevant production skills in a group like this (Marzano 2001).

Section (iv) Conclusion

To sum up then it is through growth learning (Petty 2018) that we succeed in imparting climate journalism guidance successfully. So, spending time on issues, encouraging effort through the process of the work, and practising consistently and often in and outside of class with a programme of self-guided study to complement skills. So, for example students from my data class will have a particular, favourite data visualisation program that I will encourage them to use outside class. And same with magazine students whom I will encourage to do thorough market research on other student magazines and their climate news/feature output which can then be used to update our coverage.

It is tempting to teach climate reporting from the front and chalk and talk in an almost proselytizing manner, however as well as losing most of the class through lack of effective interaction you are also in danger of alienating class members and adding to climate anxiety. In a (2021) global survey of 10,000 young people, 16-25-year-olds three-quarters said they thought the future was frightening with 56 percent saying they believed humanity doomed. Sixty per cent felt very worried or extremely worried and around half said feelings about the climate affected their daily lives (Harrabin (2021)).

Therefore, if we are to be a force for good and look to improve upon our offering it is beholden upon us to use these inclusive, practical techniques which sensitively deal with this, the issue of our age.

Appendix

Email conversation with educationalist, Geoff Petty:

On 21 Jun (2022), at 11:22, Goodey, Jan N <J.Goodey@kingston.ac.uk> wrote:

Geoff,

Hope this finds you well.

You gave a workshop in 2013 at City College in Brighton.

I was taken by it and have used your techniques in my teaching.

I have a specific ask - please could you give me a quote on your thoughts to do with teaching UG and PG Journalism students how to report the climate crisis effectively, bearing in mind certain students have deep climate anxiety.

Best Jan.

Reply from Geoff Petty (26/06/22)

Hi Jan,

Gosh, not sure I can do it in one quote, but here is one from George Orwell:

“In a time of universal deceit, telling the truth is a revolutionary act.”

Anyone who does NOT have deep climate anxiety is not paying attention. The IPCC is by far the largest and most careful collective science reporting venture in the history of mankind. They say it is now or never. So journalists today have an awesome responsibility, as to date so much reporting has been timid and evasive, and most editors have simply evaded this issue, though it is the biggest moral scandal in the history of mankind.

Climate and ecological crises are not party political but have become so as the solutions require government action and right-wing papers like those owned by Murdoch and other billionaire owners are repelled by ‘big government’. When writing for such papers it might help to put a right-wing spin on the issues, which is not difficult. I’ve been thinking about this lately as I have teamed up with someone who is a professional video maker, and we are planning to do videos that put a slightly different spin on green issues. So here are some thoughts, though not intended particularly for journalists:

Rationale

We need more videos like this:

1 video giving the advantages of renewables and decarbonisation of the economy, aside from the obvious ones (to us) of avoiding the climate and ecological crises.

2 videos that put the case for renewables, and decarbonising the economy, that appeal to the values, and beliefs of people with a right-leaning political view.

There is substantial overlap between 1 and 2.

Core Conservative Values (that have not been appealed to enough in campaigns)

Got these from a London Review of Books article written by an academic expert, the article was not about climate etc, my additions in brackets.

- Patriotism and the national interest, pride in Britain
- Liberty to innovate and create wealth
- Responsibility economic and social
- Virtue of the Crown (Prince William and Prince of Wales are on our side)
- Maintenance of authority stability and property rights
- The centrality of The Market to solve problems (but the market is distorted by subsidies to fossil fuel)
- Entrepreneurship

Persuasion

Daniel Kahneman's famous research on cognitive biases etc ('Thinking Fast and Slow') shows, amongst other things, that evolution has given us a strong aversion to:

Cheating (We hate people or systems cheating us at our expense and relatedly...)

Losing out (a £10 loss displeases us - much more than a £10 gain pleases us)

Agree at the start: It helps if you start by professing a view that the audience already holds, and you hold also. The famous example in Shakespeare is 'Brutus is an honourable man'

People are best persuaded by appeals to their own values, and best persuaded by people like them. Values count more than facts or science.

Academics say It works well to appeal to

Image: 'what will people think of me if I have the view you are proposing?'

Consistency: 'is this view/opinion in line with my other deeply held beliefs?'

Effectiveness: 'If I adopt your view/opinion what do I get out of it?'

Coping strategies: 'what should I say if someone challenges this new point of view you are proposing?' (There is a danger that newly adopted opinions are easily reversed unless common arguments against the new opinion are tackled head on, and persuasive reposts are given.

We are not alone

There is an organisation in the UK called the Conservative Environmental Network (CEN) that is a help here.

<https://www.cen.uk.com/>

Rough outline of some ideas

1. Why are we being left behind?

The UK was the founding father of the Industrial Revolution, remember the Olympics opening ceremony with chimneys rising.

When the discovery of steam technology fired the starting gun, the UK sprinted into the lead. Being in the lead meant we sold our technology to the rest of the world. Other economies competed to buy our technology and expertise.

Our ingenuity creativity and drive in the new technologies made us the fifth richest nation in the world, punching way above our weight, but we are already dropping back in that race.

Some people stayed in caves when the brightest built houses

Some people invested in canals when railways were conquering the world and they lost money

We are a high-tech economy, our scientists are respected with awe all over the world. We are not a low-skill, low-wage economy, that follows the crowd, coming in next to last in the race for innovation, we are not a do-what-other-countries-pay-us-to-do economy.

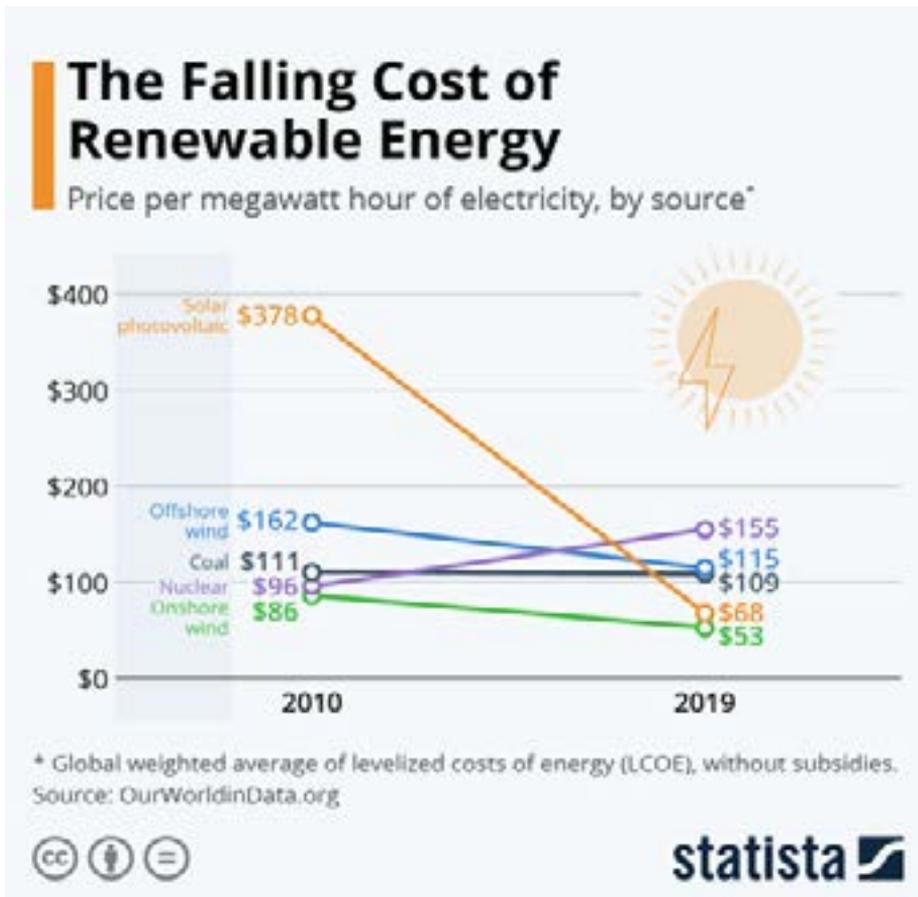
Why are we backing out-of-date industries when the future is green?

Some countries already have 90 percent renewable electricity why haven't we?

Fossil Fuel is over soon. So why are we subsidising the losing industry when we could be backing the winner? Renewables, decarbonising the economy and agriculture etc.

Possible Metaphor: betting on a horse that is already losing the race and is going to do worse still

Some useful resources:



https://www.cen.uk.com/press/Conservative_percent20voters_percent20want_percent20UK_percent20to_percent20lead_percent20on_percent20net_percent20zero

“If we wave the white flag in the worldwide race for a decarbonised economy, we would be surrendering new jobs and industries to other nations. That flies in the face of levelling up.” Nick Fletcher MP (Conservative Don Valley) he is a member of the Conservative Environment Network.

Renewables give us:

- Energy that will get cheaper and cheaper as renewables are established and improved, but fossil fuels will probably get even more expensive as we run out of easily exploited supply.
- There are more green jobs per £1 million spent on renewables than for £1 million spent on fossil fuels
- green jobs which are stable and long lasting as the industry is on the rise
 - o Insulated homes are cosier in winter and more manageable in extreme heat, and cheaper to run. With a costs of living crisis this is vital
 - o We’ll be independent of bad actors like Putin hiking our energy bills
 - o Less pollution in cities -thousands die every year from related diseases

Building a renewable energy structure is expensive, BUT NOT building one is very much more expensive. (I’ve figures for this)

The fossil fuel industry is cheating us. It gives money to political parties to force them to do what is not in the public interest. If it WAS in the public interest they wouldn’t need to spend so much money bribing political parties. They bribe them with millions to get billions from government.

Best Wishes in your important work!

Geoff

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