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# Journalism Education

**Journalism Education is the journal of the Association for Journalism Education a body representing educators in HE in the UK and Ireland. The aim of the journal is to promote and develop analysis and understanding of journalism education and of journalism, particularly when that is related to journalism education.**

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*You can contact the editors at [AJEJournal@gmail.com](mailto:AJEJournal@gmail.com)*

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**The editors are sorry to learn of the death of board member Martin Conboy and offer our condolences to his family.**

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# Contributors

## I. Arul Aram

Dr. I. Arul Aram is a Professor at the Department of Media Sciences, Anna University, Chennai. He was formerly the Chief Sub-Editor with *The Hindu*, in Chennai and New Delhi. He was a post-doctoral fellow from the London School of Economics. He also delivers lectures on media relations for social action groups. He is the Managing Trustee of the Indian Online Media Forum, a charitable trust. His areas of academic interest include Educational Communication, Community Media, Media Education, Research Methods, Media Ethics and the Internet. He specializes in environmental communication. His book *Television in Education* has been published by Orient Longman and another by him *Understanding News Media* by VijayNicole. Email: [arulram@yahoo.com](mailto:arulram@yahoo.com) Orcid ID: 0000-0001-8130-461X

## Henrik Bødker

Henrik Bødker is an associate professor at the Media and Journalism Studies Department at Aarhus University, Denmark. He has published on intersections between popular culture and media, e.g. music and magazines. His most recent work focuses on how digital technologies are transforming the circulation and temporalities of journalism. His co-edited volume (with Hanna Morris, UPenn) *Climate Change and Journalism: Negotiating Rifts of Time* (Routledge) will be out in the Spring of 2021. A monograph entitled *Journalism, Time and the Digital — Continuity and Disruption* (Routledge) is planned for later in 2021. His work appears in *Media History*, *Critical Studies in Media Communication*, *Journalism*, *Journalism Studies* and *Digital Journalism*; he sits on the editorial board of the last three of these journals.

## Gøril Borgen-Eide

Educational background from Journalism studies and photography and a Masters degree in East Asian Studies from University of Oslo with specializations in social anthropology and Chinese language, culture and society. Master thesis looked at Chinese medias crisis coverage, and through stays and studies in Asia, I specialized in exile journalism, foreign correspondancy and freedom of expression/press freedom issues.

Since 2016, I have worked with research on climate journalism at Oslo Met and the doctoral project looks at change and continuity in Norwegian climate coverage, under the title *Rich pasts and risky futures: Norwegian narratives of climate and oil in liminal times and the space of opportunity for journalism*. The research is qualitative with a narrative analytical approach and is theoretically anchored in concepts of liminality, temporality and social imaginaries. [goril@oslomet.no](mailto:goril@oslomet.no)

## Elisabeth Eide

Elisabeth Eide is a Professor Emerita of Journalism Studies at Oslo Metropolitan University, Norway and Co-chair of the MediaClimate network since 2008 ([mediacclimate.net](http://mediacclimate.net)). She has a PhD in media studies from the University of Oslo, Norway. Furthermore, she has published a large number of academic books and articles, plus five novels and several non-fiction books, plus co-edited four anthologies on climate journalism. She has also worked as a journalist for a number of years. E-mail: [elisabeth@oslomet.no](mailto:elisabeth@oslomet.no)

## Maarit Jaakkola

Maarit Jaakkola is a Doctor of Social Sciences (Journalism) working as Co-Director at the Centre for Nordic Media Research Nordicom at the University of Gothenburg in Sweden. She is also an Associate Professor at the Department of Journalism, Media and Communication (JMG) at the University of Gothenburg and an Adjunct Professor at the Faculty of Information Technology and Communication Sciences (ITC) at Tampere University in Finland. Jaakkola's research is located at the intersection between media, culture and learning. In her research, Jaakkola is searching for connections between professional and non-professional media production, public and informal pedagogies, as well as cultural-studies approaches, preferring comparative studies in the Nordic region.

## Joy Kibarabara

Joy is a postdoctoral researcher (2024-2025) working on a project examining Swedish journalist perceptions of constructive journalism at Stockholm University. She attained her doctoral degree in journalism with a dissertation entitled: *The Discourse and Practice of Constructive Journalism*. In addition to research, she has taught several courses at IMS touching on both journalism, media and communication disciplines. In addition to teaching and supervisory experience in Sweden, she has also had similar experiences in North American and Africa as well as experience as a journalist in the latter two contexts. [joy.kibarabara@ims.su.se](mailto:joy.kibarabara@ims.su.se)

## Risto L Kunelius

Professor Risto L Kunelius Risto is the Director of the Helsinki Institute for Social Science and professor of media and communications. He takes a special interest in climate change

## Ivan Nathanael Lukanda

Ivan Nathanael Lukanda is a Senior Lecturer in the Department of Journalism and Communication. He has a Ph.D from Stellenbosch University, South Africa. He is a winner of the 2022-2023 African Humanities Programme supported by the American Academy of Learned Societies. His broad research area is science communication, focusing on the intersection between technology, media practice, gender, politics and culture. [ivan.lukanda@mak.ac.ug](mailto:ivan.lukanda@mak.ac.ug)

## Vivek Nagarajan

Vivek Nagarajan is a Ph.D. Research Scholar in the Department of Media Sciences, Anna University, Chennai. Previously, he has served as an Assistant Professor in Madras Christian College, and DG Vaishnav College, Chennai. He specializes in communicating climate change. Email: [theviveknagarajan@gmail.com](mailto:theviveknagarajan@gmail.com) Orcid ID: 0000-0002-5034-3429

## Lindsay Pantry

Lindsay Pantry is a University Teacher at the School of Journalism, Media and Communication at the University of Sheffield, where she specialises in teaching investigative journalism, FOI and OSINT skills. She has an interest in innovative teaching methods, in particular, exploring teaching using 360 media, virtual reality and AI.

## Ken Pratt

Dr Ken Pratt is a Lecturer in Journalism at UWS (University of The West of Scotland). He was one of the first reporters on the scene at The Lockerbie and Piper Alpha Disasters and covered the First Gulf War from Jerusalem. He was a finalist at The Guardian International Development Journalism Awards for his disturbing reportage from Uganda and DR Congo His new research area focuses on the ethics of climate change disaster coverage.

## Mofizur Rhaman

Mofizur Rhaman is a Professor and former Chairperson of the Department of Mass Communication and Journalism, the University of Dhaka, Bangladesh. He is a Fulbright-SUSI scholar and founding member of the global MediaClimate Network. He holds a PhD in Professional Norms of Climate Change Journalism from UiB, Norway. He takes an interest in the issues of journalistic norms and values in general and their application in climate change, environment, gender, and development in particular. Email: [mofizur.rhaman@du.ac.bd.com](mailto:mofizur.rhaman@du.ac.bd.com)

## Kristina Riegert

Kristina Riegart is a professor specialising in global media, conflict journalism and comparative journalism at Södertörn University. Her research has mainly focused on how national and transnational media have made sense of globally mediated events, and how the political infuses popular culture. Most of her work has a comparative national or transnational approach. An interest in globalising processes and the political in popular culture led to the "Worlds of Cultural Journalism" project about the way Swedish cultural journalism represented global events and debates on identity and democracy from 1985 until 2019. This project was also undertaken in collaboration with Scandinavian colleagues.

## Gerald Walulya

**Gerald Walulya** is a [Senior](#) Lecturer in the Department of Journalism and Communication, Makerere University. He holds a PhD in Communication from the University of Oslo, Norway. His teaching areas include Public Affairs Reporting, News Writing, Reporting and Production, Media Management and the Art of Public Speaking. His research interests include political communication and journalists' safety. Recent research on journalist safety and self-censorship has appeared in *The Journal of Media and Communication* and in anthologies. Gerald is currently working on research analysing former Ugandan President, Idi Amin's photographs to find out people's contemporary views about him and the narratives behind his photographs. [gerald.walulya@mak.ac.ug](mailto:gerald.walulya@mak.ac.ug)

## Line Weldingh

Line Weldingh is a Ph.D. student at Roskilde University and Danish School of Media and Journalism. My research explores how news media logic affects the dissemination of climate change in Danish media.

## Tamara Yesmine Toma

**Tamara Yesmin Toma** is an OSINT investigator and researcher specializing in disinformation, hate speech, and gender issues. She graduated in Mass Communication and Journalism from the University of Dhaka and is currently working with Digitally Right in Bangladesh. She can be reached at [tamarayesmin@gmail.com](mailto:tamarayesmin@gmail.com)

# Climate edition introduction

This special issue of Journalism Education is guest edited by Professor Elisabeth Eide of Oslo Met and Professor Risto K Kunelius of the University of Helsinki. Elisabeth Eide is a Norwegian journalist, teacher, novelist and non-fiction writer who has a particular interest in the media coverage of climate change. Risto Kunelius is the Director of the Helsinki Institute for Social Science and professor of media and communications. He takes a special interest in climate change.

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## The need for a new educational turn

*‘The volume of education has increased and continues to increase, yet so do pollution, exhaustion of resources, and the dangers of ecological catastrophe. If still more education is to save us, it would have to be education of a different kind.’ E.F. Schumacher, 2017*

**For anyone paying attention, the climate crisis has been by far the most important challenge to journalism for some time now. The looming systemic climate crisis has been the repeated lesson from the reports from the Intergovernmental Panel on Climate Change (IPCC AR4, AR5, AR6), from UN leadership public statements, from Climate Vulnerable Nations and civic activists – and, indeed, from news media as they report the increasingly common extreme weather events and their human and material damage.**

In November 2024, as we were approaching the 29<sup>th</sup> global climate summit in Baku, a group of the world’s most senior climate scientists, collected the evidence – once more – in a condensed, 13-page document. A careful, concentrated reading on this document, that looks at 35 vital signs, makes its case crystal clear: we are in a “critical and unpredictable new phase of the climate crisis” and the “future of humanity hangs in the balance”. (Carrington, 2024; Ripple et al 2024). Furthermore, the report recommends that climate change instruction “should be *integrated into secondary and higher education core curriculums* worldwide to raise awareness, improve climate literacy, and empower learners to take action” (Ripple et al 2024: 10, emphasis by authors)

A couple of weeks later, Copernicus, an EU climate information observatory announced that 2024 would be the first year in history breaking the 1.5 degree limit of global warming. Setting this preferable target was one key achievement of the political pressure from the *Climate Vulnerable Forum* (CVF) and part of the Paris Climate Agreement from 2015. In less than ten years after, the world has now begun to overshoot that goal.

We know that climate change is an example of a “wicked problem” (see e.g. Hulme, 2009; Levin et al 2007; Lazarus 2008), an entangled intersection of challenges that defies the capacity and traditional roles of experts and policy makers to come up with answers. Indeed, the climate crisis can be seen as *super wicked* problem. It begs us to think on hugely different *time scales*, from the rhythm of ice ages to the need to curb emissions in much less than a generation -- and at the same time coming to terms with a

historic inequalities built into fossil capitalism. *Knowledge* about the climate calls for simultaneous attention to a global urgency but also to the huge variation of local realities of living in the crisis. The task of crafting effective policy, regulation, and compensations, in turn, presupposes effective *transnational political* structures that could translate the looming existential problems into collective and binding decisions. And as if all this would be enough, the very root cause of the climate problem is deeply incorporated in the current energy and power structures of the world. We are – as economies, societies and as individuals living our everyday lives – products of a fossil fuel driven modernity. As Levin et al (2007) put it almost 20 years ago, “... time is running out; those who cause the problem also seek to provide a solution; the central authority needed to address it is weak or non-existent; and [...] policy responses discount the future irrationally.” (Levin, K., Cashore, B., Bernstein, S. 2007).

The decade of world politics after the thin hope of the Paris Agreement has been a volatile one. With the rise of polarizing politics, nationalist and authoritarian parties, the disruption of the pandemic, and heightening concerns about war and security have sidelined ideals of rule-based international order. This cascading set of mutually reinforcing trouble has been fittingly discussed as a “polycrisis” (e.g. Tooze, 2020; Zeitlin et al, 2019; Drezner, 2023) where decision-making is trapped between politically incommensurable choices that can lead to contradicting outcomes (e.g. Schramm, 2020). Political and economic elites feel this pressure too in the shape of rising living costs and anxiety about economic stagnation, to fear of escalating warfare or worries about the next pandemic – which intersect with broader structural trends: societal polarization and increasing inequality, changing communication infrastructures and the urgent realization of looming ecological tipping points in climate change and biodiversity loss.

In a 2022 survey of the World Economic Forum, 20 per cent of economic elites represented in its ranks agreed that in the decade ahead, the world was heading towards “progressive tipping points”, “persistent crisis” and “catastrophic outcomes” (Global Risk Report, 2022, 25). The reactionary politics of nationalism, tightening security, closing of borders and spending more money on weapons are short-term reactions to this existential threat. Paradoxically, we have seen how raising stakes of immediate threats show the ability of societies to mobilize and change political directions, such as during the recent pandemic, but decisive transnational action on the climate crisis seems to be still beyond their capacity. Some commentators have even seen glimmers of hope in the crisis mentality. For instance, Bruno Latour and Nikolaj Schultz (2022, 92), closed their pamphlet calling for the emergence of a new «ecological class» and suggesting that the sense of «*end of this new interwar period*» can help to forge new political and social forces.

While such tragic optimism about a new ecological frontier and ecological warriors should make us feel uneasy, it remains clear that the climate crisis is putting us into historically unique political and cultural crisis where we are faced with questions that demand a reassessment of their inherited practices and values. This applies to private individuals as well as professional and institutions. Journalism – and journalism education – are no exceptions. This special issue collects articles and reports on how educators and professionals from different parts of the world are tackling these issues.

## Journalism: challenges and strengths

Journalism still plays an important role in informing people on the development of the climate crisis, although to which *extent* the media represents their primary source of information, may vary. Previous research (Kunelius & al 2017, Eide & Kunelius 2012, Schäfer & Painter 2020) has shown that in states where the political and/or military conflict level is high, the media coverage of climate issues tends to be low. However, other issues ‘competing’ national events such as elections, the lack of national climate expertise as well as expert journalists, may also explain this gap.

Covering environmental and climate related issues may also be a risky endeavor. Journalists have been harassed, arrested and killed for their revealing of environmental threats, not least when covering/confronting large businesses. In the years from 2005 to 2016, at least 40 journalists died due to their environmental coverage (Freedman, 2020). What can we expect from journalism in the context of current climate crisis?

In the modern order of things, built during the long struggles for “carbon democracies” (Mitchell, 2011), journalists assumed a professional ideal that placed them in the role both to raise *the attention* of the public and to *inform* it. In an ideal electoral democracy, reliable and accountable journalism informs citizen to make sensible decisions about their personal futures and livelihoods and enable them to choose their political leaders and confront them when they fail. [In climate journalism, critique of such a nexus has been important, since journalism due to from lack of professional strength, representing political leaders uncritically when it comes to the climate issue. Take, for instance the well-established critique of how the so-called balanced sourcing of climate news leads easily to a biased representation of the facts and scien-



tific evidence (Boykoff & Boykoff, 2004). This critique serves as positive example of the reflexivity of the profession, leading many news organizations towards conscious and systematically sourcing practices when covering climate science news. Below, we mention some of the important challenges faced by the journalism profession when covering the climate issues, derived by previous research, convinced that these are also vital in discussions of climate journalism education.

## Compartmentalization and de-specialization

Such advances of climate awareness can, however, be hindered by the *compartmentalization* of journalism. While media seem to take climatic changes more seriously, the reporting may at best be assigned to journalist specialists with some in-depth understanding of the natural sciences. On the other hand, the political reporters, less equipped with climatic knowledge, are the ones whose role it is to confront politicians with their inadequate strategies and actions concerning climate mitigation or adaptation. This is just one feature of journalism, perhaps mostly a characteristic of resource-rich media, while another strong feature is the general downscaling of newsroom staff, a staff that must cater to a wide number of platforms, and the related *de-specialization* of journalism (Magin & Maurer, 2019; Figenschou, Eide & Nilssen, 2021). Recent *specialization* within the journalist field seems to be more about narrative technique, technological know-how and digital competence than about the traditional field specialization based on acquired factual knowledge (Schäfer & Painter, 2021).

## Politization

During recent decades, journalistic institutions in democratic societies face increasing pressure, while the urgency of the crisis has become more acute. This concern is not unrelated to the increasing political polarization that extend not only to politics proper but also to the media field. While political affiliation of news media is an integral part of the *history* of the press, in recent years, the trend of professionalization in journalism is weakening. The quality of climate coverage has suffered – and continues to suffer – from this. Editorial policies of some major global news providers, in fact, provide a continuous space for scientifically unbiased sceptics, denialists and think tank commentators. As the profession is increasingly drawn into being a political actor, the space for better climate reporting narrows down. Recently, this politicization of climate has also ushered in a new kind of political “denialism” where some political parties and actors – while not actually denying the basic science of global warming – argue more in terms *delaying* action (Painter et al, 2023). This messaging has been an effective way of harnessing political support in developed countries where radical changes in lifestyles would be most urgent. As political parties relying on such rhetoric gain powerful positions in government, the space for professional journalism is further tightening.

## Truth to power

These problems for journalism as an institutional field make some of the weaknesses of coverage understandable – but not acceptable. There is a constant need for the profession to be updated on vital issues and thus be able to fulfill its obligations. Widening the sphere of representation is a core idea and duty of professional journalism. Its ideals highlight the task of giving voice to the voiceless, to vulnerable human beings and other species. Further, a vital part of journalists’ professional values is speaking *truth to power*, based on carefully gathered facts: as when livelihoods are threatened by political inertia preventing decisions leading to effective climate mitigation measures. The ability speak truth to power is also dependent on journalism’s ability to sustain a diversity of voices. And in the case of climate change this must be a *transnational* obligation. Indeed, climate journalism offers a particularly important case for developing international networks of journalism – and thus enabling journalists to balance and challenge the national political elite’s dominant role concerning public information and framing of political issues. There are many admirable examples on this, ranging from international investigative journalism to specialized new platforms of climate journalism. While journalism in traditional (legacy) media is facing scarcities, Schäfer & Painter demonstrate that climate journalism is on the rise in online news media and specialized niche sites (Schäfer & Painter 2021), which may contribute toward a *re-specialization* in a part of the journalist field, but within NGO and niche media, not mainstream ones. (see also, Russell et al, 2022; Kunelius et al, 2017).

## Historic responsibility

As the global climate crisis inevitably unfolds, the transnational dimension of good climate journalism gains importance. We know that in the most vulnerable countries, adaptation has become a matter of life and death. In most countries, adaptation is already a not question of choice, as the Paris agreement con-

firms. In past decades a recurring transnational discourse on “historic responsibility” and “climate justice” (Bond, 2012, Robinson 2011), has reminded the Western world with their long industrialization and colonization process of their role as a root cause of the current crisis. This means “Western” countries or indeed the “Global North” need to be in the forefront of not only taking responsibility for leading emission mitigation but also as providing finance for adaptation in the climate-vulnerable countries, a cause raised within the COPs at least since 2009. Only then can global justice partly be achieved, according to the Climate Vulnerable Forum, a group of nations in the Global South, which has forged an alliance to fight for climate justice in general, and for loss and damage compensation in particular. At times, such discourses – particularly when promoted by the larger emerging nations of the Global South – may serve as excuses for lack of national climate mitigation. Historically rich nations, long being criticized for not doing enough to curb emissions, may point at the global no 1 and 3 emitters (China and India) to undermine claims of climate justice, while disregarding counting emissions per capita. These arguments with selective emphasis will continue, challenging journalists to look beyond the dominant, but unproductive “blame games”.

## High-tech solutions and citizen responsibility

Solution-oriented journalism has been called for by scientists (Kunelius et al 2017) as well as activists. This concept includes a diversity of coverage, from techno-driven solutions offered by big businesses at times in a bid to green themselves, to visiting local people who have generated local emission-free energy (Eide & Hahn 2017). The techno-optimist discourse, oftentimes forwarded by leading politicians, may in cases connect to grass root initiatives, but may also serve to pacify citizens by offering “quick fixes” of the (wicked) problem.

A growing discourse is based on the premise of us being ‘in the same boat’, albeit on different decks, claiming that we all share responsibility for reducing emissions in our daily lives by way of reducing harmful travel and opting for wise consumption choices. Research indicates that citizens who engage in leading ‘greener’ lives, are also more likely to accept the IPCC climate scientist reports (Austgulen & Stø 2014).

## Interconnectivities

To an increasing extent, journalists and media tend to connect the two major global crises: the global threat of species extinction and the equally global climate crisis. Several documentaries by Sir David Attenborough have for instance contributed to this development by a consequent and empathic engagement for species survival linked to changing climate and planetary health.

However, other connections are still not as frequently observed. Linking the impact of the weapons industry and local/regional armed conflicts to climate issues, is still largely missing. As this introduction is written, the Middle Eastern world is on the brink of full war – and emissions from bombing, as well as large-scale destruction and future reconstruction will all contribute considerably to global emissions. This may well be one of the future challenges for climate journalism education (Steichen & Koshgarian, 2020; Collins, 2016). This process also works the other way around, when conflict over dwindling natural resources caused (partly or fully) by the climate crisis, erupts into warfare.

Other connectivities, such as climate crisis affecting indigenous people (Roosvall & Tegelberg, 2015), and women (statistics showing a gender gap also when it comes to emissions per capita, and women being more vulnerable to crisis consequences), also need to be included in journalism training.

### *North – South division and future perspectives*

Earlier findings have concluded that the climate coverage (cases studied: coverage of climate summits and IPCC launches) tended to be significantly lower in the countries of the global South (Eide & Kunelius, 2012; Kunelius et al; 2017).

These findings also mention that there are few specialist climate journalists in the Global South, and that the media sources in this field of coverage have become more diversified, which, according to the authors, may have much to do with “a strong and rising influence of stakeholder PR on climate journalism” (Schäfer & Painter, 2020).

Ten years ago, the experience gaps between countries in the Global South and the Global North with regard to the climate crisis, were substantial in the sense that Europeans still might talk about the *future*, while journalists and experts in the South would tell that the “future” perspectives were clear to see from the present calamities, as shown by a comparison between climate coverage in Bangladesh and Finland (Kumpu & Rhaman, 2012). However, the rapidly rising number of forest fires in North America, Australia and Europe, as well as floods and heat waves steadily spreading, may be seen to narrow this

‘vulnerability gap’, albeit the industrialized nations being better equipped to take adaptation measures and limit the damage.

The recent COP29 deliberations illustrate *future perspectives* in yet another manner, by pushing the target year for climate finance to 2035 (the year of the previewed drastic tipping point)..

#### *Science communication, climate journalism*

Science communication research has largely rejected the “information deficit model”, presupposing a hierarchic relationship between academic expertise and passive citizens. (Secko et al, 2016); and emphasizing the need for a bottom-up perspective to enable communication with grass roots citizens, i.e. those whose experiences are harvested from lived lives. Journalists thus need to reflect on how to tackle their professional roles when experiencing pressures and professional shortcomings. Not least, there is a need to , discuss the conflicting ideals of journalism; watchdog, neutral observer or siding with the marginalized or silenced other. In a sense, all are normative ideals. Some journalists have “solved” the issue, by openly declaring themselves as adherents of climate activism, while others have refrained from doing so, since this might undermine their credibility. On the other hand, this alternative at least makes it easier for audiences to judge and contextualize. Constructive, or solution-oriented journalism, has for quite a few years emerged as an alternative particularly within climate journalism. In addition, some climate researchers have also encouraged this turn, which may also contribute to a more bottom-up perspective, highlighting local initiatives (Eide, 2017; Eide & Hahn 2017).

### A systemic issue: educational openings and opportunities

One of the institutions, which for a long time has trained journalists and media leaders within the field, presents its main training as follows:

It is open not only to science, environmental or climate journalists but equally to journalists of any other vertical who are interested in adding the climate dimension to the topics they currently cover, as well as editors and news media executives. Our working assumption is that climate change is not only a topic *but rather a systemic issue that affects all verticals of a typical news organization, including its culture, lifestyle, health, technology, architecture, food, sports or travel journalism.* (emphasis added by authors)

This excerpt underlines two sets of *verticals*, those of the professionals, reaching out to the media from executives to working journalists; and *verticals* such as the (more or less compartmentalized) reporter “beats”, which are nowadays more clearly seen as affected by global climate change. The course description opens the gates both to specialists and “dimensionalists”, i.e. those who might consider adding the climate crisis as a *dimension* to their ongoing teaching projects. In other words, Reuter’s twofold approach attempts to combine two ways of teaching, as the climate crisis is seen as permeating other issues, as an overarching feature.

### This issue

Above, we have highlighted *some* on the key questions facing climate journalists, in order to sketch the landscapes in which institutional actors of journalism *education* operate today and which special (often transnational) challenges journalists new to the field will have to face in their future careers. The need for explaining the entangled problems in an understandable way to lay people, while keeping in mind the powers that be and their inherent responsibility for amending the crisis, further underlines the need for educational efforts targeting those whose assignment it is to provide solid, factual information about current and future risks. Such *training* of future and current professionals within communication and journalism offers several interesting challenges.

While it is evident that the climate crisis is the major challenge to journalism, the crisis is perhaps *still less recognized* as a major *educational* challenge, both in journalism training and in other educational fields. The mere complexity of the crisis is evident, while the space opening up for journalist education may be narrower.

Recognizing both compartmentalization within journalism, and the lack of connectivity between global issues, we may also discuss the wisdom of having separate courses on climate journalism in higher education, especially if the courses remain *elective*, which is often the case, also in some cases treated in this volume. On the other hand, this illustrates the dilemma between educating *some* journalists to reach a certain degree of expertise vs. integrating climate knowledge into generic courses, such as documentaries, news reportage or development journalism. The latter, though, may spur individual journalists to delve deeper into climate issues after having harvested experiences from field reporting..

### Contributions

This special issue presents contributions from a group of scholars from different settings around the world. Their work and experience highlight the varying circumstances – of climate realities, of educational institutions and of opportunities for journalism on the ground. But they all share the belief that we can take better advantage of both the strengths of two crucial knowledge production institutions we have – universities and journalism – in our attempt to prepare people for how deal with the ongoing and unfolding climate crisis.

*Joy Kibarabara's* essay makes a case for constructive journalism as a useful approach for climate journalism in the context of Kenya as part of the Global South. Discussing key ingredients of constructive journalism – a professional commitment to solution-orientation, contextualization, inclusiveness, a diversity of sources, and future-orientation – the article argues that it provides an antidote to problem-based narratives in news coverage, and tools that can inform the training of journalists.

*Mofizur Rhaman and Tamara Yesmine* present an overall assessment of climate journalism education in Bangladesh. They look at current contents of the teaching curricula and practices and trends in teaching. Against this background and drawing from interviews with educators and student surveys, they propose a new, comprehensive framework to enhance climate journalism education in Bangladesh. Their key emphasis is placed on the idea on *experiential learning*. Based on their practical field experience and experiments, they promote courses that build collaboration with experts, integration of science education, adoption of data-driven reporting, and leveraging digital tools and visualizations for effective communication with diverse audiences.

*Syed Muhammad Saqib Saleem's* work takes us to Pakistan. His vision on enabling better and more impactful climate communication develops the three key themes: general climate literacy, the evolving role of journalism in promoting climate awareness; the development of a climate journalism framework based on his experiences as an educator. He brings these together by presenting course experiments that aim to foster climate journalism in Pakistan, arguing that journalism education must therefore evolve to prepare future reporters not only to inform the public in general but to navigate the unique challenges posed by climate change communication. Crucially, this demands an understanding of the socio-political context in which climate stories are told.

*Ivan Nathanael Lukanda and Gerard Walulya* report on a study that assessed the outcomes of climate journalism training initiatives in Uganda. Based interviews with both trainers and trainees they track how journalists have used the knowledge acquired from training and experience to improve their work. While the findings suggest many empowering benefits (such as new skills, networks, access to funding opportunities), the study also identifies persistent obstacles for taking full advantage of such training initiatives. They recommend journalism training institutions should incorporate key contents of such specific training initiatives to standard curricula. They also call for more attention bridging the gap between both young and senior journalists as a way on sharing knowledge and helping environmental stories to gain more weight raise in the news agenda

*Arul Aram and Vivek Nagarajan*, two scholars from Chennai, South India, demonstrate how climate journalism can also be constructively integrated when teaching “hard sciences” such as physics or computer science. Combined with field work, a vital part of climate education, they show how learning takes place when students venture out to seek knowledge from local communities, and better understanding of how different media (including social media) can contribute to local awareness through practical exercises. Through such integrated courses, the students from outside core journalism and communication training, achieve a better understanding both of climate change and the role of media in communicating this global threat to the public.

*Gary Stevens* draws on an extensive interview study on science journalism programme teachers and administrators. The article focuses on the potential and challenge of creating interdisciplinary teaching environments and courses where communication students can work – with different levels of intensity – with students from other disciplines. Relying on the lessons of critical pedagogy and “borderlands theory” he highlights benefits of more dialogic educational experiments, but also points to some challenges faced by those who implement them. His research underscores the unique opportunities (and responsibilities) of universities as locations where appreciation of interdisciplinary knowledge production exists. This is essential to create an atmosphere where a relevant sense of the climate crisis can be developed.

*Line Weldingh, Gøril Borgen-Eide, Henrik Bødker, Maarit Jaakkola, and Kristina Riegert* provide an overview and analysis of the contents of climate curricula in Nordic journalism schools. Their overall analysis shows that course descriptions rarely explicitly take climate change (or environment and sustainability) as their specific focus. This points to key question in journalism education: is the climate crisis just another “beat” where more general professional practices and skills should be implemented? Or, as

we have argued in this introduction, is the crisis a more systemic overarching and underlying dimension, a societal challenge that could help journalists develop new capacities that the climate crisis demands?

## When things matter, people will learn!

The youth movement (Fridays for Future) occurring in 2016, now largely silent, proved that popular movements themselves provided important moments of (self-)education. A project interviewing leading climate activists in 21 countries, revealed a range of knowledgeable and eloquent young leaders, who were able to navigate the thick forest of scientific lingo and acronyms incomprehensible to most lay people (Eide & Kunelius 2021).

Above, we have emphasized the dire need for journalism educators to adapt to the global crisis by shouldering their special responsibility for creating an atmosphere of awareness and changed practices to avoid what might develop into a collapse of civilizations if the crisis is allowed to develop as it has done for the past decades.

Some universities and university colleges have initiated climate journalism and communication courses or programs. Other institutions of learning contribute as well, and we recognize the need for and existence of a diversity of trainings, catering to the needs of students, as well as established journalists and editors. Experiences from such initiatives, some of whom are represented in this issue, show that several obstacles may occur, having to do with time constraints (due to rival issues – most particularly in unstable countries), lack of knowledge among decision makers, and conventional curricular and other academic norms or traditions. Political constraints may occur, also in the shape of climate “sceptics” blaming educational efforts as *normative* of ideology-driven, or they may occur as financial constraints targeting resource-demanding courses. It is a fact that institutional and practical arguments leaning on educational “business as usual” or lack of expertise and resources, may represent important obstacles to changes. However, these may perhaps be met by shedding light on the varieties of experiences harvested where educational efforts *do* take place, sometimes just as small or medium integrated parts of existing curricula, sometimes as elaborate interdisciplinary efforts, in other cases as full-fledged in-depth courses where the joint expertise of journalism educators, natural scientists and professional journalists can pave the road to successful training and mutual learning.

Despite these obstacles, it is our conviction that the potential for creating spaces for a variety of such training is substantial, and we hope that this volume can make a modest contribution to such a process.

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# Climate Articles

All papers in the Articles section are peer reviewed and discuss the latest research in journalism and journalism education. These are intended to inform, educate and spark debate and discussion. Please join in this debate by going to [www.journalism-education.org](http://www.journalism-education.org) to have your say and find out what others think.

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## Investigating notions of climate change in Nordic journalism education

By Line Weldingh, Roskilde University, Gøril Borgen-Eide, OsloMet, Henrik Bødker, Aarhus University, Maarit Jaakkola, University of Gothenburg, Kristina Riegert, Södertörn University

### Abstract

This study investigates how notions of climate change appear in Nordic journalism education curricula. It also explores the extent of and rationale behind the inclusion or exclusion of the subjects of climate change, the environment or sustainability in the course syllabi of journalism programmes across Denmark, Sweden, Norway and Finland. Utilising a mixed methods approach, the research combines a quantitative analysis of course syllabi from 22 Nordic journalism schools ( $n = 751$ ) with qualitative analysis of 26 syllabi, as well as interviews with seven programme heads and one teacher. Findings reveal that 26 out of 751 syllabi mention these concepts, with few courses focusing primarily on them. Climate change, the environment or sustainability are integrated into the courses to varying degrees. One of the key issues raised is whether climate change, the environment and sustainability constitute a “normal” beat or whether these issues are sufficiently different, or pressing, to warrant more specifically defined types of knowledge that cut across established areas. Different perceptions might hinder the integration of climate change into journalism education. This is mirrored, it is argued, in journalistic considerations about where to place stories on climate change. Given this, we suggest that journalism education ought to include discussions of what knowledge it takes to write about climate change.

# Introduction

**As studies show that news media is the most commonly used source of information on climate change across the world (Newman et al. 2020), its role in societal transformation towards a more sustainable future cannot be overstated.**

To understand how journalists are prepared for this important role, this study examines the extent to which and why (or why not) climate change, environment or sustainability have been integrated into Nordic journalism education. Yet, integrating such concepts is challenged by the complexity of the topic (Kunelius et al. 2017). While climate change in newsrooms may be placed within a science beat, the fact that it can be related to almost everything means that it challenges journalism's traditional division of issues into news beats (Eskjær 2019). With regard to the transversal, interdisciplinary and multidiscursive character of the topic, there is no "natural" slot within the typologies traditionally structuring journalism education.

The question is further complicated by the fact that climate change is a drawn-out and continuous process rather than concrete events, which conflicts with news journalism's focus on events (Berglez 2011; Adam 2021). In addition, the interdisciplinarity of climate change, and the science beat in general, demands knowledge of different sciences and scientific methods (Weigold 2001), which journalists do not necessarily possess. This study explores how Nordic journalism education programmes address the challenge of preparing students for this complex and all-encompassing issue in the curriculum.

International research has addressed the lack of science and environmental journalism in the curricula of journalism schools in the Asia-Pacific region (Maslog 2017; Wahyuni 2017), as well as the challenges of teaching environmental journalism in the US (Neuzil et al. 2018; Motta 2020). Research has also shown that integrating sustainability and science into journalism education and workshops for further education of journalists has led to better comprehension of sustainability and scientific uncertainty (Kolandai-Matchett et al. 2009; Schneider 2009; Smith et al. 2018). In the Nordic region, it has been found that journalism education programmes emphasise the practical dimension of journalism in curricula as well as in course literature (Jaakkola 2019; Jaakkola & Uotila 2020), which raises the question of how knowledge about climate change can play a role. By mapping and discussing this, we hope to provide a basis for a discussion on how to effectively prepare future journalists to tackle climate change reporting. Therefore, we seek to answer the following questions:

*RQ1: How and to what degree do Nordic journalism education programmes integrate climate change, the environment or sustainability into course syllabi?<sup>1</sup>*

*RQ2: What are the reasons behind the integration of climate change, the environment or sustainability, or lack thereof, into the course syllabi of Nordic journalism education?*

In the following section, we review the research on Nordic journalism education and climate change within it. Next, we present the theoretical framework and methodology, followed by a quantitative analysis of course syllabi (n = 751) from 22 Nordic journalism schools, and a qualitative analysis of the syllabi mentioning climate change, environment or sustainability and, finally, an analysis of semi-structured interviews with eight programme coordinators.

## Literature review: Climate change in journalism education

Nordic journalism education comprises educational programmes at universities and professionally focused institutions in tertiary education (Terzis (Ed.) 2010; Nowak, E. 2019; Franklin & Mensing (Eds.) 2011), reflecting the fact that the apprentice system has been replaced by journalism schools over time (Joseph 2019). Although there are some differences between countries, Nordic journalism education generally combines hands-on courses with academic subjects. In this regard, it stands out from countries like Germany, where only students with an academic background are admitted (Hovden, Nygren and Zilliacus-Tikkanen 2016). However, the general aims in teaching journalists, such as learning craft skills, understanding the challenges of journalism and becoming familiar with journalistic genres and professional norms, are somewhat similar across countries (Hovden, Nygren and Zilliacus-Tikkanen 2016).

Regarding curricula, Nordic journalism education is rather heterogeneous, and differences are as great within the countries as between them (Jaakkola 2019). However, previous studies have found that, overall, Nordic journalism education emphasises the practical dimension of journalism in the curricula and course literature. In general, the main part of the curriculum at the undergraduate level is practice-led,

<sup>1</sup> A course syllabus is understood as a document communicating information about the content, methods and purpose of a course in more detail than a curriculum (Jaakkola and Uotila 2020).



with a focus on journalistic production, while a quarter is theory-led, with literature and related exercises in the foreground instead of journalistic production (Jaakola 2019). One study of course literature in Nordic academic journalism programmes found a strong emphasis on professional books written in the domestic, national languages and that course literature was infrequently revised and updated (Jaakkola & Uotila 2020).

Regarding climate change and the environment in journalism education, scholars have focused on both the challenges and the effects of teaching. Researchers in the Asia-Pacific region have described a lack of environmental journalism in the curricula of journalism schools as well as a lack of competence among lecturers (Maslog 2017; Wahyuni 2017). Several researchers in the US have focused on the challenges of being able to reflect on and explain the practice of environmental journalists to students (Neuzil et al. 2018). Teaching data journalism and investigative journalism are suggested as ways to bridge this gap between class content and professional reporting, as these types of journalism “require a higher understanding of trends, methods and systemic thinking” (Motta 2020: 118). In this way, students can learn to apply theoretical and methodological knowledge to practical journalism. Furthermore, constructive journalism, which has become a prevalent orientation in the Nordic journalism education (see Jaakkola & Uotila 2022), has provided journalism education with new ways to deconstruct models of journalistic storytelling, in particular within the genre of news, and envisioning solutions to societal challenges and crises (Haagerup 2017).

The challenges of including climate change or the environment in journalism education are thus experienced differently in various parts of the world, partly because educational systems differ. In the US, environmental journalism is offered for university students with different backgrounds, which creates challenges due to uneven journalistic skills (Motta 2020). In Pakistan, researchers have reported that courses in environmental journalism lack pedagogical approaches that prepare journalists for the field, such as experiential learning (Jamil and Bhujju 2023).

Regarding the effects of teaching, research shows that courses in environmental journalism and sustainability can provide a better comprehension of the issues, scientific methods and uncertainty involved for both students (Kolandai-Matchett et al. 2009) and professional journalists (Schneider 2009). A study by Smith et al. (2018) showed signs of a more nuanced understanding of climate change in articles produced by journalists who had participated in a science journalism training programme. This was reflected in an increased use of scientific sources, thematic instead of episodic frames and mentions of uncertainty. The participants rated communication with scientists as the most important part of the course (Smith et al. 2018).

While previous studies have focused on the challenges and effects of teaching environmental journalism in various contexts, no studies have addressed whether or how climate change is integrated into journalism education curricula. This study investigates whether and how climate change, the environment and sustainability have been integrated into the course syllabi of Nordic journalism education in autumn 2022 to spring 2023. It also explores the reasons behind the integration or lack thereof.

## Theoretical framework

Journalistic knowledge, or journalism as knowledge, is a complex product of intricate relations and/or balances between journalistic methodologies, skills and competences, and apprehension of a specific subject area (e.g., politics, finance or sports). This latter type of knowledge is what Donsbach (2014: 667) called “subject competence”. Related to this, there is a continuum along which more and more specialist knowledge is added to a generic skill set and along which journalists—if we follow Park (1940: 672)—develop from “acquaintance with” to “knowledge about”; that is, from an everyday knowledge to a specialist and more abstract and formal knowledge. In relation to climate change, a key aspect has concerned how much scientific knowledge is needed to “adequately” report on this phenomenon, a discussion that is intimately linked to primarily seeing climate journalism as science journalism.

While the most obvious answer to this question is “enough”, it should also be noted that the translation of scientific knowledge is only one aspect of climate journalism. A different but related concern is how to use aspects of such knowledge in reporting on the myriad ways in which climate change is already impacting and woven into social and cultural processes e.g. farmers, who are struggling with and trying to adapt to less predictable seasons. Making such connections necessitates the ability to link present changes to scientific results and probabilities, and in broad terms, this is what makes climate change political. Regarding the ability to link present changes to scientific results, it may be appropriate to lean on Nielsen (2017: 93), who adds “news-about-relations”, a new explanatory form partly enhanced by data to Park’s two notions of knowledge. The argument here is that the digital environment makes a whole range of data

available, enabling journalists to produce long-form, explanatory journalism which offers knowledge closer to the more formal “knowledge of” while still being news in the sense of mediating first-hand experiences and thus more timely than formal knowledge. In this sense, “news-about-relations” makes connections across spheres of knowledge.

This is related to but different from what Van Witsen and Takahasi (2018) call interactional knowledge, which refers to “a knowledge of scientific language concepts and thought processes without the deep knowledge of the literature”. This is especially relevant for issues of climate change as many of these are intricately linked to prediction. Thus, without an “understanding of the role of uncertainty in scientific claims-making, [journalists] may over- or underestimate the tentativeness of a particular scientific claim” (725). Given the importance of prediction and probability, the relational knowledge that Nielsen talks about would thus ideally be supplemented with elements of “interactional knowledge”.

Given that analytical and abstract knowledge is arguably insufficiently relevant to important parts of journalistic audiences, climate journalists face the challenge of combining the two ends of the knowledge continuum: the everyday and the abstract while also being able to make relations that to some degree require the “interactional” ability to ascertain uncertainty. Such a journalistic practice is exemplified by Mark Schapiro (2021: 204–205), who wrote that “to do journalism today in any field is to be reporting in an arena that is being reshaped, distorted, changed by the changing climate”. As an example, he mentions the California wine industry, where “time is ticking on Napa and Sonoma’s legendary Cabernet Sauvignon, as it is for many other wine varieties that have thrived in the temperate climates of California” (Shapiro 2023, n.p.). What this quote does not quite convey is the deeply relational and interactional construction of knowledge exemplified by this article, which is precisely tying scientific knowledge and forecasts to changes happening and reacted to among wine growers.

Covering climate change is thus increasingly also about tying underlying changes to observations of changes happening all around us. This is linked to the assertion that climate change is a complex “wicked problem”, i.e. a systemic, global problem without a definite composition and a single solution and therefore “beyond the reach of mere technical knowledge and traditional forms of governance” (Hulme 2009: 334). Tracing such complex connections necessitates both sufficient knowledge of some of the underlying science and a willingness and ability to infer important linkages between spheres of society, both at the local and global levels. The need for “knowledge-based journalism” (Patterson 2013), where journalists understand research and have a substantial level of expertise, may thus have to be supplemented with the kind of knowledge and skills needed to do what Nielsen (2017) calls “news- about- relations” and what Witsen and Takahasi call “interactional knowledge”.

It is important to note, however that so far, no studies have found that journalists with science degrees provide better environmental or science journalism, and many have found that the quality of coverage depends more on professional experience (Van Witsen and Takahashi 2018). What is important here thus seems to be the ability to combine aspects of formal/conceptual knowledge with knowledge conceivable in everyday language and which is found relevant for those it is addressed to. This means, Donsbach (2014) argued, that besides *journalistic skills* and *professional values*, journalists should possess the following: *general competence*, understood as “a keen awareness of relevant history and current affairs”, and the ability to apply analytical thinking to be able to judge relevance and contextualise. *Subject competence* understood as a “deeper knowledge” of a specific issue, enabling journalists to ask critical questions and find the right sources. Donsbach (2014) stressed that it is important to include the teaching of a specific issue in other fields through interdisciplinary courses that integrate it into journalists’ professional knowledge. Finally, the journalist should possess *process competence*, understood as scientifically based knowledge about the communication process and thus what affects news decisions and how news is perceived by the audience.

This section has presented theory about the types and combinations of journalistic knowledge, some of which are deeply linked to climate change and its underlying science and some of which are more generic to the journalistic profession. In the ensuing analysis, we focus on how the studied journalism programmes conceptualise and implement climate change as knowledge in relation to the more generic competences of journalism.

## Method and data

To answer the research questions, we used a mixed methods approach. First, we conducted a quantitative content analysis of course syllabi to measure the extent to which climate change was mentioned. Next, we did a qualitative content analysis to understand the more detailed contexts in which issues of climate change appeared. Finally, we conducted interviews with programme heads to follow up on the

findings from the first two steps. To map the degree to which Nordic journalism schools include climate change, the environment or sustainability in course syllabi, we conducted a quantitative content analysis of the most recent academic year, autumn 2022 to spring 2023. To ensure that the educational programmes were comparable, we based our selection on educational programmes at the bachelor and master levels from journalism schools that were members of the Nordic journalism education network “Nordisk samararbetskommittéen för journalistutbildning”, conforming “to a conception of journalism that subscribes to the ‘Western form’ of journalism ideology” (Jaakkola 2019: 9). Some schools were excluded due to language barriers or a lack of comparability. For instance, the educational programme at the University of Greenland had only one curriculum, and the course descriptions were thus too general to compare with the other syllabi. Furthermore, some journalism schools that were not members of the network were included because of their comparability. They include, among others, the Finnish polytechnics (known as universities of applied sciences) Haaga-Helia in Helsinki, Oulu and Turku. This resulted in a sample of 22 Nordic journalism schools. For a complete list of the included journalism schools and educational programmes, as well as abbreviations of the schools, see Appendix 1.

All journalism educational programmes (39) were included, as were mandatory and optional courses offered by the journalism educational programmes. The structure of the educational programmes varies within countries, meaning that some consist of journalism combined with other subjects. In these cases, we selected only the courses given by the journalism departments. This resulted in 751 syllabi in total.

Country	Number of schools	Number of educational programmes	Number of courses in comparison	Number of course syllabi in comparison
Sweden	8	11	170	85
Norway	7	13	147	147
Denmark	4	8	102	98
Finland	6	7	421	421
<b>Total</b>	22	39	647	751

**Table 1. Journalism programmes included in the content analysis**

We created a coding manual with the purpose of detecting predominantly manifest characteristics of the courses such as the presence of the terms climate change, environment or sustainability in the descriptions as well as characteristics of the courses such as the level and type of school (university or university college). The categories were discussed thoroughly before and during the coding of the course syllabi, which was undertaken by two of the authors. To increase validity (Elmelund-Præstekær, 2014), the coding for more latent categories, whether the syllabi were theory-led, practice-led or thesis-related, was based on an earlier curriculum-study (Jaakkola 2019) (see coding manual in Appendix 2). Also, a variable based on Donsbach’s (2014) take on journalistic competences, including the categories general competence, subject competence, process competence, journalistic skills and professional, was excluded in the process. This was done as it could be partly replaced by the aforementioned categories theory-led, practice-led and thesis-related. Furthermore, we had the opportunity to dive deeper into the data in a qualitative reading of the 26 course syllabi mentioning climate change and similar concepts.

The content of the course syllabus varies from country to country. In many Swedish universities, course syllabi consist of large units of 30 ECTS, including several modules, meaning that the syllabi are often not as detailed and can consist of both theory-led and practice-led courses. In these cases, we coded the most prevalent course type. In contrast, the Finnish educational programmes have many courses on five or fewer ECTS, resulting in many courses compared to the other Nordic countries (see Table 1). We addressed the lack of details in the Swedish course syllabi through contact with the educational programmes during data collection.

2 Furthermore, Samisk høyskole which was a member of the network did not seem to have a journalist program and Iceland University was left out because of language barriers.

While the course literature in Norway and Sweden is often publicly available, in Denmark, it is mostly part of the lesson plan in a closed system, meaning that in some cases, we had to rely on educators claiming that climate change, environment or sustainability were not part of the literature. Furthermore, in Sweden, it is not unusual for specific teachers to add additional literature immediately prior to the course, which we did not have access to. Finally, some educational programmes had recently been changed, meaning that some courses had not been taught. This meant that some course syllabi were not available, such as Høyskolen Kristiania's MSc in digital journalism.

The analysis of the syllabi was supplemented by an analysis of semi-structured interviews with heads of studies from two schools in Denmark, Norway and Sweden as well as a head of study and a lecturer responsible for an upcoming course on sustainable journalism in Finland. The heads of journalism studies were selected, where possible, as representatives of the educational institutions since they have an overall more strategic view and shape the framework of the teaching, while course instructors potentially change frequently. Apart from the Finnish respondents, who represented two journalism schools without climate change, environment or sustainability in the syllabi, the respondents represented one school with these concepts in the syllabi and one without from each country (see appendix 1).

We formulated two interview guides for heads of study at institutions with climate change or similar concepts included in course syllabi and those without these concepts. The questions targeted the individual institutions as well as identical questions such as "In your opinion, should journalistic educational institutions teach climate change and the environment (and/or sustainability)? (Why? Why not?)" ensuring comparability.

The interviews, lasting 20-30 minutes, were mainly conducted online and were transcribed and translated into English. They were coded thematically based on the interviewee's reasons for why climate change, environment or sustainability was or was not part of the curricula. Next, they were categorised according to different perceptions of journalism as knowledge based on the theoretical framework. In this process, we decided to integrate points from the qualitative content analysis of the 26 course syllabi to supplement and elaborate on the findings of the qualitative interviews. For instance, to describe how and where the concepts were mentioned in the course syllabi.

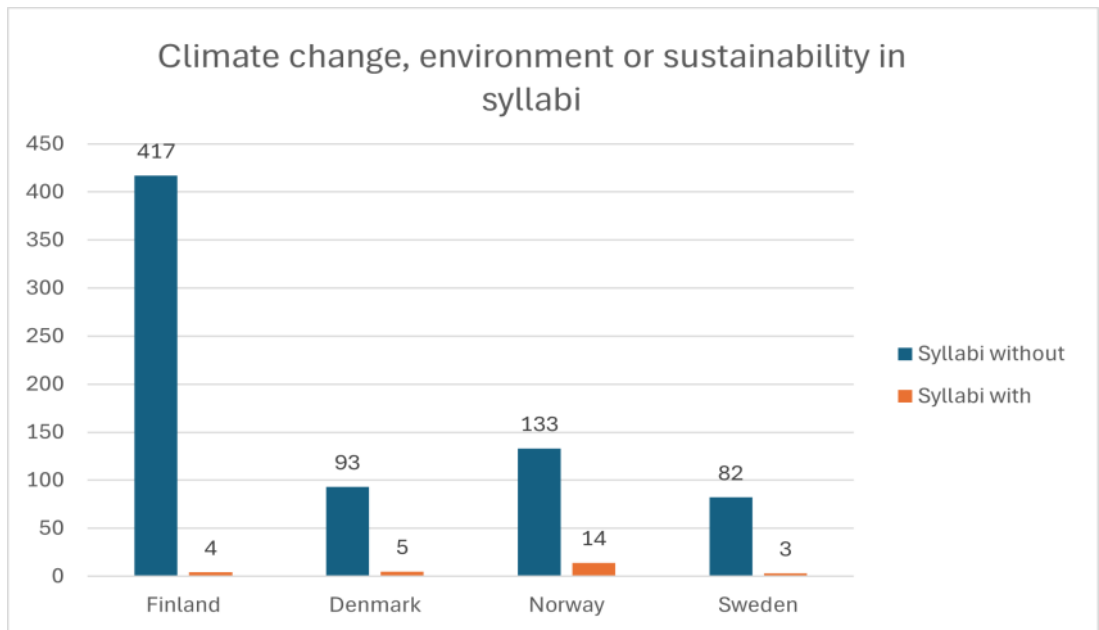
## Quantitative findings

Climate change, the environment or sustainability are part of the course description or literature list in 26 of the syllabi of Denmark, Norway, Sweden and Finland (Figure 1). The concepts are thus not prioritised on the formal educational level of journalism education in Nordic countries. This, despite the fact that many of these same universities market themselves as striving towards practicing, teaching and researching environmental, economic and social sustainability.

Three-quarters (19 out of 26) of the course syllabi mentioning the terms were obligatory. They were more often part of the educational programmes at the undergraduate level (16) than the graduate level (10), and the main parts of the courses at the undergraduate level were obligatory (14 of 16). At the graduate level, half of the courses mentioned in the syllabi were obligatory and half were optional. Of the few courses mentioning climate change or similar terms, many were obligatory and most were part of undergraduate education. This may indicate that courses with climate change in the syllabi were prioritised by the journalism schools that included it as part of the basic training.

The terms climate change, environment and sustainability were mentioned equally often in course syllabi and were almost never the main focus of the course. The only exceptions were two optional courses: *Miljökommunikation* at the University of Stockholm and *Climate Journalism, Theory and Practice* at OsloMet.

However, since the examined period, several journalism schools have introduced or are planning to introduce courses focusing on climate change or similar concepts. The University of Southern Denmark has established an optional course in climate journalism starting in autumn 2023, the University of Stavanger has begun an optional course on sustainability and green transition and Tampere University is planning to start an open online course (MOOC) on sustainable journalism, here understood as environmentally, socially and economically sustainable journalism. Hence, there seems to be an increasing focus on these concepts across the Nordic countries, although courses remained at an optional level. As shown in Figure 2, the concepts were mentioned in the syllabi of 13 of the 22 journalism schools, of which 6 were university colleges and 7 were universities. Thus, there were no clear distinctions between the different types of schools. However, most of the syllabi mentioning the concepts (19 of 26) were part of the educational programmes at universities.



**Figure 1. Course syllabi with and without climate change, environment or sustainability by country**

Of the countries, the concepts were most predominant in Norway. Climate change, the environment or sustainability appeared in the course syllabi of six of the seven Norwegian journalism schools, and they appeared most often in the course syllabi of OsloMet (6 of 14). Sweden was an outlier, with only two universities (Umeå and Stockholm) of the eight educational institutions including climate change or similar concepts in the journalism course syllabi.

Regarding the types of courses mentioning climate change or related concepts, the proportions of theory-led courses (11), with literature and related exercises in the foreground, and practice-led courses (10), with journalistic production as the main activity (Jaakkola 2019), were almost equal. The remaining courses were thesis-related (1) or in the “other” category, which means that it could not be determined which course type was predominant (4). Thus, there was no identifiable predominant course type when it came to the following section analyses the syllabi mentioning climate change, environment or sustainability, as well as the interviews with programme coordinators from each of the five Nordic countries. The aim was to understand how the concepts were integrated into teaching and the reasons behind the inclusion or lack thereof. In conjunction with this, we describe different perceptions of climate change as knowledge.

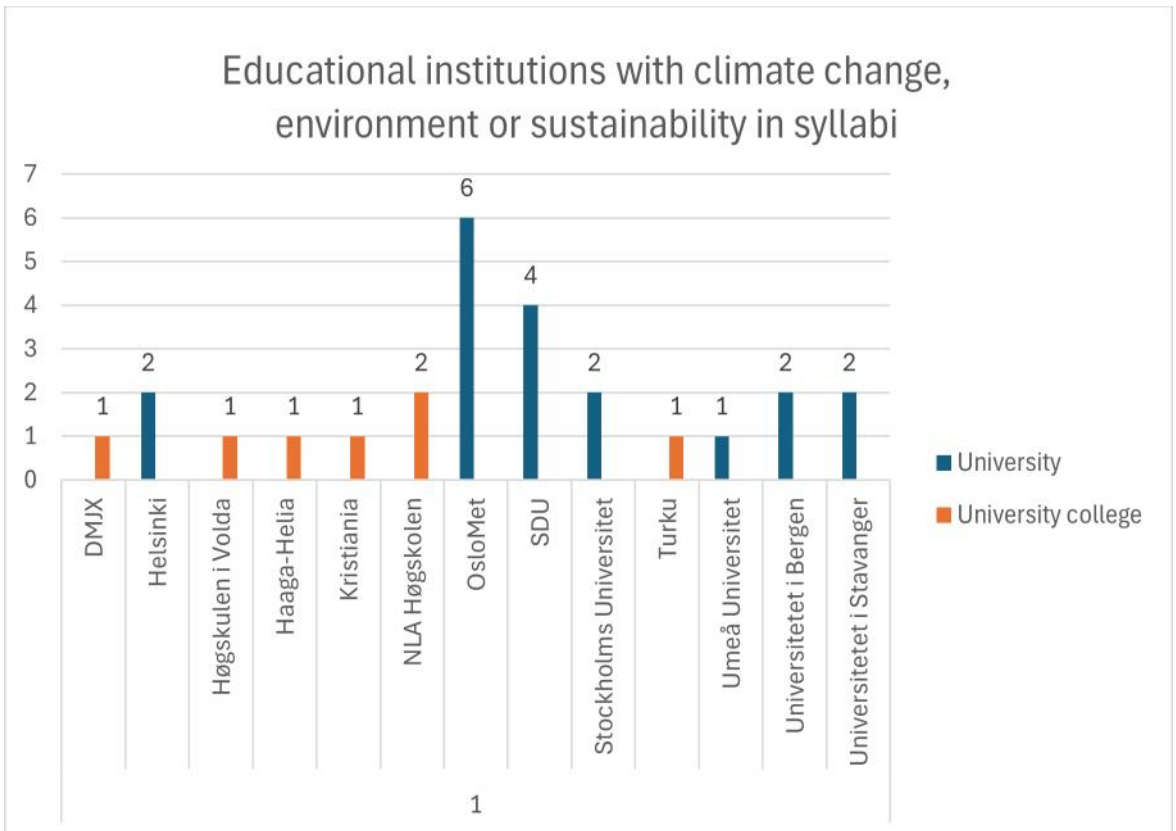
## Qualitative analysis

The analysis of the interviews and course syllabi is structured into two overall sections. The first focuses on the reasons given for not focusing explicitly on climate change. The second and longer section explores the different ways in which climate is integrated as well as some of the reasons given for this. At the end of the second section, we draw together some points linked to the use of the concepts in the course syllabi, particularly the concept of sustainability

### Not included: Lack of resources and climate change as a current issue

The reasons mentioned for not having climate change, environment or sustainability in the course syllabi were a lack of resources, time or space within the educational programme. However, most of the project coordinators emphasised that it should be included and that they planned to do so. For instance, Tampere University was working on an online course on sustainable journalism, while Nord University was working to integrate climate change into the learning outcomes of the different courses. Furthermore, programme coordinators across the institutions emphasised that climate change was often explored by students in assignments in various courses, or by teachers as a theme, or as an example of an important current issue.

came to teaching climate change, environment or sustainability.



**Figure 2. Number of course syllabi mentioning climate change, environment or sustainability by institution**

An example of the perception of climate change as a current issue in the syllabus can be seen in two courses at University of Bergen focusing on journalistic skills. They both included a module in which a current topic was discussed, and this could be the environment, “depending on teaching staff and current topics in the social debate” (*Journalistikken sine former*, University of Bergen).

An example of a course focusing on general competence, understood as analytical thinking, in which climate change was taken up as a theme, was a course on journalism research in which the students could choose climate change as one of several tracks. This was mentioned during the interview with the programme coordinator at the University of Gothenburg, but was not evident in the course syllabus, even though it seemed to be a fixed part of the course. In this case, as in many master’s or bachelor’s theses, it was up to the students to decide whether to go into depth with climate change as an issue. In this regard, climate change was thus seen as an issue as any other requiring subject competence.

Roskilde University offered a master’s degree in which subjects of journalism made up less ECTS than the competing journalism programmes in Denmark. This resulted in the journalism programme focusing on courses with more generic journalism skills rather than “specialisation courses” (Hanne Jørndrup, RUC). According to the programme coordinator, this enabled students to deal with all societal issues.

*“In relation to any practice in our society, there is some kind of structural element, whether in legislation or economics, that either supports or hinders certain things. I don’t believe it requires someone trained in geographical models to be a climate journalist. But we do need people who are able to ask critical questions to decision-makers, researchers, and various other stakeholders in the field.” (Hanne Jørndrup, RUC).*

The idea is that journalists can cover climate change as well as any other subject, and the task of the educational institution is to educate critical journalists by introducing generic journalistic skills. Virtually everyone emphasised that the concepts were often integrated into more generic journalism skill courses as

examples of important current affairs, as well as the fact that students often undertook projects or bachelor's/master's theses on environment-related topics. These explanations imply that according to the respondents, climate change is a subject that, in principle, is no different from established subject areas, such as politics and culture, and that deeper subject knowledge, or what Donsbach (2014) would call *subject competence*, or Park's "knowledge about" can be developed on the job.

## Included: Climate change as a discipline or dimension

Programme coordinators at institutions that included concepts related to climate change in some course syllabi mentioned professional interest and strategic focus as reasons for their inclusion. OsloMet emphasised interest from the institution's researchers as the main reason that their course syllabi included climate change, and Umeå University (Kerstin Engström) described "a mixture of passionate enthusiasts and that there are things in the [university's] strategy that encourage us" [our parenthesis].

Many of the programme coordinators described climate change as an unavoidable topic in journalism education. Among other things, because of its impact.

*...for a long time, one of the journalistic challenges has been that climate is a big and somewhat diffuse problem that we don't find easy to actualise and concretise and create identification with. Therefore, it is perhaps a journalistic discipline in itself to be able to work with this subject area. So, we try to take it on board, and that's not to say that you couldn't easily argue that you could do the same with some other subject areas, where you could also say that it requires special knowledge and skills to approach it journalistically. But we've focused on it because it's such a big and pervasive agenda and will be ... well, as far into the future as anyone can imagine ... So right now, we need upskilling there. (Louise Kjærgaard, SDU)*

Here, climate change is seen as a special way of doing journalism, a discipline that requires a particular awareness because of its incompatibility with traditional news values such as timeliness and personalisation. This, added to the urgency of the issue, makes it important for journalism education. Another characteristic of climate change mentioned is that it permeates all subject areas.

*What I'm thinking is that climate and the environment are topics at the same level as health, the police or the judiciary or politics. It is something that really concerns everything. Then I think that somehow it has become clearer and clearer that it concerns everything, that it is more like a dimension. (Anders Graver Knutsen, OsloMet)*

Here, climate change is seen as an underlying dimension of everything rather than a discipline. To treat climate change as a dimension and thus combine it with other subject areas requires, besides subject competence, what Donsbach calls general competence, understood as an awareness of current affairs as well as an ability to judge relevance and contextualise. According to programme director Anders Gravers Knutsen (AGK), it can and should be explicitly incorporated into the curricula as a dimension via examples and themes in the teaching, "because writing it explicitly is kind of a guarantee that it's actually happening" (AGK, OsloMet). Several programme coordinators, among others Mattias Färdigh from the University of Gothenburg, who had not yet included climate change, environment or sustainability in the syllabi, considered both approaches necessary.

## Climate change as science

The perception of climate journalism as science journalism was not explicitly mentioned in the interviews but was found in the course syllabi. A course on science journalism and a course on the philosophy of science included texts on climate change in the literature, while two other courses mentioned climate change as an example of a beat, within which the course "aims to create stronger journalists" (*Teorier om journalistik, Analyse og produktion*, SDU). These courses, which focused on general competence, in the sense of being able to apply analytical thinking (Donsbach 2014) and interactional thinking (Witsen and Takahasi (2018), shared the objective of enabling the students to critically engage with scientific theories or methods. However, they did not mention climate change in either the learning outcomes or the literature. The idea seemed to be that being able to critically analyse journalistic practice and apply scientific theories in research and dissemination makes you a stronger journalist in all areas. Students can thus be trained to cover climate change as well as other scientific areas through a scientific way of thinking or what Van Witsen and Takahashi (2018) call interactional knowledge.

As the above indicates, there were rather different approaches to integrating climate change into curricula. This will be elaborated on in the following sections.

## As a course/specialisation in itself

Climate change, environment or sustainability can be the main focus of a course, but, as mentioned in the quantitative part of the analysis, this is rare. An example of this is an elective course in climate journalism at OsloMet. Among the learning outcomes of this course is the ability “to understand the basics of global climate change, with the help of knowledge from both the natural, social and human sciences.” It also mentions the ability to “convey climate change journalistically” with insights from psychology and communication, among other fields (*Climate journalism, theory and practice*, OsloMet).

This combines several of Donsbach’s (2014) journalistic competences in terms of (interdisciplinary) subject knowledge on climate change from the natural, social and human sciences, as well as journalistic skills and process competence, understood as awareness of psychological and communicative challenges for climate journalism. Such an approach also takes the “news- about- relations” one step further in the sense that climate change is a phenomenon that requires a deeply relational construction of knowledge that cuts across not only traditional journalistic beats but also scientific fields. This way of thinking stands in stark contrast to arguments that climate change is simply one beat among many others and, in addition, a beat that can be adequately addressed with traditional generic skills.

In one case, at Umeå University, sustainability was included as an elective specialisation in a mandatory course on journalism. While three of the course modules focused on journalistic skills, the fourth was a specialisation module in which students could choose between four topics, including sustainable development. The learning outcomes of this module included knowledge about the “historical and current development” and that students should be enabled to “reason about the political, social and economic conditions of the chosen profile area” (*Journalistik*, Umeå). The course thus made it possible to unite journalistic skills with subject competence in sustainable development, which, judging by the literature list, was defined as both economic, environmental and social sustainable development.

## As part of learning outcomes

In 10 of the 26 courses, climate change and similar concepts were included in the curricula as part of the learning outcomes. An example is two courses that included a reportage/documentary from an “international environment” (*Journalist i en globalisert verden, Dokumentar utland*, OsloMet). The course activities consisted of lectures, fieldwork and journalistic production, and the students had to demonstrate knowledge of “global developments”, including “climate and environmental issues”. In this case, environment and climate change were part of the subject competence of global journalism in courses combining general competence with journalistic skills.

## As part of the literature

Seven of the syllabi included climate change, environment or sustainability as part of the literature. For instance, a practice-led course on web documentaries included a text on how interactivity and gamification could explore climate literacy in the supplementary reading (*Web documentary*, Volda), while a course on global journalism included a book on “development and environment in a global perspective” in the literature list (*Global journalistikk - studietur*, NLA).

The concepts can thus be integrated to a greater or lesser extent in the literature, depending on the number of texts, whether it is a journal article or a book and whether it is compulsory or suggested reading. In addition, including climate change as part of the literature is less binding than including it as part of the learning outcomes as the literature lists are revised by the teacher when needed, while the syllabi are revised by the department less often. This makes it dependent on the teacher, who, in the Swedish case, may add to the existing literature lists as late as two months before the class starts.

The least demanding way of including climate change in the syllabus, judging by the empirical material, was to include it in the course description, which was the case in six of the courses. In these cases, climate change was, for instance, simply mentioned as an example of a current issue and was not necessarily included in the teaching. Including climate change, environment or sustainability exclusively as part of the literature or description of different courses can be seen as a manifestation of climate change as a dimension that touches upon all subject areas.

To summarise, while the lack of time and know-how were mentioned as reasons for not including climate change, environment or sustainability in the course syllabi, programme coordinators explained the inclusion of the concepts as the result of an interest in the professional environment and as part of strategic thinking. Programme coordinators with climate change included in the syllabi described it as an inevi-



table part of curricula, and it was both seen as a discipline that requires special attention and a dimension that is part of all subject areas. In the 26 course syllabi where climate change and similar concepts were included, it was integrated in different ways. Half of the courses integrated it as either the main focus or part of the learning outcomes, while the other half treated it more as a current issue that was touched upon to a lesser extent or not at all.

The qualitative analysis of the interviews and course syllabi thus revealed different perceptions of climate change as well as different ways of integrating it into the course descriptions giving the lecturer more or less freedom in deciding whether to include it in the course or not.

In the following section, we will look at the concepts used in the course syllabi, especially the difficulties with the concept of sustainability.

## Sustainability: A (too) broad concept

With regard to the use of concepts in the course syllabi, climate change and environment were often mentioned in courses related to journalistic skills, while sustainability was mostly mentioned in courses related to general competence in politics, sociology and the media system, among other things. In most of the courses mentioning sustainability, the concept was mentioned rather broadly in the learning outcomes. For instance, one course on national and international political issues mentioned knowledge of sustainable development goals as part of the learning outcomes (*Vidensfag 2: Danmark, Europa og Verden*, SDU). A course on the media system underlined the ability “to recognise the importance of sustainable development, multiculturalism and internationalism in their professional field” (*Media environment*, Turku, translated with deepl.com).

Some syllabi mentioned sustainability in a narrower sense. For instance, a course on societal issues in the Nordics listed “insight into how the current issues are connected to social sustainability” (*Current Nordic issues in Social Sciences*, Helsinki). Some syllabi related sustainability to the UN’s 17 goals of sustainable development, including environmental, social and economic sustainability, while some only mentioned a dimension of the concept, which was typically social sustainability. In relation to a course on journalism with an optional specialisation module on sustainable journalism, it was remarked that:

*...the biggest difficulty was, how can you really teach sustainable journalism? It is so incredibly broad if you think that there are 17 global goals, and there is also this perspective that journalism itself as an industry should be sustainable. (Kerstin Engström, Umeå)*

The educators found it difficult to teach sustainable journalism because of the breadth of the concept. This was also true for Tampere University, which was planning to offer an online course on sustainable journalism:

*One problem with sustainable journalism is that it is actually a concept the size of journalism. It's almost not a concept at all. It asks what journalism is, for whom it is done, what its function is in society, on which platforms it is done, how it is done technically and what its economic sustainability and environmental sustainability are. What will be the consequences for society of the journalism that is being done? In a way, it is a question about the size of the whole idea of journalism, what is sustainable journalism or how to do it sustainably. (Matleena Ylikoski, Tampere)*

That sustainability was mostly mentioned in theoretical courses and rarely in relation to journalistic skills thus seems related to the very broad and theoretical nature of the concept.

Another point is that sustainability sometimes seemed to find its way into course descriptions as a result of initiatives from university management. Virtually all the universities and university colleges studied include the sustainable development goals, prominently on their web page. While the sustainable development goals have been criticised in research for being, among other things, difficult to implement, monitor and measure (Swain, 2018), they are widely known, which is why it is understandable that educational institutions refer to them. In one instance, a bachelor’s thesis course syllabus described how, during a seminar, the students would be introduced to “the department’s desire to promote bachelor theses related to the UN Sustainable Development Goals (SDGs)” (*Bacheloroppgave i journalistikk*, UiS). In another case, the SDGs were introduced in the journalism educational programme’s courses on sociology and politics as part of a mandatory module for all bachelor students (interview with Louise Kjærgaard, SDU). Meanwhile, some courses mentioned related concepts, such as corporate social responsibility and the doughnut economy. These were not part of the 26 courses mentioning climate change, environment or sustainability; however, these concepts are just as close or even closer to climate change or environment than sustainability. Hence, decisions at the strategic level sometimes resulted in the inclusion of the envi-

ronment in journalism classes. However, the mention of sustainability in the course syllabus did not always mean that the course engaged with environmental sustainability, and the breadth of the concept seemed to make it difficult to apply to practical journalism.

## Concluding discussion

This study shows that climate change is not prioritised in Nordic journalism education. Only 26 of the 751 course syllabi in 22 journalism schools in Denmark, Sweden, Norway and Finland mentioned climate change, environment or sustainability, and, only two optional courses had climate change or environment as a main focus. At some level this seems inadequate given the all-encompassing severity of the climate change. Yet, according to the programme coordinators, the topic was taken up in various courses in which it was not explicitly mentioned and there also seemed to be a growing trend with some institutions introducing or planning courses dedicated to climate journalism and sustainability.

The reasons given by programme coordinators whose courses did not mention these concepts were a lack of time, space or teaching resources, while programme coordinators of courses with these concepts emphasised professional or research interest and a strategic focus as driving factors. Students often integrated climate change into assignments and projects, while educators included it in teaching as a theme or as an example of a current issue.

The integration of climate change and related concepts in the course syllabi and the reasons given for integrating or not integrating climate change into journalism education shed light on different perceptions of climate change as knowledge. These perceptions ranged from climate change as a current issue like any other, a discipline that requires special knowledge and skills, as well as a dimension that should be included in all teaching. The notion of climate change as a current issue, similar to established news beats, correlates with the perception that “subject knowledge” (Donsbach 2014) is not necessarily a task for journalism education but something that can be attained in the professional journalistic career. The notion of climate change as a discipline that requires special knowledge or a dimension which should be included in all teaching because of its scientific interdisciplinarity, on the other hand, points at a necessity to unite different competences or knowledges. Journalistic skills should thus be combined with subject competence (Donsbach 2014) or knowledge about an issue (Park 1940), as well as general competence. In this sense, climate journalism can be seen as news-about-relations (Nielsen 2017) connecting different spheres of knowledge. This perception of climate change as a discipline requiring special attention and skills in itself, as well as a dimension, is linked to the idea of climate change as a “wicked problem” (Hulme 2009), transcending established forms of governance as well as journalism’s traditional news beats, such as science, politics and the economy. Finally, the qualitative analysis of the course syllabi points to the notion of climate change as science requiring interactional knowledge (Van Witsen and Takahashi 2018), understood as training students in scientific ways of thinking.

This double way of seeing climate change as both broad and in-depth knowledge hinders the integration of climate change into journalism education. The same seems to be the case for the broad and theoretical concept of sustainability, which is part of the strategic goals of many universities. The varying perspectives and approaches indicate a need for continued dialogue and adaptation to effectively incorporate these concepts into the education of future journalists. There appears to be an emerging awareness and effort to address these topics in Nordic journalism education.

The broad divisions outlined here between an “ordinary” beat, a more complex issue intertwining science and ways of living, a dimension and/or wicked problem are somehow mirrored in the ways the broad topics of climate change, the environment and sustainability are positioned within various journalistic outlets. The main question is here where these issues “belong,” i.e. whether they have their own section (as the “climate crisis section on *the Guardian*), be taken up under science material and/or be incorporated into stories within many other beats. Practising managers, editors and journalists are grappling with this, and so are managers and teachers within journalism education. As there is no simple answer to this, one possible take-away is that educational institutions should consider incorporating such discussions into key courses as this raises questions about climate change and related journalistic approaches.

This study is not without its limitations. Despite an effort to collect comparable course syllabi, some syllabi and course literature could not be obtained. In addition, the necessity of focusing on journalism education meant excluding courses taught by other departments, which often are part of journalism students’ overall degrees.

Furthermore, programme coordinators from only 8 of the 22 educational institutions included in the content analysis were interviewed, meaning that this study very likely does not cover all reasons for in-

cluding or not including climate change; it does, however, give us an idea of the perceptions of climate change and forms of knowledge related to that.

Future research could compare with journalism education more internationally and go more in depth with the reasons for excluding or including climate change or other global challenges in teaching and how the latter choice raises questions about journalistic knowledge. Another issue worth exploring in more detail is the role of the strategic level in the implementation of climate change, environment or sustainability. Furthermore, there is a need for research that examines how educators and students perceive the teaching of these concepts in courses that integrate the concepts in different ways.

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## **Appendix 1: Institutions and education programmes included in the overview and interviewed programme coordinators**

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### **REFERENCE**

**Line Weldingh et al, (2024) ‘Climate Change in Nordic Journalism Education’ in Journalism Education 13(2) pp13-35**

Country	School	Education (s)	Duration	Further info	Abbreviation	Interviewed
Norway	Høyskolen Kristiania	Bachelor, journalism  Master, digital journalism	3 years  2 years		Kristiania	
Norway	Nord University	Bachelor, journalism  Master, Journalism and communication	3 years  2 years		Nord	Karianne Sørgård Olsen, programme coordinator of Bachelor in journalism
Norway	NLA Høgskolen	Bachelor, journalism  Master, global journalism	3 years  2 years		NLA	
Norway	University of Bergen	Bachelor, journalism  Master, investigative journalism	3 years  2 years		UiB	
Norway	Høgskulen i Volda	Journalism, bachelor	3 years		HVO	
Norway	OsloMet	Journalism, bachelor  Photojournalism, bachelor  Journalism, master in media development	3 years  3 years  2 years			Anders Graver Knutsen, programme coordinator of Bachelor in journalism and Bachelor in photojournalism

Norway	University of Stavanger	Journalism, bachelor	3 years		UiS	
Denmark	University of Southern Denmark	Bachelor, journalism	3,5 years	Cand. Mag is master in journalism for students with bachelor degrees in other subjects.	SDU	Louise Kjærgaard, leader of the journalism programme
		Cand. public (master)	2 years			
		Cand. mag, journalism (master)	2 years			
Denmark	Danish School of Media and Journalism	The journalism education (professional bachelor)	4 years	Cand. Public is master in journalism for students with bachelor degrees in other subjects. In cooperation with Danish School of Media and Journalism	DMJX	
	Aarhus University	Fotojournalism (bachelor)	3,5 years			
		Cand. public (master)	2 years			
Denmark	Roskilde University	Bachelor of arts	3 years	Bachelor: Project module in journalism (35 ECTS)	RUC	Hanne Jørndrup, study leader of the journalism programme
		Cand. comm. (master)	3 years	Master: 180 ECTS with one "specialisation semester" (30 ECTS, in another subject) It is not possible to study only the bachelor's or master's degree		

Sweden	Stockholms universitet	Bachelor, Journalism  Master, journalism studies	3 years  2 years	Earlier “journalisthögskolan”	SU	
Sweden	Göteborgs Universitet	Bachelor, journalism  Master, investigative journalism	3 years  1 year	Earlier “journalisthögskolan”  The master’s degree is 1 year (60 ECTS)	GU	Mattias Fär-digh, Director of Studies, JMG
Sweden	Mittuniversitetet	Bachelor, journalism and media production	3 years			
Sweden	Linnéuniversitetet	Bachelor, Journalism and media production	3 years			
Sweden	Södertörns högskola	Bachelor, journalism (journalistik med samhällstudier)  Bachelor, Journalism and digital media  Bachelor, post graduate  Master, journalism	3 years  3 years	Journalistik med samhällstudier is journalism combined with history, ethnology, sociology, history of ideas, religious studies or political science		
Sweden	Uppsala universitet	Bachelor, media, communication and journalism	3 years	Upcoming member of the network		
Sweden	Umeå Universitet	Bachelor, journalism	3 years	Upcoming member of the network		Kerstin Engström, Programme Coordinator of the Journalism programme

Swe- den	Lunds uni- versity See com- ment	Bachelor, journalism  Bachelor, journalism and media production	1,5 years (90 ECTS)	Member of “Nordisk journal- istutbildning ”		
Fin- land	Helsinki University	Bachelor, journalism  Master, journalism			Helsinki	
Fin- land	Jyväskylä University	Bachelor, journalism  Master, journalism				

## Appendix 2: Coding manual

### Coding manual, climate change/environment in Nordic journalism education

**Sample:** Courses identified as relevant for the students by the journalism schools during one academic year (autumn 2022-spring 2023).

We code course syllabi and literature lists. We only code literature from the titles

If the course is repeated in autumn and spring-> code the newest available.

If it is possible to choose a course with a different amount of ECTS, we code the one with the most ECTS

International educational programmes which includes courses from Non-nordic institutions are left out (such as Erasmus Mundus)

The coding unit is course syllabi, meaning that we code the syllabi once no matter how many courses they describe (Some of the course syllabi include several courses, for instance, Stockholm University has a syllabus called journalistik 1 including descriptions of 4 courses).

As the coding manual only distinguishes between level and educational institution and not educational programmes (if, for instance, there are more than one bachelor at an institution), we do not code identical course descriptions several times (if they are at different programmes on the same level).

If the course is both obligatory and optional (that is to say, you need for instance to choose between journalistic production in writing, radio or tv), we code it as obligatory



Variable	Value	Description
A. Name of coder	write	
B. Name of school	write	
C. Country	<ol style="list-style-type: none"> <li>1. Finland</li> <li>2. Denmark</li> <li>3. Norway</li> <li>4. Sweden</li> </ol>	
D. Type of school	<ol style="list-style-type: none"> <li>1. University</li> <li>2. University college</li> </ol>	Note which type of school the education is part of.
E. Level	<ol style="list-style-type: none"> <li>1. Bachelor</li> <li>2. Master</li> </ol>	
F. Formal level	<ol style="list-style-type: none"> <li>1. Course syllabus</li> <li>2. Course material</li> <li>3. Other (curriculum)</li> </ol>	<p>Note which formal level the document represents:</p> <ol style="list-style-type: none"> <li>1. Course plan: a broader overview of the entire course. It provides a high-level outline of the topics, themes, and objectives that will be covered throughout the course's duration.</li> <li>2. Course syllabus: a more detailed document that provides specific information about the course, including the structure, schedule, assignments, and policies</li> <li>3. Choose this category if 1 and 2 is not comprehensive (if for instance there is no course syllabus, only curriculum, meaning that you have to code the courses from there)</li> </ol>
G. Course title	write	
H. ECTS	write	Note amount of ECTS.

I. Course type 1	<ol style="list-style-type: none"> <li>1. Theory-led</li> <li>2. Practice-led</li> <li>3. Thesis-related</li> <li>4. Other</li> </ol>	<p>Note the (most prevalent) type of course<sup>3</sup></p> <ol style="list-style-type: none"> <li>1. Literature and related exercises in the foreground. Students are primarily in the role of observers, analysts, researchers. Pedagogical forms are typically lectures, seminars, workshops. Courses can for instance be on theory or methodology. If journalism is produced as exercises but the rest of the course is seminarlike, code is as theory-led.</li> <li>2. Journalistic production as the main activity to which reflection is subordinated. A learning-by doing approach (similar to journalistic organizations). Courses can for instance be cross-journalism, online journalism or internship.</li> <li>3. Aimed at learning skills related to the finalization of the thesis and supporting the process of thesis writing (typically a seminar with feedback)</li> <li>4. Other: mixed types, courses that cannot be defined, optional (note in logbook)</li> </ol>
J. Course type 2	<ol style="list-style-type: none"> <li>1. Obligatory</li> <li>2. Optional</li> </ol>	Specialisations (if you for instance choose between tv, radio or text) are coded as obligatory.
K. Climate change in syllabus	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	Note if climate change is explicitly mentioned or not
L. Where is climate change mentioned? (only activated if L= yes)	<ol style="list-style-type: none"> <li>1. Main focus of the course</li> <li>2. Part of the course description</li> <li>3. Part of the course resources</li> </ol>	Note where climate change is mentioned. If it is mentioned in both course description and literature, choose course description

<sup>3</sup> Inspired by Jaakkola (2019)

		<ol style="list-style-type: none"> <li>1. Mentioned in the course title and/or the overall purpose of the course.</li> <li>2. Mentioned in the description apart from the overall purpose</li> <li>3. Only mentioned in literature/material provided by the teacher</li> </ol>
M. Environment in curriculum	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	Note if the environment, in the sense of <b>the natural world</b> , is explicitly mentioned or not.
N. Where is the environment mentioned? (Only activated if N=yes)	<ol style="list-style-type: none"> <li>1. Main focus of the course</li> <li>2. Part of the course description</li> <li>3. Part of the course resources</li> </ol>	<p>Note where the environment is mentioned. If it is mentioned in both course description and literature, choose course description</p> <ol style="list-style-type: none"> <li>1. Mentioned in the course title and/or the overall purpose of the course.</li> <li>2. Mentioned in the description apart from the overall purpose</li> <li>3. Only mentioned in literature/material provided by the teacher</li> </ol>
O. Sustainability in curriculum?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	Note if sustainability is explicitly mentioned or not. NB. UN's sustainable development goals are called "FN's verdensmål" in Danish (and are thus noted under sustainability)
P. Where is sustainability mentioned? (Only activated if P=yes)	<ol style="list-style-type: none"> <li>1. Main focus of the course</li> <li>2. Part of the course description</li> <li>3. Part of the course resources</li> </ol>	<p>Note where sustainability is mentioned. If it is mentioned in both course description and literature, choose course description</p> <ol style="list-style-type: none"> <li>1. Mentioned in the course title and/or the overall purpose of the course.</li> <li>2. Mentioned in the description apart from the overall purpose</li> <li>3. Only mentioned in literature/material provided by the teacher</li> </ol>
R. Are similar concepts mentioned?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	If similar concepts such as green transition etc. are mentioned, note which ones and where in logbook

# Crossing the divide: interdisciplinary approaches in science journalism education

By Gary Stevens, University of Lincoln

## Abstract

Collaborative initiatives between student scientists and journalists, as an example of interdisciplinary cooperation within science journalism education, have not been widely reported in the research literature. However, a focus on interdisciplinary awareness is considered particularly valuable, given the complexity and interconnectedness of different subject areas in the field, where questions of science often share socio-political and economic dimensions.

This study investigates how interdisciplinary approaches are used to enhance university science journalism programmes, exploring some of the associated challenges faced by those who implement them. Border pedagogy and borderlands theories are introduced to conceptualise educational interactions and cross-cultural encounters between student learners.

Drawing on a series of in-depth interviews, broadly representing those who practise and/or teach science journalism, the research identifies a range of interdisciplinary models which can be adopted by educators to address student needs, educational contexts and goals. Immersive approaches, where students from science and journalism disciplines collaborate on different kinds of communication activity, were found to be particularly effective in helping journalism students develop their knowledge and understanding of the language and culture of science, and of the processes of scientific research and publishing. Particular challenges and lessons for those engaged in climate and environmental journalism education are discussed.

## Keywords

science journalism, environmental journalism, education, border pedagogy, borderlands theory, interdisciplinary collaboration

## Introduction

**There has been a failure in large sectors of the world's media to communicate the gravity of the global climate crisis in a way that promotes public understanding and engagement at a personal or national level. There are a number of reasons for this.**

The underlying science is complicated, with complex and diverse blocks of multi-layered information difficult to represent as linear, accessible stories for a wide audience (Davydova, 2013, 5). Journalists identify in scientists a failure to convey crucial information in simple enough terms for audiences to com-

## Critical pedagogy, borders and borderlands

The theory of borders and borderlands (Anzaldúa, 1987) offers a way to conceptualise and address cultural tensions. Scholars working in borders and borderlands studies often extend the idea of territorial or geopolitical boundaries to refer to any ‘boundary between known and unknown’ (Hall, 2005, 238-239). In this respect, borders ‘function as barriers to movement and interaction, or as an interface where meeting places and points of contact are created’ (Newman 2003, 22). Hall (2005, 240-1) suggests these metaphors exploit the unknown quality of the other side of the border, simultaneously generating ‘curiosity, promise, threat, and fear’.

Drawing on Paulo Freire (1995), a key figure in critical pedagogy, whose work is part of a tradition of ‘progressive education for social change’ (Amsler, 2010, 20), Giroux (2005, 20-28) applies these borderlands concepts to educational contexts, developing a *border pedagogy* which is ‘intent on challenging existing boundaries of knowledge and creating new ones’. The approach rests on a belief that education is ‘a political, moral and critical practice’ (Giroux 2006, cited in McArthur, 2010, 302).

Giroux (2005, 26) sees such borderlands as sites for ‘critical analysis’ and also ‘as a potential source of *experimentation, creativity and possibility*’ (my emphasis). In engaging knowledge as border-crossers, Giroux (2005, 22) suggests that students move ‘in and out of borders constructed around coordinates of difference and power’. As they do so, their maps of knowledge, social relations, and values are increasingly negotiated and rewritten. Giroux (2005, 69) has stressed the importance of not just ‘breaking down disciplinary boundaries’ but also of ‘creating new spheres in which knowledge can be produced’. A function of learning in higher education should be to explore the ‘interesting spaces in which disciplines meet, mingle and transform’ (McArthur, 2010, 303).

Applying theorisations of border pedagogy, this article aims to identify and explore spaces where the disciplines of science and journalism might meet, and in which student journalists and scientists can work and learn together. It considers whether opportunities for scientists and journalists to collaborate on educational projects across disciplines can result in new understandings and working relationships, which might ultimately facilitate improved reporting about science, and encourage audiences to engage with the important scientific questions of our time.

## Specialist journalism, journalism education and developing expertise

We know that it is important for science journalists to be able to provide depth and context in their reporting of complex science and environmental issues. However, Van Witsen and Takahashi (2018, 720-722) indicate there are unanswered questions in science journalism education about *what type of knowledge is required, in which fields of science, and at what level of teaching*. Additionally, as Takahashi and Parks (2018, 9) point out, educators must develop curricula which are flexible enough ‘to respond to changing field conditions in time to adequately prepare incoming students for the unexpected’.

My aim in this article is to map what skills and knowledge might be required by specialist journalists to construct ‘a comprehensive and intelligent account’ of public affairs, allowing citizens to ‘make sense of complex science controversies and trends’ (Nisbet and Fahy, 2017, para. 5; Patterson, 2013, para. 29/30).

Donsbach (2014) has made powerful arguments about redefining the role of specialist journalism. He describes a “new knowledge profession”, underpinned by five areas of competence categorised as: general competence, subject competence, process competence, journalistic skills and professional values. See Table 1 for a breakdown of the types of knowledge associated with each.

Such ‘knowledge-tested reporting’ is designed to counter the impact of a fragmented media market, guaranteeing audiences access to a broad range of perspectives, providing them with the kind of information they need to participate effectively in civic life (ibid., 668). Developing journalists for this kind of role has, as Donsbach points out, implications for the academic curriculum.

Here, Donsbach highlights the different level of specialist knowledge needed to *operate as an expert* in a particular field, compared to that of a specialist journalist *reporting* on that field. The depth of subject knowledge acquired by a journalist may only rarely compare to that of an expert; however, it is crucial to provide both understanding of the structure of the field and familiarity with its main actors (see also Van Witsen and Takahashi, 2018, 726).

Framing levels of specialist knowledge in this way recalls the concepts of *contributory* and *interactional expertise* outlined by social scientist Harry Collins and colleagues, in their wide-ranging research pro-

prehend. Scientists, on the other hand, accuse journalists of oversimplifying, misrepresenting or sensationalising content.

As key providers of information and ideas about science and science-related issues, science journalists and the media have been called on to play their part in helping combat a perceived ‘crisis of trust’ in science (Science and Technology Committee, 2000; Science and Technology Select Committee, 2017). There is a resulting need for journalism education in higher education (HE) to provide graduates with specialist skills and knowledge to undertake this role. This article draws on *border pedagogy* and *borderlands theories* to explore how the science journalism curriculum might be enhanced through a greater emphasis on interdisciplinary approaches, making these important goals more attainable.<sup>1</sup>

## Science journalists in a changing media ecosystem

Effective science reporting provides people with details of the latest scientific developments. It places science activity in a wider context and allows citizens to make informed decisions related to aspects of public policy, government expenditure on science, and to their everyday lives (McKinnon et al, 2018, 562; Treise and Weigold, 2002, 311). Smith et al (2018, 1) have suggested that ‘science and environmental journalism is entering a new era defined by increasing urgency in the face of climate change, politicization of science, and socio-political polarization across the globe’. At the same time, there are increased demands for news organisations and individual journalists to produce more content from smaller newsrooms with fewer staff, a loss of specialist reporters and science desks; and demands to serve more stories more quickly on an increased range of platforms (Fahy and Nisbet, 2011; Menezes, 2018; Roegerer and Wormer, 2017; Sachsman and Valenti, 2015; Williams and Clifford, 2010). Indeed, environmental reporters have been described as ‘an endangered species of sorts’ (Dykstra, 2013, cited in Friedman, 2015, 148), being replaced by general reporters who lack the specialist training to report in this area (Menezes, 2018). This can be fatal given that questions of science often share socio-political and economic dimensions, and require particular expertise and more time to investigate and report (Sachsman and Valenti, 2015).

Menezes (2018) argues that, without recent science education, and lacking the necessary breadth of knowledge and expertise across a range of science and environmental topics, it is difficult for journalists to recognise nuances in the scientific debate and to reflect the wider environmental context and an appropriate range of perspectives and opinion. Friedman (2015, 146) suggests that a lack of depth on complex environmental issues can leave audiences confused about environmental health risks.

## Tensions, tribes and territories

Academic literature identifies conflicts between scientists and journalists. Work on news values (Allan, 2009; Harcup and O’Neill, 2001; 2016) helps explain why science reports are characterised (or caricatured) by scientists as having a simplistic focus on “wacky”, “breakthrough” and “scare” stories (Goldacre, 2008, 208). Critiques also highlight sensationalised treatment, a journalistic tendency to focus on drama and conflict, and a reliance by scientists on overtly specialist language and precision in technical description (Allan, 2002; Hancock, 2003; Hayes and Grossman, 2006; Molek-Kozakowska, 2016; 2017; Peters, 2013). Hansen (1994, 115) points out ‘the newsworthiness of science is thus hampered by the fact that the “event-frequency” [...] of science does not readily match the news-frequency of the press’. The journalistic practice of presenting opposing viewpoints on a story, while technically following principles of objectivity and balance, can undermine fairness and accuracy. In fact, Mooney (2004, 26) indicates it is ‘naïve [...] to think journalistic “balance” is synonymous with accuracy’.

Such tension reflects the broader, underlying cultural perspectives and conflicting theories of knowledge of ‘two polar groups’ divided by a ‘gulf of mutual incomprehension – sometimes hostility and dislike’ (Snow, 1959, 4). Becher (1994) and Becher and Trowler (2001, 23) refer to such academic communities as ‘tribes’ who operate within, and whose academic ideas range across, different ‘territories’. They suggest that epistemological, ontological and paradigmatic differences result in clear distinctions between knowledge domains. Such differences in perspective may provide further explanation for differences in process and practice associated with scientific inquiry and journalistic endeavour.

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1) The terms **science journalism** and **science journalist** are used here in a broad sense, reflecting the wide reporting remit of reporters working in this beat, and encompassing media professionals working in the area of **environmental journalism** (Nisbet and Fahy, 2015; Van Witsen and Takahashi, 2018). I also draw from the field of **science communication** (Trench, 2017; Trench and Bucchi, 2010). This reflects the ‘increasingly hybrid character of the occupational profiles of journalists’ where media professionals may be obliged to adopt a variety of roles in a shrinking employment market (Kristiansen et al, 2016, 134).

gramme Studies of Expertise and Experience (Collins, 2004; Collins and Evans, 2007; 2020; Collins et al, 2006). While contributory expertise is essential to perform an activity with competence, interactional expertise represents the ability to interact with practitioners, mastering the language of the specialist domain without the practical competence (Collins and Evans, 2007, 14). It is ‘learned through linguistic socialisation among the practitioners’ and exemplified by ‘the ability to converse expertly about a practical skill or expertise’ (Collins, 2004, 125). Attainment of interactional expertise has been described as ‘the goal of specialist journalists’ (Collins et al, 2006, 659).

## Methodology

My study aims to identify and explore educational spaces where university students of science and journalism might meet. I focus on two research questions:

1. How do interdisciplinary approaches feature in university science journalism programmes?
2. What are the potential benefits of interdisciplinary approaches within the science journalism curriculum?

I conducted 32 in-depth, semi-structured interviews between September 2016 and August 2019 with participants broadly identifying as science journalists and science journalism educators<sup>2</sup>. The latter were represented by course leaders and tutors from programmes badged as science and/or environmental journalism/communication in the UK, America and Nigeria/Uganda. The sample also included a small number of interviewees drawn from university administration and management, and academics from other disciplines who have experience in initiating interdisciplinary programmes of study, and/or with a professional interest in science communication. The participants can be described as ‘critical cases’, chosen to both ‘represent’ and ‘symbolise’ features that are relevant to the investigation (Ritchie et al, 2003, 78-84); and with particular ‘insight and understanding’ about the research topic (Bolderston, 2012, 68).

Interviews were conducted face-to-face, via video conferencing or telephone. Audio recordings were made of the interviews, and these were later transcribed. Data generated in the interviews were analysed using thematic analysis methods, which allow researchers to organise and describe data in rich detail through identifying, analysing and reporting patterns within (Braun and Clarke, 2006). A theoretical, deductive or “top down” thematic analysis approach was principally employed, guided by the different focuses of the project (ibid., 83), with data coded according to the research questions and ideas emerging from the literature review.

## Findings and discussion

### Interdisciplinary approaches: categories and benefits<sup>3</sup>

A range of interdisciplinary approaches were revealed within the science/environmental journalism programmes. These exist in a variety of forms and formats and are presented in Table 2. The different models are not mutually exclusive, and were deployed by course leaders in different combinations. Particular attention is given to the final category where there is an explicit focus on interdisciplinary collaboration, which exemplifies principles associated with the borderlands concepts and border pedagogy underpinning this research.

Educational benefits associated with different approaches are also highlighted. These include the development of key skills and knowledge which reflect Donsbach’s (2014) five areas of competence required to operate as a specialist journalist (Table 1).

All approaches provide context for students to develop different aspects of *subject competence* in the form of specialist knowledge in their subject area, accompanied by the professional skills associated with

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2) Drawing on its original dataset, this article is based on a key theme in the author’s doctoral study, which reported on a wider-ranging exploration of interdisciplinary approaches in science journalism education (Stevens, 2022). Alongside interview data used here, the researcher undertook a semi-structured participant observation with a mixed-cohort of journalism and science students. This was designed to reflect the immersive interdisciplinary approach described later in this article.

3) Research questions 1 and 2 are addressed together to avoid duplication of content.

practical journalism (*journalistic skills*). The development of other areas of competence is associated with different interdisciplinary models.

## **Interdisciplinary interaction as professional engagement - incidental (unplanned)**

The first approach for science journalism education is to introduce interdisciplinary content and interactions in the form of *professional engagement* by students with *expert sources* as part of routine newswork. Here, students identify and work with relevant experts in the newsgathering process across a range of subjects, in tasks which are intended to enhance their craft skills through real-world journalistic activity. As one of the course leaders explained, it gives students ‘a taste of what it's like to work as a science journalist’ and represents a basic level of professional interdisciplinary interaction. Such lessons can deepen a student’s knowledge across key topics, and the approach is likely to be represented in most science/environmental journalism programmes as part of professional training.

Input from visiting external experts representing different subject areas is similarly used to supplement core educational content. This can be particularly useful for students on programmes where the choice of graduate destinations is typically diverse, and where students lack definite career choices. Engaging with science experts across subject areas provides opportunities for students to deepen their knowledge of core topics. A small-scale trial in New Zealand, for example, showed that even minimal intervention can have impact. Students attending a series of four guest presentations on sustainability and environmental issues, developed a deeper understanding of the complex and multidimensional nature of the subject area, and an increased interest in reporting on environmental topics (Kolandai-Matchett et al, 2009).

Such encounters are, however, incidental and unplanned, since disciplinary content and subject coverage may not be specifically fixed or structured within the syllabus. These are likely to depend on ad hoc external factors, including the developing news agenda, availability of relevant experts, and the personal interests of individual students. Interactions with expert sources tend to be reactive and story-driven, and may not result in ongoing professional relationships. The approach is, nonetheless, valuable within professional strands, integrating different aspects of *journalistic skills* and *subject competence*.

## **Interdisciplinary interaction using institutional resources - incidental (planned)**

The second approach plays a more formalised role with the curriculum, through its planned use of institutional resources.

One science communication programme leader explained that the location of his course within a School of Applied Sciences provides access to a number of scientists who can be used as a valuable teaching resource. Students are encouraged to make formal connections with them in their practical course work, to interview the scientists and write about their research for an internal publication. The institutional nature of the school, then, offers a choice of scientists across a range of disciplines, and allows students to practise important craft skills of interviewing and writing, while familiarising themselves with different research areas, ranging from forensic to environmental science to biology.

The same science communication students can also create a stand or poster exhibition suitable for a public event, describing the scientific research of one of the institution’s academics. In such cases, students work collaboratively with a scientist to develop the messages and format of the stand. Prolonged interaction with the expert may lead to meaningful dialogue, resulting in deeper learning about the scientist’s research field and working practices.

This approach provides similar professional benefits to the incidental category described above, allowing students to enhance craft skills in the specialist subject area. It can be usefully implemented wherever appropriate research colleagues are available and willing to participate. The use of “internal volunteers” as an expert resource may provide additional benefits for students, allowing them to build confidence before they undertake similar projects with external sources. Interdisciplinary outcomes are, nonetheless, still dependent on contingent, contextual factors and thus incidental. However, the educational activity itself is conceived as part of a more formally planned course structure.



## Interdisciplinary programme content - integrated content

A third approach blends content from different subject areas, recognising and reflecting the breadth and connections of the field and its inherently interdisciplinary character. One of the interviewees led a module on environmental communication as part of a master's programme in Environment, Culture and Communication. The programme is delivered from a small interdisciplinary unit, offering modules in around 15 disciplines, among them philosophy, literature, social science and communication, politics, and natural sciences, including the science of climatology, climate change and ecology. This ensures that an interdisciplinary culture permeates the whole programme:

*There's a multidisciplinary, interdisciplinary kind of feel to the whole setup that manifests itself in various subtle ways and less subtle ways, in what we teach and what the students get from it, and the ways in which they are encouraged to make connections between different courses.*

Programme structure at this institution permits students to select from a range of modules. This encourages them to explore the overarching breadth and interconnectedness of the field of study, and to start making their own connections between themes and topics within it. Module choices allow students to integrate subject matter from different disciplinary perspectives, according to the environmental problems they wish to address.

The approach promotes the development of *subject competence* and, where media-related modules and activities are selected, this can be integrated with *journalistic skills*. The programme also incorporates competences associated with communication science (*process competence*), and environmental ethics (*professional values*). Thanks to the operational scale, students 'rub shoulders' with colleagues from other disciplinary backgrounds. In this way, the requirement to synthesise and contextualise a range of different perspectives and make sense of complex issues, can be linked to the analytical thinking associated with *general competence*.

These factors mean the curriculum provides opportunities for students to develop a broad and integrated interdisciplinary approach to environmental studies. This is particularly valuable, allowing students to focus on specific areas of interest and to address complex problems from a range of perspectives. In fact, Nisbet et al (2010) have argued that it is vital for multidisciplinary groups to work together in response to the perceived climate crisis, exploring solutions which recognise the different spheres of influence and cultural forces impacting on the debate. They suggest that audiences are more likely to be moved to action, where communication about climate change looks beyond narrow scientific explanations, and engages the broader values and perspectives of the public.

## Interdisciplinary learning: theoretical approach - intellectual (theoretical)

The fourth approach focuses explicitly on knowledge and on philosophies associated with disciplinary perspectives and paradigms. This allows students to engage with interdisciplinary culture at a conceptual level and provides a theoretical framework for students to reflect on their understanding of the role of science in society.

The course leader of a master's programme in science communication described their approach as 'thoroughly interdisciplinary', incorporating a blend of sociology, philosophy of science, media studies, alongside practical elements. There is a particular emphasis on the philosophy of science and on the study of science communication itself. These elements are designed to encourage students, particularly those with strong science credentials, to rethink their understanding of the role of science in society, and their own philosophical positions as science communicators:

*Generally, they have science backgrounds and so we see our first task as sort of undoing everything they've learnt as scientists about the nature of science and its relationship to society. They still have some assumptions that what science does is produce facts about the world and that these facts then need to be transferred to the public. And if only that process were to happen efficiently, then we would have rational policymaking.*

There is an underlying intention of 'intellectually transforming these students, getting them out of that scientist mindset'. Alongside the students' pre-existing science knowledge and ways of thinking, curriculum content focuses on cultural values and social institutions and how these shape the nature of science;

on questions of certainty in relation to scientific knowledge; and on the role of human values and emotional response in audience engagement with science. This aims at helping students with scientific training to understand that, in effective communication with audiences, 'just shouting information at them doesn't help at all'.

Another tutor at this institution stressed the value of the philosophical strands of the programme:

*The science education makes you very narrow in your understanding of science-society relations. I mean what the philosophers would say, it makes you positivist. In other words, it makes you see facts and measurements and numbers as the highest reality, and the most important way of understanding problems and answering and asking questions. And that's the scientific training, that's what it does to you. And essentially therefore it renders you mute when it comes to values and the human touch.*

This interdisciplinary philosophy extends across the curriculum. In an ethics module, for example, students are encouraged to look beyond the purely scientific or technical aspects of a dilemma or issue, to explore wider social and other contextual dimensions:

*We would also talk about CRISPR<sup>4</sup> and gene editing and AI and environmental ethics. And when talking about that, it's always the same story which is that, if you sorted out the safety problems, are there any remaining issues? You know, when does a science issue, why does a science issue, or how can a science issue have a kind of residue of ethical problematic?*

In this approach, there is potential for development of *process competence*, based on better understanding of communication theory and process. Students can also learn to reflect on their role and *professional values* as science journalists through the academic strands of the programme. This underpins practical coursework, allowing students to integrate a broad range of competences with their *journalistic skills*, and to become reflexive practitioners. The ability to let go of a purely rationalist perspective, demonstrating disciplinary flexibility through an openness to ambiguity and ambivalence, is considered an important requirement for science students on the programme who wish to gain a deeper appreciation of the social and cultural factors which influence the role of science in society.

## **Interdisciplinary learning: mixed student cohorts - immersive (interactional)**

The fifth and final approach is related more directly to the concept of borderlands and border pedagogy, and is of particular interest here. This places emphasis on creating shared educational experiences for learners from different cultural and disciplinary backgrounds. Students are encouraged to reflect on the nature of their mutual engagement with peers, as part of the learning experience. The curriculum is explicitly 'intent on challenging existing boundaries of knowledge and creating new ones', and on building new spaces where students can 'move across borders, to engage difference and otherness', where maps of knowledge, social relations, and values are increasingly negotiated and rewritten (Giroux, 2005, 20-22 & 75). Such initiatives may be incorporated within the formal curriculum if institutional frameworks allow, or introduced through extra-curricular activities.

An example of this approach is an international educational partnership offering science journalism and science media training in Nigeria and Uganda. Online learning materials developed by the Science Development Network (SciDev.Net, 2019) have been integrated into a communications course for science journalism students. At the same time, materials on science communication have been made available to students in science departments. While these courses are delivered separately, science and journalism students also come together with academics and professionals working in both fields. These opportunities provide less formal, but valuable interdisciplinary exchanges between the science journalism and scientist participants; allowing them to build relationships, discuss common issues and learn more about the working practices of their colleagues. According to the local coordinator, such events create genuine encounters where students can start to apply formal classroom learning to the practice of science reporting. There are also potential longer-term benefits for scientists and journalists entering their respective professional fields:

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4) CRISPR: a technology used in gene editing e.g. to alter DNA sequences.

*Each time we have done that networking event, we've had the scientists going away feeling glad that they have met a journalist. In fact, everyone goes away feeling they have made a useful contact. The scientist feels they have met journalists that might potentially report on their work going forward. Then journalists also walk away feeling happy that they've come across this story idea that they didn't know about.*

A UK partner explained such activities allow participants to gain insights into how their peers think and work:

*It's been really interesting listening to the discussions, with scientists saying: "Ah right, I never understood why journalists always asked things like that." And journalists saying: "OK, but I never realised ..." So just crossing the divide. (my emphasis)*

Sharing this approach, two course leaders working in US universities, deliver modules which accommodate a mix of science and journalism students. One explained that her science journalism module contained an equal balance of journalism major students, and science students majoring in academic disciplines such as physics, biology or chemistry. The students are co-taught throughout. Within the curriculum, coursework includes pairing up science and journalism students to plan and co-write journalistic articles in the science student's field, with students having jointly to agree on the most interesting news angles. In another activity, small, mixed groups of students read scientific journal articles, and discuss what they consider to be the most newsworthy content, again identifying which aspects appear most suitable for publication as news stories. These conversations provide a context for disciplinary differences to emerge, and the interactions are themselves of particular educational value:

*It's amazing to see how different sections of students pick out different pieces of information, which really highlights their different modes of thinking and priority; and how then getting them discussing why they're looking at different pieces of information and news, is really where the learning happens.*

In addition, useful discussions relating to scientific literacy arise, because of the scientists' more advanced understanding of statistical data, or more nuanced appreciation of scientific significance, or their ability to derive information from graphical sources. This can help journalism students identify personal development needs in the science subject area or, using a spatial metaphor, to recognise important *knowledge gaps* in relation to the other discipline.

Yet another important aspect of the course, particularly for the journalists, outlines some of the processes and culture associated with the institution of modern science and its workings. While students might be familiar with aspects of scientific method in general, they were not always aware of scientific practice and processes; for instance, peer review and its challenges and potential pitfalls, but also usefulness as an indicator between 'good science' and 'junk science'.

A fundamental objective of this course was to bring science and journalism students together in order to prevent the tensions that both sides sometimes experience when meeting professionally:

*Once you start reducing those barriers at an earlier point in their career and get them comfortable talking to each other and saying: "I'm not really sure what you're asking there" or: "I'm not really sure what you're talking about, can you explain it to me?", then we find that there's a much deeper, more rich interaction between the students."*

The leader of a second US course described a similar mix of students on his science and environmental journalism course. Both the journalism students and science students are well advanced, generally master's or final year undergraduate students (some PhD students possibly alongside). The key feature is that the students come with solid disciplinary foundations and positions:

*The science students are steeped in the practice of science. They've read a lot of primary literature. Some of them have written it, and they've been steeped in the culture of science. The journalism students have been steeped in the culture of journalism.*

The curriculum follows a similar approach to the course described above, in which students work together on a sequence of projects across their disciplinary divides. Typically, an early activity consists in writing up a short news report about a piece of scientific research emanating from their institution. This is undertaken by groups of students, usually two science and two journalism students. Here, again, the focus is as much on the process and on student interactions, as it is on the final product. In fact, the course leader suggested that discussions relating to differences of opinion and negotiations over article content provide the real opportunities for learning:

*By making them do it together, they are forced to articulate the choices and decisions they're making along the way. And they are forced to come into these moments of conflict between: "Wait! As a journalist, I want to do this." "As a scientist, I think this is more important." And they're forced to start having those conversations right away, to the extent that it's almost an impossible task to get a clean piece of copy out of it within the five days or so that I give them to do it.'*

Other assignments for these students are designed to help them define or clarify their own positions and professional standpoints in relation to their colleagues. Students are split into two groups: journalists and scientists; and each group is invited to lead a class session representing their professional roles to the rest of the class. Challenging or being challenged by their classmates, provides an opportunity for students to consolidate their own perspectives as scientists and journalists:

*Working in a group of like and like, they're forced to articulate their beliefs and their assumptions and their values around the academic culture or the practice culture that they've been steeped in for quite a few years. And, in articulating it to the other group, in an interactive session where there are questions and pushback, they have to bring to the fore a lot of aspects of their practice that they probably absorbed in a more subconscious or less explicit way."*

As the course develops, students begin to work on individual investigations and features. However, interactions between students across the disciplinary divide continue to play an important role in the teaching and learning process, in the form of peer critique, 'so that they still have to articulate the decisions they're making; and so that they still get a lot of interplay back and forth between disciplines'.

The tutor's instructional input during the course continues to help students focus on similarities and differences in their respective cultures and mindsets, and on how these might impact on their approaches to storytelling. He provides advice, for example, in relation to story structure, target audience and determining the appropriate level of technical detail:

*If you start your story with caveats or deep background, the way the scientists want to, you will not have readers. And vice versa, to the journalists, if you capture people's attention but then you don't give them information of substance and quality with that attention, then you've squandered what I think is probably the most important resource in our society, which is people's attention.*

The approach is again focused on helping students from different disciplines gain a sense of their own professional identities and cultures, and to reflect on these in relation to their colleagues. Having established where disciplinary boundaries and points of opposition might lie, coursework exercises help the students to clarify and strengthen their own positions, while learning to appreciate the perspectives and mindset of their interdisciplinary partners. This, in turn, allows them to identify where more collaborative working relationships might beneficially be developed. For one course leader, this describes the ultimate goal of the process:

*Finding ways to meld the strengths and benefits of scientific practice and a scientific worldview, with the strengths and benefits of journalism practice and a journalistic worldview; and to bring them together in a way that has both intellectual meaning for the students, but also that has practical application for the students as they go on into further study or into careers; and also, I think, and I hold this as a high priority, that has social benefits for society.*

When students and module content are drawn from different disciplinary areas, students can explore and reflect on their own disciplinary perspectives and *professional values* in relation to their peers. Through such interactions, students both clarify and consolidate their own intellectual positions and learn to appreciate the different ways of thinking and working of their colleagues.

By collaborating on the production of science news content, or on other communication projects spanning the two fields of study, students of journalism and science bring expertise from their own separate domains, and explore the disciplinary and professional perspectives of their partner. This provides lasting benefits for members of each student group, beyond surface-level knowledge transfer. For the science journalist, this provides an important opportunity to develop a deeper appreciation of the language, culture, processes and practices of the science community, which is fundamental to the development of *subject competence*. It is more beneficial for journalism students to understand broadly how scientists think and work, than to learn about specific items of science knowledge (Donsbach, 2014, 668).

As journalism students acquire a deeper understanding of scientists and scientific processes, science students gain valuable insights into journalistic practice and the operation of the media. This helps create a stronger community of experts participating in public discourse about science, with enhanced

knowledge and skills, equipping them to produce improved messaging on the key scientific topics of our day.

The classroom encounters associated with this immersive, mixed-cohort approach embody the principles of border pedagogy. The activities described can be clearly recorded and understood using language and concepts associated with borderlands theories. They offer particularly powerful transformational opportunities, which exist beyond the specific projects and educational activities themselves. They are designed to create places where different disciplinary perspectives collide or meet. Together, students explore and engage in these spaces and, through discussion, shared activity and reflection, are able to clarify instances of agreement and discord, establishing when and how joint plans of action might beneficially be negotiated and formulated. The approach can foster empathy and understanding, securing the foundations for future professional relationships. In the words of Giroux (2005, 69), existing disciplinary boundaries are challenged and broken down, creating ‘new spheres in which knowledge can be produced’.

Such borderlands experiences can, additionally, be framed as providing an educational space for the kind of ‘linguistic socialisation’ and mutual exchange of ideas which allow both sets of students to begin to acquire levels of interactional expertise, described as the ‘goal of specialist journalists’ (Collins, 2004, 125; Collins and Evans, 2007, 31). Through sustained immersion in a different expert community, students become border crossers who are able to ‘learn new ways of seeing and doing in order to understand what the other is seeking to achieve and why’ (Collins and Evans, 2020, 96).

## Conclusion: lessons and challenges for climate journalism education

This study identified and categorised a range of interdisciplinary practices adopted by science journalism/communication course leaders participating in the research. The resulting compilation is not exhaustive, but provides educators with a menu of approaches to apply in their own classrooms, according to student needs, educational contexts and goals. Each of these models offers students opportunities to develop expertise across the specialist subject area (subject competence), and to engage in professional training related to their aspirational role (journalistic skills). Development of other areas of competence can be introduced, to a greater or lesser extent, by varying the model (see Table 1).

Of particular interest are the immersive, collaborative initiatives, where science students and journalism students are co-taught, or engage more informally in structured networking activities. These approaches embody border pedagogy and the principles of borderlands theory. Students work on projects alongside their classmates, and are encouraged to reflect on their experiences, in an environment which allows them both to articulate and consolidate their own disciplinary positions, and to develop a clearer appreciation of the mindset and worldview of their peers. This facilitates knowledge transfer related to the content area and helps student journalists increase their appreciation of the language and culture of the science community. Understanding how scientists in general think and work has been highlighted as more beneficial to journalism students than learning specific items of science knowledge.

Such interactions provide an opportunity for deep learning to take place, as personal boundaries are tested, new values negotiated, and alternative viewpoints accommodated. Socialisation with the other group, as part of ongoing collaboration, gives students – from their respective disciplinary backgrounds – time to explore the differing perspectives and working practices of their colleagues, and to begin to build trust and lasting professional relationships. Such contexts can also be framed as educational spaces which allow participants to acquire new levels of interactional expertise (Collins, 2004, 125). This has been described as a particularly important goal for specialist journalists.

In spite of potential benefits associated with interdisciplinary approaches, some barriers to their introduction were identified by research participants, echoing arguments in the academic literature. Some resistance arises in the form of the strong bonds of disciplinary allegiance, which can make academics unwilling to work outside their own specialist domains (Becher and Trowler, 2001; Krishnan, 2009; Moore, 2005). Some course leaders described ‘internal politics’, disciplinary disagreements and the potential for ‘micro-interference at the planning stage’.

A further barrier derives from the underlying administrative and organisational structures, embedded across the HE sector and within individual institutions (Gale et al, 2015; Moore, 2005). Educators trying to work across disciplinary groupings may encounter difficulties associated with programme oversight, allocation of resources, course identity and coherence, and student experience. For instance, at an institution which was attempting to broaden its undergraduate science programmes to incorporate science com-

munication and other humanities modules, a course leader described ‘constantly being buffeted by wider curricular concerns in the science faculties’.

There is, indeed, an imperative for the critical educator to be prepared to challenge institutional systems which act as barriers to progressive initiatives and innovation, and to find new collaborative ways of organising the curriculum. A university senior leader suggested that radical experimentation can sometimes be more easily introduced ‘from the margins’, where there is often more flexibility, more room for ‘a bit of subversion’, and ‘where people can play a bit’. Some participants said they had found ways to go ‘under the radar’ or to use ‘nifty footwork’ to insulate themselves from organisational constraints, and to avoid interference from the administrative centre.

Some students are disconcerted by unfamiliar programme content, different disciplinary methodology, and what they consider to be unconventional approaches to teaching and learning. Leaders of programmes with interdisciplinary content also suggested that students sometimes lack the cognitive flexibility to engage with different research philosophies. They can find the unfamiliar territory and ideas unsettling, resulting in discomfort and disorientation.

In some respects, such challenges are to be expected – indeed welcomed. Descriptions of learning environments which are unsettling can be associated with the “conceptual gateways”, or threshold concepts, which lead individuals from their current state ‘to a previously inaccessible, and initially perhaps “troublesome”, way of thinking about something’ (Meyer and Land, 2005, 373). This is indicative of the transformational learning, which takes place in the unstable, liminal space where students develop ‘a transformed internal view of subject matter, subject landscape, or even world view’ (Meyer and Land, 2003, 1). These kinds of response characterise the borderlands encounters between people and concepts, and represent an important instructional goal of border pedagogy.

Science communication is a practice and research field which is becoming increasingly established in the academic community (Rauchfleisch and Schaefer, 2018). There is now also a well-established tradition of public understanding and engagement initiatives (Trench and Bucchi, 2010), leading some to suggest that science communication has now ‘developed into an industry’ (Weingart and Guenther, 2016). Indeed, science communication often enjoys a more privileged status within university degree portfolio than some other interdisciplinary themes. This also helps explain why science journalism/communication tutors taking part in the research experience fewer challenges.

In the specific context of environmental communication, however, additional factors are also at play. Cox (2013, 2) indicates that the field has grown rapidly, so that it incorporates a complex and wide range of concerns, with many voices speaking for or about the environment. The public sphere is ‘filled with competing visions, agendas, and modes of speaking’.

Translating the lessons of developing better and more immersive science communication to the field of environmental and climate reporting raises further challenges. Milstein (2009, 346), for instance, sees environmental communication as deeply influenced by social systems and their related power structures, so that ‘social, cultural, economic and ideological forces inform representations of nature, constraining or allowing for particular ways of communicating about the “environment”’ (see also Milstein et al, 2017).

For those concerned with training journalists covering the climate, this means looking beyond questions of environmental science. There is a need to recognise and take account of the full range of contextual factors, exploring problems from the perspective of different “interested” groups or individuals, looking for the hidden politics of socio-environmental injustices. The importance of ensuring greater depth, breadth and context in news coverage can only be underlined, given the interconnectedness of many environmental topics and the complex network of ecological, social, economic and cultural dimensions in which they exist (Norat et al, 2016; Sachsman and Valenti, 2015). Related to this, Nisbet et al (2010) refer to four academic cultures: the environmental sciences, philosophy and religion, the social sciences, and the creative arts and professions. They argue that a lack of public response to the perceived climate crisis now requires multidisciplinary groups to collaborate across academic and other institutions to stimulate public engagement and action. Framing climate information in scientific and technical terms alone, they suggest, fails to engage the public, with audiences more likely to be alienated by environment messages which are perceived as attempts to influence public opinion “from the top down” (ibid., 329). Instead, the authors call for bridges between the sciences and other disciplines, allowing different perspectives to influence the debate, in the belief that:

*“communication about climate change will most effectively move people to action when it is framed not as a matter of science, but rather in terms of the values strongly held by a particular group or around a subject that is already familiar and of concern.” (ibid., 330)*

Reports from the Reuters Institute for the Study of Journalism indicate that a significant and increasing proportion of people in different countries actively avoid the news – in particular news and information about climate change – because of the negative effect it has on their mood, or because it makes them feel powerless to change events (Ejaz et al, 2022; Newman et al, 2019; 2022). Widespread negative perceptions of news coverage and audience disengagement are often associated with so-called “doom and gloom” reporting on the environment (Boykoff, 2011; Hall, 2014; Kolandai-Matchett et al, 2009).

In research focusing on criteria for evaluating coverage of environmental topics, Roeger and Wormer (2017) devised a set of quality markers which provide a useful set of guiding principles for those engaged in environmental journalism and journalism education. These encourage climate reporters to offer messages of hope, identifying and illustrating different kinds of solution, which allow individuals to look beyond the immediate crisis, and to recognise ways in which they can bring about meaningful environmental change. Quality indicators most frequently mentioned by specialist environmental journalists participating in the research include:

*“Not only describing environmental problems but including potential solutions or paths of action; including several dimensions apart from the scientific perspective, such as costs, social, cultural or political aspects of environmental issues; including background information about conflicts of interest in environmental studies, naming sources and financial ties.” (Roeger and Wormer, 2017, 425-426)*

Those ambitions resonate strongly with elements of solutions-based or constructive journalism. There is an imperative to acknowledge a wide and diverse range of voices and perspectives, often described in constructive journalism, as producing coverage which tells the “whole story” (SJM, 2021, 4). Constructive approaches, in turn, also share principles associated with critical pedagogies, including *ecopedagogy* (see, for example, Kahn, 2010; Misiaszek, 2010; 2019). Each of these spheres encourages a mindset which is prepared to challenge existing practices and structures, and demonstrates values which are future-oriented, focusing on social progress, hope, and agency (see, for example, Aitamurto and Varma, 2018; SJM, 2019). There is scope, in future research, to examine these relationships more closely.

With Giroux (2011, 121), this article argues that the university should be a place which ‘fosters dialogue, thoughtfulness, and critical exchange’, and where individuals are encouraged to ‘move across borders to engage difference and otherness as part of a discourse of justice, social engagement, and democratic struggle’ (Giroux, 2005, 75). This has arguably never been more urgent than in those spaces where tomorrow’s environmental communicators are being educated and trained. Universities should look for opportunities to provide a learning environment for students from differing disciplinary backgrounds and environmental perspectives, which actively promotes educational interactions between those engaged in research and communication about the climate.

Students engaging in such collaborative spaces can develop a new and deeper understanding of different subject areas, and an appreciation of the culture and practice of their peers. Future audiences can, in turn, look forward to environmental reporting which more accurately represents the breadth, depth and context of important climate debates and the range of voices within them.

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**Table 1: Journalism – ‘new knowledge profession’- five areas of competence (Donsbach, 2014, 667-670)**

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Table 2 Categories of interdisciplinary approach, indicative content and associated benefits and opportunities

Approach	Nature of Interdisciplinary Content	Benefits / Opportunities	Notes
<b>Incidental (unplanned)</b>	<ul style="list-style-type: none"> <li>➤ Interaction through professional engagement in routine news work.</li> <li>➤ Students engage with expert sources across a range of topics.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Enhances craft skills through real-world journalistic activity.</li> <li>➤ Deepens knowledge of range of core topics.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Suited to most programmes as part of vocational training and professional development.</li> <li>➤ Subject coverage may be ad hoc and dependent on other factors.</li> </ul>
<b>Incidental (planned)</b>	<ul style="list-style-type: none"> <li>➤ Interaction using institutional resources as part of curriculum and assessment regime.</li> <li>➤ Students engage with specific internal experts over extended period, working collaboratively on communication projects.</li> </ul>	<ul style="list-style-type: none"> <li>➤ As above.</li> <li>➤ Potential ease of access to valuable expert resource.</li> <li>➤ Opportunity for more meaningful dialogue, leading to deeper knowledge of subject area and researcher's working practices.</li> <li>➤ Confidence-building for students.</li> </ul>	<ul style="list-style-type: none"> <li>➤ May be formalised within course work and/or assessment regimes.</li> <li>➤ Availability of internal experts requires organisational flexibility, or resourcefulness and "favours".</li> </ul>
<b>Integrated content</b>	<ul style="list-style-type: none"> <li>➤ Interdisciplinary subject content incorporated within programme.</li> <li>➤ Students follow modules representing range of disciplinary areas.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Appreciation of breadth of subject area and interrelated themes.</li> <li>➤ Application of different perspectives to tackle complex questions, and for context.</li> <li>➤ May allow interaction with peers from different disciplinary backgrounds.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Where module choice is optional, students may tailor programme to personal areas of interest.</li> <li>➤ Dependent on flexibility of institution's programme structure and curriculum framework.</li> </ul>
<b>Intellectual (theoretical)</b>	<ul style="list-style-type: none"> <li>➤ Theoretical/philosophical approach.</li> <li>➤ Academic elements include focus on approaches to knowledge, disciplinary philosophy, communication theory.</li> <li>➤ Students engage with disciplinary and cultural perspectives at a more conceptual level.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Develop broader understanding of role of science in society.</li> <li>➤ Appreciation of social and cultural factors beyond experimental science mindset.</li> <li>➤ Enhanced communication strategies and sense of professional values and role.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explicit focus on interdisciplinary aspects at conceptual level.</li> <li>➤ Particularly suited to "conversion" course for postgraduate scientists wishing to specialise in communication roles.</li> </ul>
<b>Immersive (interactional)</b>	<ul style="list-style-type: none"> <li>➤ Co-teaching of students from different disciplines.</li> <li>➤ Curriculum focuses on collaborative projects and encourages reflection on role of science journalist and nature of interdisciplinary interactions.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Clarity and consolidation of own disciplinary position.</li> <li>➤ Empathy and understanding, appreciation of culture and practice of peers.</li> <li>➤ Awareness of knowledge gaps in relation to peers.</li> <li>➤ Building positive future relationships.</li> <li>➤ Developing professional values and role.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explicit focus on interdisciplinary aspects through practice and associated reflection.</li> <li>➤ Similar benefits may be achieved alongside separate disciplinary programmes, e.g. through structured networking events for scientists and journalists.</li> </ul>

# Climate journalism education in Bangladesh: Curriculum challenges and ways forward

By Mofizur Rhaman and Tamara Yesmine, The University of Dhaka

## Abstract

Climate change poses an imminent threat globally, with Bangladesh standing as one of the most vulnerable countries because of its geographical location. As the seventh most extreme disaster risk-prone nation, Bangladesh faces the urgent need for effective climate journalism to disseminate accurate information for building awareness and advocate for resilience measures. This article presents an assessment of climate journalism education in Bangladesh, reflecting on the curriculum, teaching trends, addressing the challenges. Furthermore, it proposes a pedagogical approach to enhance teaching in this field. Drawing upon the data obtained through interviews, students surveys and curriculum analysis, this study proposes a comprehensive framework to enhance climate journalism education in Bangladesh. The suggested framework places emphasis on experiential learning, collaboration with experts, integration of science education, adoption of data-driven reporting, and leveraging digital tools and visualizations for effective communication with diverse audiences.

## Introduction

**Climate change is a global challenge, and Bangladesh is particularly vulnerable to its effects due to on one hand the country's geographical location, and lack of technological knowhow to tackle anthropogenic aspects of climate change on the other. Inadequate financial capacity, and varieties in people's awareness multiply the vulnerability.**

Towards this backdrop, journalism has potentially a larger role to play concerning mitigation and adaptation activities, precautionary-warning, watch-dogging and monitoring of contributions to climate risk reduction. However, Bangladeshi climate journalists work in a challenging environment with a lack of appropriate training and the risks associated with covering climate-related issues with insufficient resources (Fahmidah, 2023). That is partially the result of deficiency in previous education programmes. Journalists often struggle with a solid scientific foundation, making it difficult for them to fully grasp and accurately convey intricate climate and environmental concepts. This knowledge gap poses a challenge to accurately representing scientific findings in news stories. Journalists encounter challenges in translating complex scientific studies into journalistic narratives that the general public can easily understand. The complexities of scientific language may create a gap between the presented information and the public's ability to comprehend the urgency and implications of climate-related issues.

Thus, it matters how climate journalism education is offered at the university level. The recent rise of relevant courses at universities in Bangladesh raises interest to explore their nature and pedagogies in producing an efficient future pool of climate journalists in the country. While climate journalism is gaining traction, there is a need for a structured approach to education in this field. The authors examine the curriculum used at the tertiary level, interview teachers and students to get the answers and explore some ways for improvement.

This paper explores the following research questions a) What is the nature of curricula of climate change journalism courses? b) What are the challenges to climate journalism practices, and how are the education efforts perceived by the students?

# Climate journalism: theoretical concepts and pedagogies

## a. Theoretical concepts

Generally, journalism teaching is being conducted either as ‘craft’ or ‘professional’ enterprise. While craft is aligned with offering specialized focus on the practical know-how, the professional covers issues from robust epistemological undertaking to address issues from multi-disciplinary perspectives such as history, sociology, politics and economy. Hence, the latter relates to geopolitics, global justice, power structure and development. As journalism practice is domesticated professional activity, climate journalism is exercised variably in different socio-cultural context (Eide et al. 2010; Eide & Kunelius 2012). Historically discussing bias in climate journalism, ‘balance’ has been addressed as a challenge in Western media outlets, particularly in the US prestige press (Boykoff and Boykoff, 2004). The resulting focus on climate denialists differs from media in the global South.

There, media address climate change more as an issue of justice and hence encourages journalism to be exercised also through advocacy and development prisms (Painter 2010 & 11; Rhaman, 2018). Climate change intersects with livelihood, habitat in general, indigenous communities, people in coastal belts, as well as, issues linked to gender, age, ethnicity and marginalized communities in particular. Serious climate journalism hence needs to ‘connect the dots’ to reflect on the potential threats and consequences to affected communities (Eide & Hahn 2017). However, a predominant ‘event oriented’ urban journalism enterprise is common, irrespective of context, and this tends to address the issue by a ‘top down’ approach where voices and sources and priority of items are vertically aligned, invariably marginalizing the realities of the already marginalized.

Hence, development journalism as a theory has potential for developing education in climate journalism to inform students and improving their practice. Development journalism is perceived as a specialized field of journalism that views the stories from unearthing the suppressed information associated with development projects, plans and implementation works, employing the investigative and interpretative journalism tools. These reporting and analysing efforts cover a large range of socio-economic, political and scientific issues. Identifying development journalism as an alternative to conventional journalism, Loo (2009) outlines its characteristics as follows

- i) user-source-oriented;
- ii) reports on causes and processes leading up to events- (what, how and why);
- iii) weighs news against criteria of development (community access, equity, participation, self reliance);
- iv) development of news angle;
- v) balance tipped towards the grassroots;
- vi) elicits alternative solutions to problems as understood and interpreted by the people;
- vii) moulding of public opinion is horizontal: actual views of grassroots and those affected by policies are given priority;
- viii) highlights community empowerment as a source of self-reliant community, and so on (Loo 2009: 35-36).

Therefore, development journalism is considered as inspiring agents of empowerment, guardians of transparency and journalistic works such as watch-dogging. Sharma defines development journalism as “a vast arena covering particularly every subject about the human condition, from poverty to global warming” (Sharma 2007:113). It does not only narrate the conditions but also looks for solutions, hence more constructive and conducive to climate change issues and environmental reporting. This theory focuses on the role of journalism in promoting sustainable development and bringing positive changes in all spheres. With regard to climate change, it emphasizes the importance of journalists in raising awareness about multifaceted issues such as governance, process and participation in emission reduction, mitigation, adaptation and activism providing accurate and reliable information to the public (Nassanga et al., 2016, Rhaman, 2018).

Prioritizing grassroots experiences, development journalism upholds the spirit of people's wellbeing and gives journalism a more pro-people direction. Digging out the causes of underdevelopment and giving voice to underrepresented communities, development journalism bring impact to society. This is increasingly visible in civil society media in the Global South through the coverage of people's participation in climate change mitigation/adaptation activities, policy formulation/negotiation activism and advocacy for resolve. These theoretical issues emerge from studies of climate change journalism practices across the planet. One of these authors explored development journalism model is being practiced by Bangladeshi journalists in dealing with climate change issues in one mainstream popular and one elite newspaper: the *Prothom Alo* and the *Daily Star*. However, how they refer to the curriculum is yet to be scrutinized. Therefore, we ask how they are related to the curriculum at universities in Bangladesh and how their underlying connections and values relate to teaching approaches and pedagogies.

## b. Pedagogies

There are several approaches to analysing teaching method. A framework such as TPACK (the Technological Pedagogical Content Knowledge) framework focuses on the intersection of technology, pedagogy, and content knowledge. This framework can analyse data to identify the ways in which teachers integrate technology into their teaching practices and how they use it to support students' learning (Schmidt et al., 2009).

Another pedagogical or teaching method is through innovative pedagogies. Innovating pedagogy presents a set of innovative pedagogical approaches that have the potential to guide teaching and transform learning. This framework consists of five dimensions: relevance to effective educational theories; research evidence about the effectiveness of the proposed pedagogies; relation to the development of twenty-first century skills; innovative aspects of pedagogy; and level of adoption in educational practice (Herodotou et al., 2019).

On the other hand, to address the challenges in climate journalism education, various pedagogical approaches have emerged with the aim of producing competent and informed climate journalists. The action competence approach in environmental education empowers individuals to take action on environmental issues by equipping them with knowledge, skills, and motivation. This approach emphasizes problem identification, decision-making and future action participation. Experiential learning, which immerses students in real-world scenarios, offers hands-on experience and practical skill development (Jensen & Schnack, 2006). Another experiential learning approach examines how an experience-based model can help to meet the practical needs of environmental journalism for improved news media coverage of environmental issues (Jamil & Bhuj, 2022).

Unesco suggests a similar approach in "Teaching Journalism for Sustainable Development: New Syllabi." It presents a set of syllabi for teaching journalism with a focus on sustainable development. The syllabi are underpinned by the theme of human development and aim to integrate the notion of sustainable development into journalistic pedagogy (Senarath, 2015).

## Methodology of the study

This paper is exploratory. The data collection employed a triangulation of qualitative and quantitative approaches, combining a comparative curriculum analysis, in-depth interviews with key informants, and a student feedback survey, followed by a thematic analysis. To understand the content and nature of the existing climate journalism courses, a comparative analysis of the curricula from six universities was conducted. These universities included the *University of Dhaka (DU)*, *Jahangirnagar University (JU)*, *Khulna University (KU)*, *University of Chittagong (CU)*, *Barishal University (BU)*, and *American International University Bangladesh (AIUB)*. The analysis focused on identifying commonalities, variations, strengths, weaknesses, and potential areas for improvement in the curriculum structure and content. In addition, an overview of academic activities along with practical portfolio from the course participants from Dhaka University is provided (Annex 1) as a case to reflect as an aide towards education approaches.

Six in-depth interviews were conducted with four climate journalism teachers from public and private universities and two senior journalists with significant experience in environmental and climate reporting (Annex 2). They were selected considering their position in the field and long standing ability to provide insights required for the study and analysis. These interviews aimed to provide insights into and from

classroom teaching trends, challenges faced by practitioners, recent demands in climate journalism, and the essential skills and knowledge required in the field. Semi-structured interviews allowed for flexibility, enabling interviewees to share their perspectives in-depth.

To incorporate the student perspective, a survey was conducted among 22 climate and environmental journalism students from the University of Dhaka. The survey included questions related to their course experiences, perceived strengths and weaknesses, and suggestions for improvement. The feedback was crucial for understanding the practical aspects of the course and identifying areas that may need attention.

The qualitative data gathered from the in-depth interviews and the student feedback survey were juxtaposed and subsequently underwent an analysis, identifying patterns, themes, and recurrent ideas. Through a systematic coding process, commonalities and variations in responses were categorized, leading to the emergence of key themes. Based on the findings from the thematic analysis of in-depth interviews, comparative curriculum analysis and student feedback, a comprehensive framework for enhancing climate journalism education in Bangladesh was offered as a way forward.

Bangladesh currently has 26 journalism and media-related programmes offered by various public and private universities. However, data on the availability of climate journalism courses and the curriculum they follow is lacking. This research offers valuable insights to address the challenges faced by course teachers, practitioners on the basis of the feedback surveyed from a student-centric perspective enrolled for climate and environmental journalism course at the University of Dhaka. It explores ways to equip journalism students with the necessary competencies. Addressing the identified challenges, the proposed framework can lead to the development of a skilled generation of climate journalists. This, in turn, can foster informed public discourse, drive positive action towards climate resilience, and contribute to building a knowledgeable society. Ultimately, this study aims to enhance climate journalism education, strengthen climate reporting, and promote sustainable development in Bangladesh.

NOTE: One of the authors is a faculty member at Dhaka University and the other author is a former Master student of climate and environment journalism course from the same university and currently works at a fact check organisation in Dhaka. However, during the work, the authors were careful that their involvement with Dhaka University did not compromise research ethics in analysing the data gathered from other universities. Moreover, data gathered from the student survey may not be equally generalizable to selected universities and all 26 programmes.

## Study Results

### Practices of climate journalism in Bangladesh

Climate journalism in Bangladesh encounters numerous challenges that impede reporters from effectively conveying crucial environmental messages (Rhaman, 2018). There is a significant lack of interest among journalism students in dedicating their careers to climate reporting. This lack of enthusiasm may arise from the perception that climate issues are complex, requiring specialized knowledge and possibly not receiving adequate attention or recognition. Illius, an award-winning journalist, states:

*“In environmental and climate research, there is much scientific jargon. To use complex terms or jargon in an informative story, a journalist must be skilled. Most of the stories produced in Bangladeshi media lack sufficient data, scientific proofs, or references from research papers due to a lack of skilled journalists. ... I found gaps among journalists on understanding complex scientific theory, lack of skill to use scientific study into their work, lack of skill to ... find a credible scientific studies, research, researcher, or the right person for their story. ... They always only want to expose vulnerability; the newsroom also wants it, but they don't have enough skill to link vulnerability with environmental and climate changes and scientific studies.” (Illius, interview, 20 Nov, 2023).*

Climate journalists often struggle to gain recognition for their work, both within the media industry and among the general public. The lack of acknowledgment and support can contribute to a sense of isolation, discouraging journalists from pursuing in-depth climate reporting. However, the potential to create success stories is also evident. Montu states:

*“I created a different style of journalism about the coastal region of Bangladesh related to climate and environment. I made a series of reports focusing on 16 coastal districts at risk because of climate change. ... I tried to bring out the voices of the people of the coastal areas. In this series of reports, I wrote about the coastal environment, climate change, disasters etc. I also reported on the struggles of coastal women and the hazards of char areas. In recognition of my work, I received many awards including the Dhaka Reporters Unity Best Reporting Award three times, UNICEF-Meena Media Award three times, PIB-A2I Media Award twice.” (Montu, interview, 22 Nov, 2023).*

However, climate journalism often faces limitations regarding resources, both financially and technologically. Limited access to funds for investigative reporting and inadequate technology hinder the production of high-quality, impactful climate stories. Media house authorities in Bangladesh show disinterest in prioritizing climate and environmental reporting. This lack of interest may manifest itself in inadequate training, minimal coverage, and limited space dedicated to climate-related stories in mainstream media. Journalists covering climate issues may encounter intimidation and threats. The sensitive nature of environmental reporting, especially when exposing issues related to politicians, government policies, or industrial practices, can result in direct or indirect pressure, compromising journalistic integrity.

## Climate journalism course curricula at the universities: issues and values

The comparative analysis of climate and environmental journalism courses across six universities in Bangladesh reveals that five institutions (see above) stand out by providing its course at undergraduate level. The course is categorized as optional at all universities with 4 credit hours.

The climate and environmental journalism course curricula from the selected six universities share common objectives, but exhibit to some extent variations in content, teaching strategies, and assessment methods. While the course titles differ slightly, the contents remain closely aligned to each other across the universities.

With regard to values underlying in the course at Dhaka University:

*“(It) familiarizes the students with different aspects of climate and environment journalism. ... learn how to handle stories, translate scientific jargon and find the best sources for stories and features. ... for environmental angles in a wide range of news stories ... with the changing trends of environment and climate in local and global perspectives ... knowing and writing about global warming, renewable energy, green living and design, health and environment, recycling, biodiversity/conservation, nuclear energy and waste, activism and volunteering, environmental actions, environmental law/policy, top environmental issues of the decade, greenhouse effect and climate change.” (MCJ 517 course, Dhaka University).*

It shows that the essence of development journalism is inherently emphasized in the Dhaka university course description and pedagogies. While another public university (JU) includes different issues unlike Dhaka University in the syllabus, it includes (JMS 511) “National environmental concerns including air, water and sound pollution; deforestation; endangered wildlife; saline water in the coastal areas; river grabbing; Sundarbans; CHT region; global warming and industrial world; climate change and its impact; and key treaties and laws signed in this filed”. This might be due to the naming of the course differs, as DU labels the course as ‘climate and environmental journalism’ while JU terms it ‘environmental journalism’, so is the focus of issues differ accordingly.

Barishal University (Course MCJ 517) follows the DU nomenclature and course contents uniformly while Khulna University, (MCJ 5209) another public institution, also has the same course with the same aims, nomenclature and objectives like Dhaka University, however restructured the course content a bit differently under two sections A and B as follows:

### Section- A

1. Understanding Environmental Journalism
2. Basic Concepts:
3. Major Concerns
4. Environmental Issues

### Section- B

1. Health and Environment
2. Laws of Environment:
3. World Environment Protection Organizations
4. Bangla-



desi Environment Protection Organization: BELA,  
POBA, BAPA. (MCJ 5209, Khulna University)

With a different nomenclature, the course CAJ 518: Environment and Disaster Journalism at Chittagong University connects with climate change through environment and disaster lens.

*"The emphasis of the course is on developing an informed and nuanced approach to reporting and writing environmental stories ... deals with current and emerging environmental topics-both locally and globally. ... human-environment interaction in the globalized world, greenhouse effect, global warming, climate change, pollution, sustainable development ideals, environmental change assessment, science and environmental journalism, risk, crisis and disaster journalism and communication, basic concepts of risk, crisis, disaster and environment management, and using scientific research data, reports and jargons in environment journalism." (CAJ 518 course, Chittagong University).*

The American International University Bangladesh (private university) with its course Environmental Journalism (JMAS 4235) puts emphasis on developing student's capacity of speaking and critical thinking. Along with the ability of writing, its course aims to engage the students with environmental campaigning and activism as well. This feature of the course corresponds with Dhaka University's emphasis on environmental actions, volunteering, protest and activism for awareness building and change.

Despite being mostly designed for graduate-level students, it is evident from the course descriptions that the courses aim to cover fundamental aspects of journalism practices. The focus is on familiarizing students with different aspects of climate and environmental journalism, teaching them how to write news and features on relevant issues, and providing an understanding of the field. In terms of thematic coverage, the courses touch upon major scientific concerns, including global warming, renewable energy, green living, environmental laws, and various environmental issues: health, industry, fashion and so on. However, only half of the selected universities, DU, BU and KU explicitly mention the inclusion of climate law and policies, both at local and global levels.

The teaching-learning strategies differ, with some universities emphasizing lectures, discussions, and multimedia presentations. Practical tasks, field visits, and group projects are integrated into the curriculum at *Jahangirnagar University and American International University Bangladesh*, providing students with hands-on experiences. The *University of Dhaka* focuses on reading published journalistic reports, features, and articles along with field works for developing students' portfolio on video stories, photo essays and photo features, while the *University of Chittagong* incorporates scientific research data, reports, and jargons in environment journalism course, aiming at a better understanding of the field.

The course content is thus broadly similar across universities, covering foundational concepts such as environmental journalism history, news writing techniques, and major environmental concerns. However, some universities go beyond the basics. For example, the *University of Chittagong and the Dhaka University* delve into topics such as geopolitics of climate change, climate justice, carbon rationing, and carbon markets. The recommended readings exhibit variations, but certain texts, such as "The Green Pen: Environmental Journalism in India and South Asia" (by Acharya & Noronha, eds. 2010) and "Media and the Environment," (by Hansen, ed. 2013) are common among universities. These readings provide insights into environmental journalism from global and South Asian perspectives.

The assessment strategies are diverse, combining continuous assessment methods like attendance, class performance, quizzes, and assignments with summative assessments such as mid-term and final examinations. Each university follows a specific marking distribution, reflecting variations in evaluation methods. While the learning outcomes are outlined in terms of students' ability to explain climate and environmental news, gather information, report effectively, and understand changing environmental trends, the depth and specificity of outcomes differ. Some universities, like American International University Bangladesh, outline specific outcomes related to critical thinking about development, profit, consumerism, and nature.

Shortcomings across the analyzed curricula included a lack of practical emphasis, limited technological integration, lack of thematic variation, less expert involvement, and the need for a more global perspective. Addressing these areas is crucial for better preparing students for the challenges of climate and environmental journalism.

A more balanced coverage of topics, including historical aspects, ecosystem conservation, and evolving climate change movements, should be uniformly addressed in curricula. This would ensure that students gain a comprehensive understanding of the diverse aspects of climate journalism. In an era dominated by digital journalism, there is a noticeable absence of technological skills in certain curricula. Skills like multimedia reporting, video making, fact-checking, and data visualization, crucial in the evolving land-

scape of journalism, need to be introduced. Integrating these skills would enhance students' readiness for the technological demands of contemporary journalism.

## Challenges in climate journalism education

Teaching methods for climate journalism in Bangladesh are commendable for emphasizing practicality, real-world experiences, and interactive learning. However, there are certain areas where education may fall short in providing a comprehensive and well-rounded understanding of the field. The feedback gathered from 22 climate journalism students (Annex 3) offers valuable insights into their experiences with the course, highlighting both positive aspects and areas for improvement. Students note the enhancement of critical thinking and skill development through the course. The importance of environmental journalism in raising awareness is acknowledged, with field assignments and expert involvement being specifically highlighted as contributors to a deeper understanding of the subject. The course's coverage of global climate diplomacy and NGO operations is recognized as beneficial for providing a comprehensive understanding of the broader context in which environmental journalism operates.

However, students highlight a perceived gap in practical knowledge and advocate for a more hands-on and realistic approach to learning. This implies a desire for a curriculum that better prepares them for the challenges of real-world environmental journalism. Integration of technological skills is suggested to align the curriculum with the changing landscape of journalism, ensuring that students acquire relevant skills such as video production and multimedia reporting. Suggestions for reforming course material are made, emphasizing the need for revisions and improvements. Incorporating more tours and trips outside Dhaka and enhancing the mentality of students towards practical knowledge is recommended for a more effective learning experience. The importance of expert involvement is underscored, particularly in areas like environmental pollution. Bringing in professionals from the field is seen as a means to bridge the gap between theoretical and practical knowledge. Consideration is given to expanding the thematic coverage of the course to include emerging topics, historical dimensions, and international environmental movements, aligning with the students' desire for a more comprehensive exploration. A continuous curriculum evaluation is recommended to regularly assess and update course content, ensuring its ongoing relevance and effectiveness in preparing students for the dynamic field of environmental journalism. However, the thematic analysis of the responses from interviews and survey reveals several key observations:

### Limited understanding of scientific concepts

Apprentice journalists and students often struggle to comprehend and communicate complex scientific theories and terminologies related to climate change and environmental issues, hindering the quality of reporting. Journalism students and emerging climate reporters in Bangladesh encounter a range of challenges that significantly impact their learning and professional growth. The majority of students entering climate journalism in Bangladesh do not have a science background, which represent a significant challenge. This limitation becomes apparent as these students grapple with the interdisciplinary nature of climate and environmental journalism, where a solid scientific foundation is essential for effective reporting on climate-related issues.

Mahmud, a journalist with extensive experience in environment and climate change journalism, plus being part of the guest faculty at the university says:

*“Environment and climate journalists in Bangladesh lack adequate basic knowledge. However, to explain an environmental issue the reporters must have knowledge about research methodology, history, philosophy, society and relevant theories. Without these, filing stories with only information is a big challenge” (Mahmood, interview, 2 Dec 2023).*

Limited emphasis on scientific literacy in the syllabus and classrooms may impede accurate reporting and effective communication. The wish for a deeper exploration among the students of topics is evident, including wildlife and biodiversity aspects, historical dimensions and international environmental movements. This reflects a student's aspiration for a more comprehensive understanding of the natural science perspective, which is currently missing in the offering pedagogies.

### Inadequate integration of practical learning

A common appreciation among students is directed toward the practical components of the course. A call for the inclusion of technological skills is made, encompassing video making, multimedia report creation, and other practical aspects that align with the evolving nature of journalism. Field trips and hands-on engagement in environmental journalism are cited by the students as particularly beneficial. These experiences contribute to a tangible understanding of the field and provide valuable real-world exposure. Students express a desire for a more practical curriculum, emphasizing hands-on experiences such as photo and video storytelling, organized institutionally funded field tours, and increased expert involvement. While critical thinking is appreciated, there is a consensus on the need for more practical knowledge.

Generally, the education system in Bangladesh faces a significant challenge in the insufficient integration of the above mentioned issues, primarily attributed to limited resources and a lack of incentives from institutions. This is emphasized by the faculties interviewed. Swarnaker (interview, 4 Dec 2023) emphasizes the need for more resources to enable contributions to the learning outcomes. In her view the lack of resources, both technical and informational, is a major challenge. The absence of networking opportunities with practitioners from the fields and support for internships hinders students' practical exposure and experience. This limitation affects the practical application of theoretical knowledge. Limited collaboration between educational institutions, media houses, and environmental organizations also restrict students' networking opportunities.

## **Insufficient training on digital tools and data utilization**

Crucial skills such as digital media literacy, understanding satellite imaging, handling big data, and mastering fact-checking are indispensable in contemporary journalism. However, it is noted that these essential skills are not systematically taught in the classroom by teachers. Instead, students are left to acquire these skills on their own, often seeking online resources and tutorials for guidance. Furthermore, a notable gap exists in the provision of basic photography and videography skills, which are integral components of contemporary journalism. The absence of access to cameras and relevant equipment further exacerbates this issue, hindering students' audio visual training in essential journalistic skills of radio and video podcasting. The overarching concern is that teachers often find themselves unable to provide comprehensive instruction on these critical technologies within the classroom setting. Consequently, students are left to navigate these challenges independently, relying on private/external resources and online learning platforms to fill the gaps in their knowledge and skill sets.

Incorporation of digital tools and technology is necessary to enhance skills in data visualization and analysis. Teachers, while expecting students to acquire these skills from other courses, often find that this integration does not effectively happen. This gap in digital proficiency limits the journalists' ability to navigate the evolving landscape of climate and environmental journalism, where effective data communication is increasingly crucial for impactful storytelling and analysis.

## **Language barrier and access to reading materials**

Academic materials related to climate and environmental journalism are often in English, creating a language barrier for students. Additionally, limited access to localized and up-to-date reading materials hinders their understanding. Teachers often cover basic journalism concepts and practical journalistic genre that students can acquire from other courses. However, detailed, in-depth knowledge is crucial for this type of reporting. The semester system also poses challenges for in-depth understanding and practical learning in environmental and climate journalism due to time constraints.

## **Challenges in incorporating action-based advocacy programmes:**

The absence of action-based advocacy programmes in climate journalism education may stem from a lack of awareness, resources, or a misperception of the practical issues. In climate journalism, advocacy is often considered crucial, surpassing strict objectivity, as it aligns with the nature of action-based reporting. Despite its inclusion in the syllabus and the issues occasionally emerging in local settings, neither the teachers nor the students are interested in integrating action based advocacy in the pedagogy.

## Insufficient global perspective and neglect of rural issues in report

Classroom assignments often miss the vital dimensions of a global perspective as well as rural issues. The tendency to confine environmental reporting to urban areas neglects the profound significance of understanding and addressing root-level problems and connections the dots. Islam, working as a faculty member in a private university says “Geopolitics, basics about the coastal regions of Bangladesh, proper storytelling methods, scientific aspects of global and local environment-related issues must be prioritized in courses” (Islam, interview, 29 Nov, 2023).

As climate change unfolds as a global issue, there is an urgent call to broaden the scope of reporting beyond urban centers, uncovering the interconnectedness of local and global environmental challenges.

Compounding on these challenges, teachers themselves express concerns about students' lack of diverse knowledge and a seeming reluctance to read or acquire new information. In a field that demands continuous learning and staying updated with current developments, this limitation in students' knowledge base poses a hurdle to their growth as proficient climate journalists.

In addressing these issues, there is a clear need for a more structured and supportive educational framework. This includes incorporating essential skills into the curriculum, providing access to necessary equipment, and ensuring that teachers receive training and support to effectively impart these skills to their students.

## A way forward for climate journalism education

To give students a basic understanding of key scientific principles relevant to environmental journalism, integration of a foundational science module into the curriculum is a necessity. On the other hand, to enhance the scientific literacy and processual understanding, the practical demonstrations such as simulations to explain climate change mechanisms would be useful. Teachers and students should be encouraged to include practical assignments that require application of scientific concepts in their reporting—for instance, analyzing climate data, interpreting research findings, and incorporating scientific language into news articles.

In Montu's view:

*“ Proper data analysis and visuals can help the report become more understandable to the readers. So, I think reporters' ability to grab attention of the readers and simplify things is important for better climate reporting. Courses on data journalism and how to utilize open source for information can be taught to journalists to help them excel in this field. There is no alternative to proper training.” (Montu, interview, 22 Nov, 2023).*

Collaboration with science departments within the respective universities to offer joint workshops or interdisciplinary courses is another arena to be improved. The universities should integrate digital media tools, satellite imaging, and big data analysis into the curriculum to enhance technological skills. Students should be trained to use digital tools or software for creating infographics, and multimedia presentations, and utilizing data visualization tools to convey scientific information to a broader audience. Use of virtual reality or interactive simulations for hands-on experiences related to environmental reporting is crucial. Climate journalism should be based on extensive field experience. Frequent field trips to critical environmental areas, combining site visits with insights from professionals would develop nuanced understanding and lead to quality climate reporting in the country. Practical experiments during field visits would allow students to apply theoretical knowledge in real-world contexts. In this regard, Montu's experience is relevant.

*“ In the past when I used to go to the field, at times I could not get support at the local level, but I did not lose heart. And in some cases, we have faced inadequacy of information. To solve these two problems, I think training should be provided to journalists on how to communicate with people in the field, on the frontline of the climate crisis, and also create a central database on environment and climate-related information.” (Montu, interview, 22 Nov, 2023).*

A community-based journalism programme where students actively engage with local communities would enhance climate journalism in the country. This aligns with the action competence approach, empowering students to identify, understand, and address environmental challenges at the grassroots level. Motivational teaching strategies can be adopted: i. Prioritizing student motivation, engagement, and active participation in the learning process. ii. Encouraging students' engagement in environmental journal-

ism; iii. Making students familiar with prestigious awards/scholarships and providing tangible incentives for excellence. iv. Fostering industry collaborations through guest lectures and mentorship programmes for real-world insights. v. Encouraging research collaborations, publications, and participation in global conferences for academic and networking benefits. vi. Incorporating action-based programmes and advocacy initiatives to spark students' interest in climate journalism careers.

Despite many issues to be considered for improving environmental and climate change journalism, Islam, a teacher from a private university, states students' commitment towards society is important. He continues:

*"I think to nurture them the most important aspect is inculcating students' commitment. So that they understand that they have a responsibility towards society, the state, and the world and that their contribution to the environment, for the future, will become invaluable and significant." (Islam, interview, 29 Nov, 2023).*

For the quality of environment and climate journalism, he further states:

*"We have indeed a wide scope for thriving in the sector of environmental journalism. However, to develop environmental journalism in our country, journalists need to improve their skills in science reporting and data journalism. At the same time, the amount of long-form stories should be increased, for in-depth reports because it's a matter of practice. Issues must be seen from local perspective." (Islam, interview, 29 Nov, 2023).*

There is room for further development of students' in-depth research skills, especially in accessing and analysing scientific literature. Explicit emphasis on critical thinking skills is needed for analysing complex environmental issues. Mahmood (interview, 4 Dec 2023) in sum recommends the importance of practical learning and orientation, digital tools for data utilization and visualization, and interdisciplinary skills in environmental journalism education and advocates a shift in mindset to contribute to environmental journalism. With keeping these into consideration, Shoma states: "The policymakers, curriculum developers should reflect on the drawbacks and media organizations to prioritize and enhance climate and environmental journalism education as well as practices in the country." (Shoma, interview, 8 Dec 2023).

The course taught at Dhaka University might be useful here as a pedagogical aide as it connects to the expert suggestions mentioned.

Here students are invited to give their input to finalize the course outline in the beginning of the course. The whole semester tries to achieve some milestones: such as providing scope for hands on experience on major journalistic genre, familiarizing the students with existing practices in the media outlets, preparing report on the media practices of climate and environmental journalism etcetera.

Along with theoretical classes, as part of practical portfolio development, students are given a photo assignment in which they prepare photo features and photo essays. Annex 3 enlists these works of 17 students from the academic year 2022. They submitted photo features on various topics including: Women and children working in plastic recycling factories, *Sutia* river refill by garbage, Environmental pollution in *Dhaka University* Campus, Threat to greeneries in *Bachila*, Garbage and pollution in *DMC* area, River pollution, Recent heat wave, Industrial garbage and tannery garbage in *Hajaribag*, Life of birds are entrapped in plastics, occupying canals in *Dhaka* and so on.

Then the students are asked to write a long feature article on the issues discussed in class. Students have to submit at least such article for evaluation. The submitted long feature articles in the class 2022 include: Environment friendly industry: Sustainable investment increase the profit along with the protecting the environment, When the good day will be back to *Buriganga* river?, Flood in Pakistan and global warming, The lives in polar regions are at dearth condition due to climate change, E- wastages and threat to the world, Renewable energy and safer climate, Ocean pollution, plastic bad and threat to whale, Medical wastages and health risk, Water crisis in Dhaka, Would life be burnt in heat wave?, Life expectancy decreases for air pollution and so on.

After that, assignment is given for video stories of three to five minutes and upload those on social media platforms. Video stories are produced jointly. The video stories uploaded in 2022 are: Plastic recycling, Life back in *Turag* river, Carbon emission from motor vehicle, E-wastages and health risk, National herbarium, Medical wastages in *DMC*, Rooftop garden in *Dhaka*, *Buriganga* river carnival, Salinity in Sundarban, Climate change and agricultural production and so on. Students are also asked to write one analytical story on the subject of their choice.

Along with these practical tasks each student is assigned for monitoring the media coverage of environment and climate change journalism at one print media outlet. The monitored media includes, the Business Standard, the Prothom Alo, Dhaka Tribune, the Daily Janakantha, Ajker Patrika, Daily Jugantor, Banik Barta, the Daily Star, Daily Sun, Kaler kantha, the Daily Ittefaq, Manab Kantha, the Business Post,

the Financial Express, the New Age, Daily Samakal etcetera. They submit the final assignment with all practical works. At the end of the semester, students present their work in the class for evaluation and discussion takes place. Four guest faculties were invited to give lecture in semester 2022.

## Conclusion

The analysis of climate journalism in Bangladesh reveals a multitude of challenges, both in the professional landscape and the educational realm. The reluctance among journalism students to pursue a career in climate reporting, coupled with inadequate recognition and support, poses significant obstacles for journalists aiming to address pressing environmental issues.

The struggles faced by novice journalists and students in the field are equally noteworthy. The lack of a scientific background among students entering climate journalism hinders their ability to navigate the interdisciplinary nature of the field. The absence of systematic teaching of essential skills, coupled with limited access to equipment, impedes their practical training in crucial journalistic abilities.

While teaching approaches in climate journalism courses in Bangladesh demonstrate commendable strengths, such as prioritizing practical elements and promoting interactive learning, there are evident gaps that need attention. The optional nature of many classes, insufficient resources for field trips, and a limited emphasis on scientific literacy highlight areas for improvement. Additionally, the dearth of comprehensive instruction on critical skills like digital media literacy and data analysis underscores the need for a more structured and supportive educational framework.

Bridging the gap between theoretical knowledge and practical application, fostering a global perspective, and embracing technological advancements will contribute to the cultivation of a new generation of proficient and resilient climate journalists in Bangladesh. Due to the inherent complexity of climate change as scientific knowledge and its multifaceted nature “climate journalism should be more solution oriented. The opportunities angle would opt for new kinds of coverage, combined with local angles” (Eide and Hahn 2027), so is the curriculum and pedagogies of the course need to be. However, referring to the limits of this research, a comprehensive assessment of syllabuses/ curricula from all offering universities, a bigger student survey with samples from all 26 programmes and more in-depth interviewees are required. Future research is expected to take this into account in exploring more valuable insights and bigger picture of climate journalism education in Bangladesh

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- i. Course content MCJ 517 Climate and Environment Journalism at Dhaka University
- ii. Course Content MCJ 517 Climate and Environment Journalism at Barishal university
- iii. Course content MCJ 5209 Climate and Environment Journalism at Khulna University
- iv. Course Content CAJ 518 Environment and Disaster Journalism at Chittagong University
- v. Course Content JMS 511 Environment Journalism at Jahangirnagar University
- vi. Course Content JMAS 4235 Environment Journalism at American International University

## Annex 1

### List of practical work done by the students in 2022 at Dhaka University

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#### REFERENCE

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Stu-	Photo essay	Long feature arti-	video story	media monitoring
1921	Women and children	Environment	Plastic recycling	The Business Stand-
1936	Threat to greeneries in	when the good day	Life back in Turag	BD News24.com
1810	garbage and pollution in	Floods in Pakistan	Carbon emission	The Prothom Alo
1988	River Pollution	The lives in polar	Life back in Turag.	Dhaka Tribune
1911	environmental pollution	E wastages and	E wastages and	Janakantha
1939	garbage and pollution in			Ajker Patrika
1844	Environmental degrada-	Renewable energy	National herbarium	Jugantor
2193	Campus environment	Ocean pollution,		Banik Barta
1909	Recent heatwave	Would life be		Daily Star
3155	Pollution in DMC area	Medical wastages	Medical wastages	Daily Sun
1979	Industrial garbage and	Burigngna is the	Rooftop garden in	Kaler Kantha
1907	occupying canals in Dha-	Globalizing the	Buriganga river	The daily Ittefaq
1915	life of birds are entrapped	Buriganga pollu-	Occupying the old	
1940	Garbage and pollution in	Greeneries are	Salinity in the	The business Post
1872	Pollution in Dhanmondi	Water Crisis in		The Financial Ex-
1922	the bad condition of	tree fair, planta-	climate change and	The New Age
1576		Life expectancy		Samakal

Photo Feature by ID 1921  
(MCJ-517)





Women and children are also working at plastic recycling factories in Islambagh area of Dhaka. Bangladesh exports tonnes of recycled plastic flakes and granules every year. Although these workers play a great role in export earnings along with protecting environment, they never get any protection equipments to minimize health risks. As a result they are constantly inhaling plastic particles that can lead to cancer as well as to death.

### A feature story

The Potentials of Renewable Energy to Produce Electricity for a Safer Climate Sultana Rajia Haque Sristy, ID: 1844



To reduce global warming, we have to depend on renewable energies. (Picture from/[www.un.org](http://www.un.org))

Global environmental organizations and activists all over the world have been vocal in addressing climate change for a long time now. They are emphasizing on reducing carbon emissions to zero in order to keep the world habitable for the existence of human being and other organisms. It is recommended to stop using fossil fuels or mineral fuels completely and rely on alternative renewable energy sources. Most of the world's fossil fuels are used to produce electricity. As a result, carbon emissions are increasing rapidly. The increasing emission of carbon is seriously affecting the climate and biodiversity. Rapid climate change, seasonal variations have been occurring. Recently Europe has been undergoing the worst heat wave they have ever experienced. New diseases are

emerging worldwide. To minimize these effects of climate change and to reduce global warming we have to depend on alternative renewable energy. An energy source that is inexhaustible or everlasting and can be reused in a short period of time can be referred as renewable energy. The sources of renewable energy can be solar energy, geothermal energy, wind, water, ocean waves, ocean heat, tides, biogas, biofuels, garbage etc. We can use these sources to produce electricity effortlessly. Different countries across the world are also producing electricity using renewable energy sources to decrease the usage of mineral fuel or fossil fuel. Bangladesh has also started utilizing solar energy on a small scale already, which is known as 'Solar Plant' in Bangladesh. The successful outcomes in the use of solar plants have also been widespread. Solar plants have gained popularity in remote areas and villages of Bangladesh. Solar plants have gained immense popularity in India as well. The largest solar plant in the world is located in India. India has been able to generate about 648 MW (maybe more or less) of electricity from solar energy. On the other hand, China has shut down hundreds of coal-fired power plants and launched wind power plants and solar power plants. We can also prioritize other sources of energy such as wind power to produce electricity if we want. Some developed countries around the world have been already continuing to generate wind power using wind currents. For example: Australia, Saudi Arabia and India have established wind power plants. Also, many developed and developing countries around the world have adopted this policy and it is gaining popularity day by day. Wind power plants can be a potential alternative power source for the world. There are many such lands in different countries where wind power plants can be installed. As the world's natural gas and coal reserves are depleting day by day, countries may become dependent on wind power as an alternative energy. As a result the world will be freed from environmental pollutions and will be able to reduce carbon emissions to the utmost. Bangladesh has a potential area in terms of wind power generation. In particular the length of the coastal area of Bangladesh is about 724 km with continuous air flow which is suitable for installing wind power plant. According to experts, Bangladesh can produce more than 2000 megawatts of electricity if this wind flow is properly utilized. The important places where the air flow is suitable for establishing power plant in Bangladesh are Hatia, Sandeep, Maheshkhali and Katubdia. Also wind turbines can be set up on Padma-MeghnaJamuna Rivers. In that case, the movement of air flow should be monitored first. At least three months of wind speed monitoring in the rivers should be needed to decide whether turbine installation is suitable or not. The good news is that Bangladesh government has expressed interest in wind power generation. Meanwhile, ventures have been initiated in setting up 150 MW wind power plant at Kachua in Cox's Bazar, Inani and Chandpur. Not just air flow, by harnessing the energy of ocean waves, ocean heat, and tides electricity can be produced. Bangladesh has already harnessed the flow of water (Kaptai Jal Bidyut). Biogas is another popular alternative energy in Bangladesh. There is a huge demand for this gas in rural areas of Bangladesh. Biogas is used for cooking and lighting lamps. In a biogas plant, renewable energy is produced by recycling waste from household and other sources. Another source of energy can be produced from biofuels. Biofuel is a type of environment friendly fuel. Environmentalists once recommended the expansion of biofuels, considering the harmful side of climate change. But later they withdrew that advice. Biofuel is a new type of fuel made from a combination of ethanol and diesel. Its ingredients are different kinds of crop plants such as rice, lentils, wheat, corn and oilseeds. Biofuel is being produced by processing all these food grains in a special way. It is currently used only in the developed world. It has both pros and cons. But overall, it is observed that the use of biofuels is bringing more harm than good for mankind. Poor countries have to face famine while producing biofuels with crops to prevent climate change. As fossil fuels and mineral fuels are limited and people are not being able to rely on those energies due to climate change and environmental pollution, the energy system of the future will have to be dependent on alternative renewable energies. This is not only the work of Bangladesh, but the entire world has to grasp the opportunity of renewable energies. The developed world in particular needs to be vocal about this. Climate change cannot be prevented by holding seminars or symposiums. We need to move towards using renewable energy and the world needs to agree on saving the planet and it's climate from the harmful effects of annealing fossil fuels .

## ***Annex 2***

### List of Interviews

1. Golam Iftekhar Mahmood, Journalist cum guest faculty
2. Priyanka Swarnaker, University faculty
3. Aminul Islam, University Faculty
4. Afroza Shoma, University faculty
5. Shamsuddin Illius, Journalist
6. Rofiqul islam Montu, Journalist

## ***Annex 3***

### **Summary of the Students' feedback**

Most beneficial	Wished topics & skills	Is the course enough	Suggestions
fieldwork	access to database, teaching	basic course, prelimi-	field trip in group, running
critical thinking,	practical knowledge like	need revision and	revising course material,
importance of envi-	fieldtrip	-	updating topic with new
changed thought	experts lectures from envi-	learned about some	fieldtrip, more expert in-
widened knowledge	more of wildlife & biodiver-	basic to work in this	More fieldtrip and practical
new insights about environmental movements, activi-	more report practice with photo & video cameras	realistic course for concept building	more about international environmental movements
building conscious-	more classes from journal-	more practical as-	external lectures
global climate di-	how NGOs work & field	-	fieldtrip, practical expert
thought provoking,	not really	quite well	bringing professional jour-
environment related	environment conference &	basic concept	attending in seminars in
learned from as-	fieldwork, field visit, slide	to some extent	rearranging curriculum,
awareness opportu-	practical, technological,	new insights,	practical, field visit and
being familiar with	technical support	writing news and	official visit from dept for
basic environmental	more historical aspects	well but still have	many but not mentioned
knew about ecosys-	field visit	more classes	develop components in the
how environment	writing skill, video making	lack of critical things	well organized lecture, rele-
importance of envi-	running campaigns for	impotence of envi-	in person participation in
learning about	how root/ rural journalism	learned about local	root level journalism explo-
learned relevant	how can we see our forest,	beneficial course	visiting critical areas
official doc related	classes from regular journal-	ready to work in	adding professional in-
more theoretical	stories and experiences from	good enough	visit outside Dhaka or out-
practical based learning, creating multimedia reports, features & interviews	classes from professional journalists, field trips	basic idea, know the checklists to become environmental journalists	more practical based curriculum, classes from senior journalists, field visit

# Filling the gaps in journalism education: climate literacy learning experiences and experiments from Pakistan

By Syed Muhammad Saqib Saleem, Forman Christian College (A Chartered University), Lahore, Pakistan.

## Introduction

### Overview

**Climate change presents significant global challenges, especially for countries like Pakistan, which face heightened vulnerability despite contributing minimally to global carbon emissions. This article explores the critical need for enhanced climate literacy and the evolving role of journalism education in addressing these challenges. By equipping journalists with the tools to effectively communicate climate issues, we can foster a deeper public understanding and inspire action towards mitigation and adaptation.**

The enormous expanse and heat absorbing capacity of the world's seas means that even a tiny increase in the average monthly surface temperature of Earth requires a significant quantity of additional heat energy. Although the increase in the global average surface temperature of about 2 degrees Fahrenheit (1 degree Celsius) from the pre-industrial period (1850-1900 in the NOAA record) may not seem like much, it represents a huge increase in the amount of heat that has collected. (Lindsey & Dahlman, 2024).

In addition to the global consequences, some regions face special challenges. Pakistan is one of the ten countries in South Asia that are most vulnerable to the impacts of climate change, even though it contributes little (0.52 per cent (CO2 Emissions by Country - Worldometer.info) to global carbon emissions. High dependence on agriculture, socioeconomic status and geographical location all contribute to this vulnerability. Heat waves, unpredictable monsoons that cause floods and droughts, and melting of ice in the northern regions of the country are just some of the climate-related issues the country faces (IFRC, 2021). Pakistan's economy, agriculture and food security are directly affected by these impacts, causing serious obstacles to sustainable development.

Also, climate change poses a threat to water resources, affecting water supply and distribution. This is especially important in areas like Pakistan, where agriculture depends heavily on irrigation. Changes in rainfall patterns and increased frequency of extreme weather events can disrupt water availability, leading to challenges for crops and food production (UNEP, 2019).

This article explores three critical dimensions in advancing climate communication: first, the importance of climate literacy and its intersection with journalism; second, the evolving role of journalism in promoting climate awareness; and third, the development of a climate journalism framework based on my experiences as an educator. This framework is further supported by course experiments that aim to foster climate journalism in Pakistan. Each section provides actionable recommendations and reflects on the challenges faced during implementation. Despite increasing global awareness of climate change, effectively

communicating its complexity to diverse audiences remains a major challenge. Climate communication is often hindered by scientific jargon, political polarization, and widespread disinformation, particularly in the media. Journalists face the difficult task of translating complex climate science into accessible narratives that engage the public, while also combating the spread of misinformation.

In Pakistan, these challenges are compounded by limited training in climate journalism, a focus on political and security issues in the media, and a lack of resources for in-depth environmental reporting. Journalism education must therefore evolve to prepare future reporters not only to inform the public but to navigate the unique challenges posed by climate change communication. This includes fostering critical thinking, digital literacy, and an understanding of the socio-political context in which climate stories are told.

### **Climate Literacy**

Climate literacy is increasingly recognized as a critical tool in addressing the complex challenges posed by climate change (U.S. Global Change Research Program, 2009). However, merely providing more information—an approach criticized as the "information deficit model"—has proven insufficient in addressing the scale of the crisis (Suldovsky, 2017). For example, despite decades of media coverage on climate change, public action remains limited compared to past environmental movements such as the response to the ozone crisis. This underscores the need for more nuanced approaches to climate journalism, which not only inform but also engage and empower audiences to take meaningful action.

In the context of Pakistan, where climate literacy remains low, the media's role extends beyond information dissemination. Journalists must be trained to engage their audiences critically and present climate stories that are relevant to local communities, addressing both the informational and emotional aspects of climate change.

As societies grapple with the complex challenges posed by these disruptions, the need for improved climate literacy emerges as an essential element in moving towards a sustainable future. Climate education is not just about raising awareness. It also requires a comprehensive understanding of the links between climate systems, human activities and the resulting environmental and social impacts.

This understanding enables individuals to understand the significance of climate-related issues and make informed choices in their individual and collective lives (U.S. Global Change Research Program, 2009). The urgency of improving climate understanding becomes clearer as human-induced climate change continues to intensify extreme weather events such as heatwaves and heavy rainfall, which are projected to worsen even further if global warming exceeds 1.5°C (IPCC, 2021).

Individuals with climate skills are better equipped to address these challenges, contributing to the overall resilience of communities and ecosystems. Furthermore, climate knowledge plays a central role in effective climate communication. It enables individuals to critically evaluate information, discern credible sources, and engage in meaningful dialogue about climate change (U.S. Global Change Research Program, 2009).

Climate literacy is crucial not only for individuals but also for policy makers and leaders. Informed decision-making at the administrative and organizational level requires a deep understanding of the relationships between climate variables and socio-economic factors (IPCC, 2014).

Decision makers with a strong foundation of climate literacy are better able to formulate effective strategies and policies that respond to the challenges posed by climate change.

Climate education can be used to develop a global perspective, emphasizing the importance of international cooperation in solving climate-related problems. Additionally, as technology continues to play an important role in shaping our world, digital climate literacy becomes increasingly important. People need skills to navigate and interpret climate data, understand modeling techniques and use technology to create sustainable solutions (Hansen et al., 2012). Digital literacy in the context of climate change can help to ensure that people can use technology to access and contribute to the information they need to drive innovation in climate change adaptation and mitigation.

Finally, climate literacy is also closely related to financial sustainability. Businesses and industry need employees who understand the impact of climate change on supply chains, market dynamics and resource availability. A climate-smart workforce is better prepared to meet the challenges and opportunities that the transition to a more sustainable and climate-resilient economy will bring (World Economic Forum, 2020).

In addition, emphasizing climate literacy in curricula is essential. Integrating climate education into schools and universities will ensure that future generations have the knowledge and skills needed to address current and future climate challenges (UNESCO, 2019). Awareness of the diversity of climate

change and its impact on different areas of society emphasizes the need for a comprehensive and evolving approach to climate education.

## The role of media and journalism

In the global exchange of information, media provide an important bridge between the complexity of climate change science and public understanding (Boyce, 2009). In today's connected world, media serves as a powerful tool for disseminating information and drawing public attention to pressing global issues (Nacu-Schmidt, 2019). With the risks associated with climate change increasing, the need for a well-informed public becomes clearer and the media plays a key role in shaping perceptions and public priorities.

While the media plays a central role in climate awareness and shaping public opinion (Singh & Singh, 2015), it has also been a platform for the spread of disinformation. The complexity and politicization of climate change have led to widespread misinformation, particularly on social media platforms.

This critique highlights the limitations of relying solely on media to inform the public. While traditional journalism can raise awareness, it must be paired with active engagement strategies to overcome the barriers posed by disinformation and apathy. In this context, climate journalism education becomes even more crucial—not only to inform future journalists but to equip them with the skills needed to navigate and counter disinformation in climate communication.

Recent research on climate journalism highlights how it has evolved to gather, evaluate, and present information on climate change while adapting to changes in the media ecosystem (Schäfer & Schlichting, 2022). As economic pressures increase and social media transforms communication dynamics, the role of climate journalists is shifting from traditional "gatekeeping" to more diverse roles, including that of "curators" of information. This shift is particularly evident in the Global South, where there is a scarcity of specialist climate reporters, further complicating efforts to deliver consistent and in-depth coverage. Additionally, social media, while providing opportunities to engage broad audiences, has also become a space where disinformation can proliferate, posing significant challenges for promoting accurate climate literacy.

While social media offers the ability to rapidly spread information and engage diverse audiences, it also presents significant challenges. Research shows that social media can increase polarization and create enclaves of climate denialism, where disinformation thrives and contradicts the efforts to promote accurate climate literacy (Tegelberg et al., 2024). These dynamics complicate the role of social media as a tool for effective climate communication, as attention often clusters around counter-hegemonic communities that use rhetorical strategies such as irony and sarcasm to challenge mainstream climate action narratives.

The role of the media in framing climate change issues is crucial (Hansen, 2012). How the media present and frame climate-related stories can significantly influence public perceptions. However, the relationship between journalism, expertise, and politics is complex and varies depending on context. In certain cases, journalists may struggle to balance scientific accuracy with public engagement, and political or corporate interests may further complicate these dynamics. This complexity requires media professionals to critically navigate these challenges to ensure accurate and accessible climate reporting.

The evolving landscape of media formats, such as documentaries, podcasts and interactive online platforms, has expanded the reach and availability of climate-related information. Diversification of the media environment makes it possible to describe climate problems in a more nuanced and attractive way, take into account different public preferences and raise public awareness.

## Climate literacy and Pakistan

Enhancing climate knowledge and awareness of both the public and decision makers has emerged as a must for Pakistan. Faced with these challenges, climate knowledge becomes a pillar for sustainable development and resilience. Water and food security, which are vital to Pakistan's stability, are threatened by changing rainfall patterns, melting glaciers and changing river flows. Climate knowledge becomes essential for communities to understand and effectively address these challenges. Despite a significant increase in global media coverage of climate change—particularly in print media, which saw a 73% rise in climate-related stories in 2019 compared to 2018 (Nacu-Schmidt, Katzung, & Boykoff, 2020)—the focus in Pakistan remains predominantly on politics, national security, and international relations. The global increase in reporting was driven by the global attention on climate events, such as record-breaking heatwaves, wildfires, and global climate strikes, as well as severe weather events in Pakistan, including heatwaves and floods. However, the coverage still lacks focus on the everyday impacts of climate change on

communities, such as agriculture, water resources, and public health. Moreover, the lack of formal training of journalists in climate reporting exacerbates this gap, resulting in inadequate public understanding and engagement with climate issues. While climate change has significant security implications, the media's narrow focus on political and traditional security narratives often overshadows the practical challenges posed by climate change in Pakistan, such as its impact on agriculture, water resources, and public health.

Examples of climate related topics that urgently need more journalistic attention are not difficult to point out. For instance, in the agricultural sector, which forms the backbone of Pakistan's economy, climate changes pose significant risks. Farmers need climate knowledge to adapt to changing conditions, implement climate-resilient measures and ensure industry stability and productivity. Furthermore, climate change is exacerbating energy challenges, affecting both the supply and demand sides of Pakistan's energy landscape. Informed citizens are more likely to support and participate in initiatives that contribute to sustainability, environmental conservation, and climate resilience.

Climate change in Pakistan also affects biodiversity, as changes in temperature and rainfall affect ecosystems and wildlife. The country has diverse flora and fauna, and public climate literacy is essential to maintain its rich biodiversity. Awareness of the interconnectedness of ecosystems and the impact of climate change on different species can help design effective conservation strategies (A. Qureshi & Ali, 2011).

In addition, urban areas in Pakistan are suffering from the adverse effects of climate change, including urban heat islands (UHI) and increased air pollution. Climate information is essential for urban planners and policy makers to implement sustainable urban development strategies, build resilience and mitigate the environmental impacts of urbanization. In health, climate change is contributing to the spread of vector-borne and heat-related diseases in Pakistan. Understanding the relationship between climate conditions and public health is critical for health professionals and policy makers to develop adaptation strategies and protect vulnerable populations (WHO, 2023).

Importantly, climate change is also affecting Pakistan's business and industrial sectors, which can lead to disruptions in supply chains, increased operational risks and the need for sustainable business practices. Climate literacy among entrepreneurs and business leaders is important to promote environmentally sustainable business models and promote sustainable economic growth (ILO, 2021). Collaboration with government agencies, civil society and international organizations is critical to addressing these multidimensional challenges. Creating partnerships to promote climate education and promote a culture of science and innovation can promote a more sustainable and adaptive society (UNEP, 2023). Additionally, investing in technology and innovation is critical to Pakistan's resilience to climate change. The use of advanced monitoring systems, remote sensing and data analytics can improve a country's ability to assess and respond effectively to climate-related changes (UNDP, 2022).

To close these gaps in climate reporting, media organizations should prioritize initiatives to build the capacity of journalists and ensure they have the necessary skills and knowledge to accurately report on climate issues. This can be supported by partnerships with environmental organizations and educational programs that focus on climate journalism (Saleem, 2023). In short, climate literacy is not a need but a catalytic agent for complete and maintainable growth in Pakistan. By responding to climate-related challenges through informed decision-making, public responsiveness and interdisciplinary alliance, the country can navigate the complications of climate change and build an ecologically sustainable future.

## **Enhancing climate literacy: a framework for Pakistani journalism**

Addressing these communication challenges, my PhD research focused on developing a strategic framework specifically for climate journalism in Pakistan. Recognizing the gaps in how climate issues are communicated—particularly the lack of formal training and inadequate media coverage of local climate impacts—I proposed a model to guide journalists in framing climate-related stories more effectively. This framework aims to provide journalists with the tools to navigate the complexities of climate communication and better engage the public with actionable climate knowledge.

The framework was developed through an extensive research process, including a thorough review of existing literature, qualitative analysis of framing methods, and engaging discussions with experts in focus group sessions. The development of the climate journalism framework followed a two-step sequential approach. The first step involved conducting a qualitative frame analysis of how climate and environmental stories were presented in the Pakistani print media over two years (2018-2019). This period was selected due to significant climate events both globally and locally in Pakistan. For this analysis, two promi-

nent newspapers—*Dawn* (N=693) and *Daily Jang* (N=622)—were selected, and their climate-related articles were examined for framing techniques.

Using qualitative content analysis, the researcher reviewed headlines, lead paragraphs, quotes, and visual elements such as images and captions to identify recurring themes and frames. Special focus was placed on two categories of mediatic-frames—formal-stylistic frames and content-oriented frames, based on the framework proposed by Matthes (2007). Additionally, the analysis distinguished between episodic and thematic frames to capture the broader context of climate stories.

The second step of the research involved focus group discussions with climate experts and media professionals. These discussions aimed to explore how the identified media frames influenced public understanding of climate issues and whether they provided actionable strategies for climate mitigation and adaptation. Focus group participants were asked to reflect on the effectiveness of the media's climate coverage in fostering climate literacy and their recommendations for improvements.

The study was able to identify both strengths and gaps in the current climate journalism landscape in Pakistan, paving the way for the proposed framework model.

These findings highlight an important gap in current reporting on climate change in Pakistan. The absence of a coherent strategic framework hinders effective public communication on climate. This model strives to empower journalists and media agencies to effectively communicate on climate-related issues, thereby promoting climate education and promotion of sustainable public activities (Saleem, 2023).

I have identified 11 key elements, each designed to advance climate knowledge and engagement in the unique context of Pakistan.

1. **Humanize climate change stories:** When telling stories about climate change to Pakistani audiences, it is important to connect these stories to human values, emotions and experiences. For example, a story about changing weather patterns might delve deeper into the impact on local communities, offering personal anecdotes from farmers dealing with unpredictable rainfall, makes the issue relevant and touching.
2. **Highlight the contextual relevance:** When discussing climate change in Pakistan, it is essential to provide context. For example, a report on glacier melt in northern regions should highlight why this is important locally, exploring how it may affect water resources, agriculture and livelihoods in these areas.
3. **Promote constructive solutions:** Instead of just presenting problems, articles on climate change in Pakistan should highlight constructive solutions. For example, an article about the increasing frequency of heat waves might also mention community initiatives that apply heat-resistant agricultural practices or creative ways to adapt to the temperature increase.
4. **Highlight anthropogenic climate change:** In the Pakistani context, it is important to emphasize the role of humans in climate change. For example, a story might draw attention to the link between deforestation and vulnerability to flooding, highlighting how human actions are contributing to the climate crisis.
5. **Practice cross-cutting climate coverage:** In Pakistan, it is imperative to integrate climate change narratives across different topics and sectors. For example, linking climate change with agriculture, health and urban planning in a single report can demonstrate its far-reaching impacts and interdependencies.
6. **Address equity and climate justice:** It is important to consider the differential impacts of climate change on different communities in Pakistan, with particular emphasis on the gender perspective. An article could explore how climate change disproportionately affects women in rural areas, highlighting the need for gender-inclusive climate policies.
7. **Showcase the economic opportunities:** Viewing climate change as an economic issue is important in the Pakistani context. An article could discuss the economic costs of environmental degradation while also highlighting the benefits of investing in sustainable practices, thereby illustrating the economic opportunities of climate action.
8. **Use the dominant frame with sub-frames:** Choosing a dominant frame and additional sub-frames can provide additional context and depth. For example, a story about extreme weather events due to climate change might have subframes focusing on impacts on agriculture, infrastructure, and public health.
9. **Explanation of climate science:** Explaining scientific concepts in simple language is important, especially in regions where climate knowledge is low. For example, an article about changing rainfall patterns should break down complex scientific terms into language that is understandable to a wider audience.



10. **Use visual storytelling:** The use of images, infographics and maps is essential to make climate-related information more accessible and engaging in the Pakistani context. For example, a report on sea level rise might include images showing the potential impact on coastal communities.
11. **Research-based climate reporting:** Climate reporting based on scientific research and evidence is essential for credibility. For example, when discussing the impact of climate change on agriculture, reference to recent studies on changes in crop yields helps the Pakistani public understand the issue.

## Evolution of journalism education in response to climate change

As climate change becomes a global imperative, the world of journalism education must adapt to the urgency of this environmental crisis. There is also a significant gap in *journalism* curricula related to climate journalism in journalism and media departments in Pakistan.

Climate discourse was previously absent from the mainstream media, and climate and environmental journalism was not included in the curriculum of national journalism schools. Although some universities have begun to integrate climate journalism into their development journalism courses, there is still a long way to go.

In collaboration with the international research group *MediaClimate Network*, I proactively organized trainings on climate journalism in Pakistan. The main goal has always been to train teachers and equip them to integrate climate journalism into their lessons. A key lesson from these workshops is the integration of climate and environmental components into various courses, eliminating the need for separate curricula. With this approach, educators can engage journalism students in climate journalism assignments across courses, deepen their knowledge of climate and prepare them for future climate communication. The idea revolves around creating *alternative* learning paths for climate journalism.

Instead of a separate course, we can integrate climate and environment components into different courses in journalism programs. For example, climate and environmental topics can be added to various courses, such as news reporting, photojournalism, communication and peacebuilding, health communication, development journalism, media and gender issues, and communication campaign planning. With this, students will delve into the tasks of climate journalism and thus strengthen their ability to promote climate culture.

## Building climate journalism skills through practice

In the summer of 2023, I taught a course initially titled 'English Writing for Journalists'. Recognizing the urgent need for climate awareness, I reframed the course to emphasize climate journalism. The course was designed to equip students with the skills necessary to effectively communicate complex climate issues to the general public. The curriculum included hands-on assignments such as writing climate stories, conducting interviews, and developing multimedia content on climate-related topics.

One of the key projects involved students creating feature articles on local climate issues, such as the impact of heatwaves on urban communities or the effects of flooding on agricultural regions. These stories required students to interview local experts, farmers, and residents, giving them practical experience in field reporting. One group, for instance, produced a compelling piece on how urban heat waves in Karachi are worsening the living conditions in low-income neighborhoods, complemented by infographics showing temperature variations across the city. Another group created a multimedia package on water scarcity in rural Punjab, integrating drone footage, video interviews, and interactive maps to visually present the scale of the issue.

One of the primary challenges was translating the highly technical and scientific aspects of climate change into narratives that were accessible to a broader audience. Students found it difficult to balance the need for scientific accuracy with the narrative appeal required for journalistic writing. To overcome this, I introduced specialized modules on simplifying climate science for non-expert readers, which improved the students' ability to create more engaging, yet accurate, climate stories.

The outcomes of this course were twofold. First, the students produced high-quality climate journalism pieces that effectively conveyed the urgency of climate action to different audiences. Second, many of these students expressed a newfound commitment to continuing work in climate journalism, recognizing the critical role of the media in shaping public discourse around climate issues. One of the key indicators of success was the students' ability to create multimedia content, including videos and infographics, to complement their written articles. This allowed them to reach a wider audience and engage with younger, tech-savvy demographics.

During the course, we delved into the various techniques and strategies that climate journalists use to inform, educate and inspire readers. The ultimate goal was to equip students with the skills to participate meaningfully in the ongoing climate change dialogue. Despite the success of the course, there were several challenges that hindered progress. For instance, the students initially struggled to grasp the complexity of climate science, making it difficult to translate technical information into accessible content for the general public. Additionally, resource limitations, such as inadequate access to reliable climate data and technology, further constrained their ability to produce multimedia stories. Some students also expressed difficulty in balancing their climate journalism work with other academic responsibilities, which impacted the quality of their projects. These challenges provided valuable lessons for future iterations of the course, leading to the development of more structured support systems and resource access for students.

The students not only met expectations, but exceeded them, producing remarkable stories that reflected their growing awareness and commitment to climate journalism. The course served as a forum where students felt the urgency of climate issues and instilled in them a responsibility to promote climate awareness through writing. Proving their passion and dedication, some students expressed their intention to continue writing for various media, recognizing the power of their words to raise public awareness. At the end of the course, it was clear that the students not only acquired valuable skills in climate journalism, but also internalized the importance of their own role in disseminating information and raising responsibility for environmental issues. Going forward, they plan to use their writing skills to actively participate in collaborative activities to raise public awareness and catalyze positive change. Top of Form

## Experiential learning in climate journalism

In addition to traditional course assignments, several collaborative projects were integrated into the curriculum to enhance student engagement with real-world climate journalism challenges. One particularly successful initiative was the *Climate Stories – An Intergenerational Project*. This project required students to interview older generations (individuals who were children at least 50 years ago) about their observations of climatic changes over the decades. Through these interviews, students gained firsthand insights into the long-term impacts of climate change on local communities. They were tasked with turning these interviews into multimedia packages that included video interviews, photographs, and written stories.

Another key initiative was the *Community Engagement Project*, where students collaborated with local environmental organizations to create content aimed at raising public awareness about climate change. As part of this project, students developed awareness campaigns, including social media initiatives and informational pamphlets, and organized community events such as clean-up drives and tree planting activities. For example, students launched a climate awareness event in a local neighborhood to highlight the importance of sustainable practices. These activities not only strengthened their journalistic skills but also fostered community involvement, allowing students to connect theory with practice and see the immediate impact of their efforts.

The collaborative activities achieved several key learning outcomes. Students demonstrated improved research skills, particularly in gathering data from interviews and external sources. Furthermore, their ability to work collaboratively was enhanced through team-based projects, which required them to integrate different perspectives and skill sets. By the end of the course, students not only acquired technical writing and reporting skills but also developed a deeper sense of responsibility for communicating climate issues to the public.

Another collaborative activity involved *Climate Journalism Workshops*. These workshops brought together students from diverse backgrounds to work on group projects focused on various climate-related topics, such as renewable energy, climate policy, and local environmental issues. They also participated in peer review sessions, enhancing their collaborative skills and learning from diverse perspectives. The workshops included guest lectures from experienced climate journalists, who offered guidance on effective storytelling techniques.

## The Climate Advocacy Initiative

Additionally, the *Climate Advocacy Initiative* was another significant project. In this initiative, students collaborated with advocacy groups to develop and promote policy recommendations aimed at mitigating climate change. They conducted research on current policies, identified gaps, and proposed actionable solutions. Students presented their findings and recommendations to local government officials and community leaders, aiming to influence policy changes. This project not only honed their research and advocacy skills but also empowered them to take an active role in the fight against climate change.

solutions. Students presented their findings and recommendations to local government officials and community leaders, aiming to influence policy changes. This project not only honed their research and advocacy skills but also empowered them to take an active role in the fight against climate change.

Through these collaborative activities, students were encouraged to think critically about climate-related topics, engage with their communities, and use their writing skills to drive positive change. These projects demonstrated the power of collaboration in addressing complex issues like climate change and underscored the importance of raising public awareness through effective communication.

Based on this, a risk and crisis communication course was strategically developed to respond to the special problems arising from the climate crisis. While this course focused on how different organizations and brands deal with crises and communicate in such situations, we have now envisioned an innovative approach to include climate-related elements.

The purpose of this course was to immerse students in projects and assignments where they would work with public relations in government agencies. The aim was to make students actively participate in planning communication strategies for environmental and climate-related risks and crises such as floods, heat waves and SMOG in Pakistan. The coursework covered the concepts of emergency preparedness, strategic planning, risk assessment and mitigation, damage control and post-crisis reputation management. These principles were then applied to the development of comprehensive communication plans for government organizations.

A highlight of the course was to divide the students into groups, each playing the role of a public relations team in different wings of government. They were tasked with creating customized media and communication plans for various target groups, including the media, NGOs, international media, the general public, crisis communications and post-crisis communications. This extended to climate and environmental risk management budgeting. This trip invaluable as the students delved into research, analyzed case studies of real environmental risks and crises, and analyzed the government's response. They received an overview of the level of government preparedness, the effectiveness of communication strategies, and identified areas for development. The experience provided a nuanced understanding of how to raise public awareness through media and journalism.

The enthusiasm and depth of the learning displayed by the students during this process was extremely rewarding to me. It became a shared learning experience where both the students and I gained valuable insights into the practical application of communication strategies in the context of environmental and climate challenges.

## Conclusion

Building on the success of courses such as *English Writing for Climate Journalists* and *Risk and Crisis Communication*, these programs are designed not only to address the most important gaps in journalism and communication education but also to play a critical role in empowering the next generation of journalists to raise awareness, inspire action, and drive meaningful participation in sustainability efforts. As climate change continues to escalate into an overarching crisis, courses like this emphasize the transformative power of words and effective communication in addressing the climate emergency.

These courses are just a few examples of initiatives to incorporate climate change communication into various aspects of media and journalism education. Many courses in Media and Communication departments have the potential to integrate climate change topics, either as a central focus of the course or as a specific assignment or component. The overall goal is to sensitize young people to the urgency of climate issues and to raise a generation of media professionals who understand the profound impact of their work on shaping public opinion and promoting positive action. By weaving climate change information into the fabric of our curriculum, we can equip students with the knowledge and skills necessary to effectively participate in and contribute to the ongoing global dialogue on climate change.

Through the integration of climate communication into journalism education, my approach seeks to bridge the knowledge gap between media professionals and climate literacy. The students' ability to generate impactful climate stories, work collaboratively with communities, and explore new digital storytelling techniques reflects the broader goal of equipping future journalists with the skills necessary to engage audiences in climate action. Moreover, these courses and projects helped students connect their local environmental challenges—such as water scarcity, heatwaves, and pollution—with the broader global climate crisis. By examining how local climate impacts relate to larger global trends, students developed a deeper understanding of the interconnectedness of their communities with the global effort to combat climate change. This approach sensitized them to the role local stories play in shaping the global dis-

course on climate action.

This essay has examined the development and implementation of a climate journalism and communication framework in Pakistan, focusing particularly on course experiments that integrate traditional journalism education with climate literacy. These courses have shown great potential, equipping students with the skills necessary to report on complex environmental issues. However, challenges such as limited resources and the difficulty of translating scientific concepts into accessible narratives have surfaced. These challenges serve as opportunities to refine the curriculum and further embed climate-related topics into journalism education, ensuring that future journalists are better prepared to tackle the evolving climate crisis.

By incorporating climate journalism into journalism and communication education, we are fostering a generation of media professionals who can shape public discourse and inspire action. Through continued efforts to enhance journalism curricula with climate literacy, Pakistan can strengthen its ability to address the multifaceted challenges posed by climate change. This approach not only lays the foundation for a more informed public but also encourages a proactive response to the global climate emergency.

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# A spark of interest and empowerment: An assessment of climate change journalism training initiatives by local media support organisations

By Ivan Nathanael Lukand and Gerald Walulya, Makerere University

## Abstract

The study sought to establish the relevance of training initiatives by a Ugandan media support organisation, African Centre for Media Excellence (ACME), toward improving climate change and environmental reporting in Uganda. Based on the hierarchy of influence perspective and interviews with trainers and trainee journalists, we studied training modules, and how journalists have used the knowledge acquired from training and experience to improve their work. Findings suggest that such trainings are relevant to both the organizers, the participating journalists and content creators. The trainings spark interest in the subject, hone skills, result in networking, enable access to funding opportunities, empower participants to start their platforms, and to engage communities beyond journalism.

However, there are obstacles, especially the disinterest in environmental issues resulting from editors' limited knowledge, potential for selecting uninterested journalists, and dependence on grants for coverage and training. Consequently, the question of sustainability endures. We recommend that to ensure sustainability, journalism training institutions could mainstream some of the content of such courses in their curriculum to equip journalists and content creators of tomorrow with the necessary skills. Future trainings should include both young and senior journalists and editors to allow not only mentorship, but also to increase the chances of environmental stories being accepted for publication. The trainings could also be organized at regional/local rather than national level to allow more journalists to participate.

**Keywords:** Climate change, environment, journalism education, sustainability, ACME

## Introduction

The continuous variations in climate marked by global sea level rises, melting of arctic and land-based ice, warmer summers, intensified natural forest fires, prolonged droughts, cli-

## **mate-related migrations, threats to entire island countries and communities living near water bodies, and other uncertainties provide evidence of a warming sphere (World Bank, 2023).**

The phenomenon has accelerated species extinction, floods, and heat waves (Intergovernmental Panel on Climate Change, 2022), that have been linked to physical and mental health problems, and damage to environmental hygiene with the consequence of increased mobility and mortality in several countries (Atwoli et al, 2021).

The environmental and social effects in Africa have resulted in floods, heat waves, destruction of infrastructure, reduced productivity and low food productivity (Trios et al, 2022). In 2018, catastrophic cyclone Idai left many dead, and destroyed homes, schools, and gardens in Malawi, Mozambique and Zimbabwe (UNICEF, 2018). The increased decline in water levels, landslides, and pollution linked to climate change have had an impact on food security, income, livelihood, nutrition, and health status in Uganda (IRISHAID, 2016), and mobility especially for pastoral communities in the country (Haug, 2014; Nkuba et al, 2019; Twinomuhangi, Sseviiri, & Kato, 2023).

In the meantime, journalists, who represent the most important avenue for sharing information about climate change remain a critical component of the debate now, and in the future. Mass media have the potential to mainstream climate change awareness and create public awareness about the issue (Nassanga, 2020; Semujju, 2013; Wahyuni, 2017). Moreover, media framing of climate change influences public perception of the problems, solutions, levels of responsibility and the actions the public takes (Lukanda, 2019), since media also shape the “social norms and values” that may be necessary in environmental protection (Eide & Bamezai, 2020:8). The significance of the environmental issues tends to make media coverage heavy on politics, economics, regional and international security issues in countries such as Pakistan (Jamil & Bhujju, 2023).

The accelerated development in new media technologies has meant that journalism education concentrates on preparing students for the new media landscape rather than for covering the diversities such as gender, environment, and climate change (Geertsema-Sligh, 2014). Also, there has been an emphasis on promoting democracy rather than covering issues such as the environment that affect people in democracies (Tulloch, 2007). Yet, for their indispensable nature, environmental issues tend to draw in gender perspectives that would best be covered if there was a cadre of women in the newsrooms trained in covering such issues, especially how they shape public understanding, and encourage fellow women to take up leadership positions to influence the protection of biodiversity and sustainable development without bias (Vallado, 2024).

Studies on journalism education in Uganda have tended to focus on Kampala (Orgeret & Tayeebwa, 2019; Namasinga, 2011; Nakiwala & Selnes, 2020). Moreover, these studies have concentrated on universities. The current study involved journalists from all over the country. In addition to providing a nation-wide picture, the sample also reflects participants from the different types of media in Uganda – newspapers, radio, television, and online.

Existing studies have tended to focus on formal journalism education in academic institutions. For example, Namasinga (2011) assessed journalism training at undergraduate level, while Nakiwala and Selnes (2020) focused on the gender imbalance in the enrolment of undergraduate journalism students in Uganda. Semujju’s (2013) study discusses journalism ethics in the coverage of climate change, while Nassanga (2020) looks at localizing climate change goals. There is a deficit of studies focusing on journalism training initiatives by local media development organizations. Yet, such trainings have become increasingly common in Uganda.

This study investigates the relevance, opportunities, challenges and issues covered in environmental journalism training initiatives by a Ugandan media support organization, African Centre for Media Excellence (ACME), toward improving climate change and environmental reporting in Uganda. The training was sponsored by the European Union.

## **Theory**

This study was informed by Shoemaker and Reese’s (1996) hierarchy of influence perspective. This theory assumes that multiple-level factors shape media content and the journalistic message system. These factors operate from the micro to the macro, and include individual characteristics of identified newspeople, their routines of work, organizational concerns, institutional issues, and the broader social system. The social system embraces the international and global approaches to journalism training and practice (Reese, 2007; Reese, 2019). The trainings include how advancements in technology have compli-

cated the media ecosystem and caused “new realignments of media and other forces” (Reese, 2018:96). Re-alignment has meant the sprouting of networks and fields such as political reporting, entertainment reporting, health reporting, science and environmental journalism.

The hierarchy of influence perspective has been found to operate when dealing with fake news about the environment (Kwanda & Lin, 2020), a phenomenon common in functioning newsrooms in the digital age. The emergence of new fields and networks, therefore, requires constant training to enable journalists to stay abreast with contemporary issues in the (new) fields and how to use modern investigative, fact-checking, and/or solution-based tools to cover the issues in a way relevant to the audiences as stakeholders. Journalists are key stakeholders in environment and climate change issues at community, national and global levels (Perreault, 2021). Since local journalists are often members of the affected communities and are naturally able to stay to witness the communities' struggles with recovery and report on the developing stories, it becomes vital to train journalists at both the local and national levels.

## Climate change journalism education

For its effects, climate change education is necessary to enable individuals, communities, countries and continents cope with the effects of the phenomenon. A UNESCO (2023) report highlights the importance of climate change education as an avenue for empowering, providing knowledge, skilling, and enabling people to develop the right attitude to deal with climate crises in different forms in a more sustainable way. Such attitudes enable individuals and groups to take informed decisions and take action against climate change. While the world witnesses examples of climate change on a daily basis, the phenomenon needs to be taught to individuals who form the work force to take action and to young people who face climate change effects in the future. Tytler and Freebody (2023) argue that the climate change curriculum should address three aspects – the education of teachers, the school curriculum, and the mental effects of learning about climate change.

Trainings provide the necessary knowledge people need to transition towards a more sustainable state, emotional responses, and engaging audiences (Höhle, 2020:1). It also provides explanations on the effects of climate change and why disasters are happening more frequently and violently for context (Maslog, 2017). Further, the curriculum should also provide for how to use data in communicating the science of climate change and how to deal with objectivity in climate change communication (Appelgren & Jönsson, 2021).

While more than 50 percent of Ugandan journalists are educated up to degree level (ACME, 2021, newsroom leaders are still concerned about the quality of graduates across the different institutions. Like what Jamil and Bhuj (2022) have noted in the case of Pakistan, the link between practice and theory in Ugandan journalism is a major topic of discussion, raising questions over the extent to which journalism training institutions can educate industry skills. Therefore, the continuing evolution of the media sector in response to issues in society demands highly specialized journalists who are rarely produced by the university system of education. Such concerns have necessitated the training programmes offered by media support organisations such as ACME.

## Challenges in conducting climate change trainings

Wahyuni (2017) identifies the macro, meso and micro challenges to climate journalism education. At the macro level, journalism is a business that often follows the populist approach to issues by way of covering what sells. For that reason, climate change may not easily upstage other issues such as elections, sports, and crime that the population is most interested in, unless the climate change phenomenon is related to popular genre of news. At the meso level, journalism education struggles to fit climate change in the curricular. At micro level, there is a shortage of climate change journalism lecturers (Wahyuni 2017), as many instructors pay attention to mainly journalism practice (i.e. reporting skills etc.) rather than education on issues that are considered not commercially viable. Further questions are how to deal with objectivity in climate change communication (Appelgren & Jönsson, 2021), how to theorize and apply ethics in linking the academy, journalistic profession and the public in dealing with climate change (Vukić 2019). An earlier study by Olausson and Berglez (2018) identified four challenges with climate change journalism education that are a) discursive, b) interdisciplinary, c) international and d) the practical challenges. The discursive challenge encompasses content production, content presentation and reception. The interdisciplinary challenge involves how media research and education might engage in productive collaboration with other disciplines. The international challenge is aligned to strategies for reaching a more nuanced and varied global understanding of news reporting. The practical challenge relates to ways that enable the lessening of the gap between media research theory and practice. Other challenges include, the



growing misinformation resulting from use of social media, the political, cultural, and psychological elements that influence how people and groups interact with climate-related issues and the growing trend of consumer avoidance of news and the public dislike for bad news (Nettlefold & Pecl, 2022).

## Potential for integration

Educational content should take care of the cognitive and emotional aspects with emphasis on the solutions, the future and the community (Höhle & Bengtsson, 2023). It is also important to understand how researchers, conferences and traditional and social media can be incorporated into climate change education (Elia, 2019). Expanding audiences, delivering pertinent local news, and offering reliable, pertinent sources of knowledge on complicated subjects are some of the advantages that come with audience-led local journalism (Nettlefold & Pecl, 2022). In that sense, solution-oriented journalism that allows credible stories about what is happening in society to be published without creating anxiety among the audience (Their & Lin, 2022; Rice 2021; Painter, 2019), becomes a viable component for integration into the curriculum to contextualise the hierarchy of influence. Such contextualization allows the integration of Secko et al's (2023) emphasis on lay expertise, i.e. people who experience climate changes to their livelihood to share knowledge about adaptation, in other words providing knowledge about issues that concern their localities.

## Methodology

We used document analysis of the journalists training course module, course schedule and evaluation forms. Furthermore, we were granted access to the list of participants. Reviewing the documents enabled us to understand the goal and objectives of the course, and the content that was covered in the different segments, the facilitators, and the participants. The programme schedule had the names of the facilitators, and the registration list had the details of the participants that included their names, media outlets, role in the media house, gender, and contacts. The documents were provided by one of the trainers, who was later interviewed for this article. Another key data collection method that we used was interviews. In total, 15 journalists attended the physical training. Eight of them were female. The organisers aimed at assessing women's interest in the environment and climate change issues. We interviewed two trainers and 10 out of 15 participants who took part in the course code-named "Enhanced Media Capacity for Inclusive Development" reporting on the environment. The training was divided in two phases. The first phase took place from 13-17 December 2021. The second phase was virtual and took place in April 2022. The phasing of the course aimed at avoiding keeping journalists away from their newsrooms for too long which could deprive their media houses of the much-needed labour.

We were able to interview some of the participants face-to-face, others by phone and others on WhatsApp. The key facilitator responded to questions sent to her by email. The multiple methods were necessary because the participants were scattered across the country and indicated being busy to honour physical appointments. The voice contacts took 20 to 30 minutes. We used a semi-structured interview guide.

According to the coordinator, the training targeted both full-time and freelance journalists and independent content producers with at least one year of practice and a demonstrated interest in environment reporting. They included two television journalists, four newspaper journalists, six radio journalists (one was an editor), and three online content producers. Five of the participants were working for upcountry radio stations. The dominance of radio journalists could be linked to the fact that radio is the commonest type of media in Uganda with more than 300 radio stations in the country. Radio journalists are also more likely to be less trained because most stations are located outside the capital, and therefore hardly attract formally trained journalists. For this upcountry establishment, radio tends to give more attention to climate change issues because of its close link to the rural farming communities they serve. The training participants were identified after a call for applications was shared through the organisation's website and social media pages. Frequently, such calls are picked up and shared by journalists' associations, media houses, other media development organizations, and individual journalists to increase information access.

The data from interviews were transcribed and analysed thematically to generate the themes that were present in the findings. The training coordinator provided documents that were reviewed by the authors. Data from documents was analysed to identify issues covered by the training curriculum. Our assessment of relevance is dependent on the participants' responses with regard to how beneficial the training was to their journalistic work.

For purposes of trustworthiness, the training coordinator admitted and introduced one of the authors to

the training WhatsApp group and requested participants to cooperate with the researcher if contacted. Participants were individually contacted and asked if they were interested in taking part in the study. We promised that they will remain anonymous as their views would not be attributed to them in the report. The data is presented as text in the findings.

Based on interviews, and an analysis of training modules the study interrogated the key issues highlighted in trainings of this nature and how journalists have used the knowledge, and opportunities acquired from training and experience to improve their work. The focus on ACME is important because recent studies demonstrate that a combination of expertise and experience tends to be “effective in designing, creating and curating a set of resources and activities which are inspiring and informing students, citizens, and media practitioners” in raising awareness, networking, and generating opportunities for developing an area such as climate change coverage (Ross, 2020:22).

## Findings

The findings are organised according to themes. The themes generated were sponsorship, selection of participants, issues covered in the training, application of the knowledge from training, relevance of the training, challenges in conducting the training, impact of the training, potential for integration, and organisation of future trainings.

### Sponsorship

The European Union sponsored the African Centre for Media Excellence (ACME) to train journalists on a topic that is trending globally. In this case, ACME was training journalists from the perspective that the journalists had a deficit in understanding the new perspectives, yet their local knowledge of the places they operate in made them lay experts thereby finding multiple identities in the hierarchy of influence. The choice of journalists from media houses enables them to gain knowledge and skills as individuals. However, the journalists’ competence contributes to improved quality of content reported by their media houses and the institution/industry of journalism as a whole. The improved portrayal of environment and climate change issues in communities contributes to knowledge about the subject at national level. By local journalists reporting for global organisations, and contributing to online content, environmental and climate issues in Uganda can be shared with the rest of the world. The sponsorship by international organisations such as the EU contributes to up-down sponsorships and knowledge sharing, but in the long run leads to down-up contribution to climate change content as journalists report from their local and national settings.

### Selection of participants

Applicants were selected based on their strength, expressed in a Google form. Applicants had to provide three samples of their news reporting related to the subject, a preliminary story idea to work on after the training, an explanation of what the journalist would do after the training, and a letter of support from an editor. In the case of freelancers, a letter of support from at least one media house they are attached to would suffice. However, one female journalist novice was admitted to the programme to encourage young people to focus on the beat. When asked about her motivation for applying for the course, she revealed that she was “looking for a way of getting into the journalism environment” after graduating from university. So, courses offered by these organisations, may also act as apprenticeship platforms for university graduates.

A female journalist from northern Uganda recalled proposing to write a story on how the sheer nut butter tree had become endangered because it is considered to be the best source of charcoal and firewood. Her motivation was that “people here (northern Uganda) believe that you can only cook with firewood. I wanted to know other options.” The journalist thought that by publishing stories about other alternatives, she could contribute toward protecting a culturally valuable tree in the region. Her argument was echoed by a male participant operating in the same region who reasoned in his motivation that because of large-scale tree cutting for charcoal production “small scale farmers have been crying foul of unpredictable rainfall patterns, and temperatures that have highly been affecting their crops, and their lives since agriculture, their main source of living was being affected.” This shows that finding solutions to local issues that affect communities where journalists are based can be a major motivation to report on the environment. A female participant from a newspaper indicated that she wanted to learn how to write stories that have a global impact. She reasoned that “I saw writing about the environment as something that is long

term. It is like you are writing for everyone because it affects everyone. In the long term, the environment affects everyone. Every policy decision made affects everyone as it feeds into the bigger climate change agenda.”

We note that journalists tended to propose stories about environmental issues where they were likely to be affected themselves. For instance, journalists from West Nile proposed doing stories about Zoka forest, where the journalists would be victims of the intense heat and storms. Journalists from Acholi sub-region proposed stories on protecting wetlands, a major environmental concern in the area.

Whereas most trainings target journalists who have prior experience in reporting about that particular beat/issue, trainings can sometimes be an entry point and a source of inspiration for journalists to start reporting about the environment. One journalist explains that:

“I have reported about almost all beats except environment. I wanted to intertwine agriculture, environment and climate change so that I can write a full story,” Male journalist from Kampala.

Other reasons given by the participants included the need to learn how to write environmental stories in a simpler way, learning long formats of writing stories, and solution journalism that depicts efforts by different people to minimise the effects of shared challenges such as environment and climate change. Eagerness to learn how other people cover the environment with intent to improve personal journalistic skills also drove some journalists to apply for the training.

According to the curriculum, the goal of the training was to “bring underreported environmental issues to the forefront of public discourse on development through quality, evidence-based media coverage.” Other objectives of the training were to improve the quality of environmental reporting in the media in Uganda; to develop positive attitudes toward sustainable management of (natural) resources through the media; to create a cadre of beat experts in (natural) environmental journalism; and to promote public conversation on the environment through consistent, quality journalistic content production.

The training was conducted by three seasoned trainers, a lecturer from the Department of Environment at Makerere University, an official from the National Environment Management Authority, and an officer from ACME.

## Issues covered in the training

The content covered included multilateral environmental and climate treaties and international environmental governance, poverty and environment, environment and health concerns, gender and the environment, environmental financing options, environmental justice, urbanisation and the environment, key environmental issues with a focus on water and fisheries, and the state of Uganda environment. Also covered was a review of COP26, with a focus on emerging issues, reporting experience, and reporting opportunities. The training content included the ‘New’ reporting tools, databases, sources to cover the environment effectively, and mobile/multimedia reporting tools. The training emphasised the need to achieve Sustainable Development Goals 13 (climate change), 14 (protecting life underwater), and 15 (protecting life on land).

The methods of delivery included facilitator mini-lectures, plenary discussions, self-study, individual assignments, and group work. Participants were given a chance to present their post-course story pitches and to evaluate the training on the final day of attendance. The sessions lasted 30 minutes to two hours. During the off-days when there were no sessions, participants were given reading assignments to explore the application of the materials shared by facilitators in their local contexts.

## Application of knowledge from training

The participants reported that they found the knowledge from the training useful. The facilitators were reported to have been lively and to have used good practical examples. There was good participation and engagement that enabled them to learn from each other. Participants seemed to like the “iceberg technique” that emphasised unearthing the underlying reasons behind environmental stories, and how those reasons inform the approach and choice of sources for the story.

All the participants reported gaining knowledge and learning a skill from the training. They were able to learn how to draft environmental stories, write compelling grant proposals, create mind map story ideas, contextualising issues, finding expert source contacts, and opportunities in relation to environmental journalism. As a direct result of the networks attained during the training, two of the participants were able to attend the 27<sup>th</sup> Conference of Parties (COP27) in Sharm-el-Sheik, Egypt in 2022. One participant attended COP28 in the United Arab Emirates. A female journalist from Kampala used the training as a stepping stone to go to Denmark for another training about the climate crisis that culminated in her being one of

the participants attending COP27. She has since been granted a fellowship by the Earth Journalism Network. She noted that “the more you report about the environment the more you learn about different aspects of reporting.” She added that it meant both understanding the money sent into the country and how the money is used in climate change mitigation and adaptation. Another participant was admitted at an American Ivy League university in 2024 to pursue another short course in the same field using the Ugandan training as evidence of interest in environmental journalism.

In other words, the training opened opportunities for career building and networking among the trainees within Uganda and abroad. Some trainees have been able to attend similar trainings in Kenya, Tanzania, Denmark, and South Africa. The university graduate who used the training as an entry point into journalism noted that the training opened a way for her and she has “never looked back.” She was able to secure grants from Aga Khan University and the Environmental Reporting Collective.

*“I did not know that there was COP27. I did not know that I could attend [that conference]. It (the training) widened my knowledge about the environment. After the training I wrote a feature story about biogas. This side, there are few people who use biogas. Many people consulted me [after that story]. Many people are now using biogas. Some are using a stove that uses solar and paraffin” (Female journalist from northern Uganda).*

From the above excerpt it is clear that this journalist gained skills from the training that enabled her to write stories aimed at mitigating community environmental challenges, in other words her approach was solution-oriented. Another journalist found the benefit of the training in correcting misconceptions about environmental issues as he further explains.

*“I was able to debunk the issue that refugees are a major cause of climate change in Uganda. There is general population growth that is putting pressure on the environment, not just refugees” (Male journalist from Kampala).*

A male journalist from northern Uganda testified about using the knowledge he gained to pitch and write stories for elite publications such as the *Christian Science Monitor* in the USA and other international publications in Spain, and China. He has used the knowledge to report about climate change events and issues in light of science, politics and policies.

A female journalist from Kampala reported using the knowledge to open her own blog (Africa Journalists Green Island) and a podcast (Dina’ planet). Such platforms allow journalists to express their views about the environment beyond the newsroom. The platforms also increase the spread of environmental information.

Participants found the training to be practically relevant to their journalistic work. Participants particularly were satisfied with the expertise of the trainers, and liked the interactive training methods, and the ability of the trainers to simplify complex environmental issues. The hands-on-exercises, and case studies boosted the participants’ practical skills in reporting. As indicated, in the previous sections, participants were able to improve their journalistic knowledge and skills.

A major strength of the course is that only motivated journalists or content producers participated in the training. This means that the trainers are more or less sure that participants will practice what they learn in the course. In addition to experience and interest, the selection criteria considered regional, gender, rural and urban differences in access to the training. As noted by the trainer:

*“...the [weighting] system provides extra points for applicants from historically marginalized groups and rural regions. This is to encourage future participation from these groups and increase the number of women, rural journalists and people with disabilities accessing mid-career professional training opportunities” (Trainer 1).*

Although the Enhanced Media Capacity For Inclusive Development is the only course about environment and climate change ACME has delivered, ACME has a collection of courses that provide cross-cutting issues about the environment. These courses include coverage of land and natural resources, oil, gas and mining, and energy.

Another strength is that the courses were delivered in partnership with other public and private organisations such as National Environment Management Authority (NEMA). ACME also co-facilitates the courses with professionals in the respective sciences from Makerere University, NEMA and the marine units as well as practicing journalists. By other organisations agreeing to partner with ACME, they were acknowledging the role of the media in highlighting issues of protecting the environment.

## Challenges in conducting the training

There were challenges in the implementation of the environmental course. At trainer level, the “expansive nature of environmental reporting” makes it hard to balance “depth and breadth” of the training. New perspectives on environment and climate change keep emerging, and trainers need to keep abreast with these. Moreover, the trainees also demanded that issues that affect the local communities in which they report be covered.

Trainers also emphasised the challenge of adapting content to community interests since every sub-region is unique. Every community has distinct environmental issues, cultural backgrounds, and journalism practices. Some regions of Uganda are semi-arid. Some are mountainous, plains, and others neighbour water bodies.

The breadth of issues to cover and the differences in community interests make it hard to adequately cover the subject matter while honing the essential journalism skills in the prescribed time. The lead trainer noted that “balancing the coverage of environmental content with skill-building activities became a juggling act,” considering the differences in level of experience of the participants as well.

At organisational level, it was hard for ACME to continue mentorship programmes after the first training due to lack of resources. The mentorship was supposed to enable trainers to support the participants in implementing the integration of the knowledge they had attained during the training in their journalism work. Creating resource centres, encouraging peer-to-peer networks, and encouraging ongoing learning and collaboration are all common components of the organisation’s mentorship programme.

The other challenge was identifying training leaders who are knowledgeable in both environmental science and journalism training methodologies. To ensure quality training, the lead trainer noted that ACME expanded its network to include “individuals with dual expertise” in understanding the subject of environment and journalism practices.

Further, the fast-changing fields of environment and journalism mean that ACME as a training organisation has to keep abreast with such issues, in addition to several requests for training in political, economic, health and other beats of reporting. Considering the changing issues and interests of participants and their news organisations, staying well-informed becomes a big challenge in an environmentally diverse country such as Uganda.

The lead trainer noted that, some participants found the course too theoretical in their evaluation feedback considering that most of the time was dedicated to understanding the environment rather than refining the practical journalism skills. Also, they complained about the lack of time to get personalised mentorship to get feedback about their work.

At a practising level, there are structural challenges. A female journalist from Kampala noted that for many newspapers, environmental stories should not be longer than one page. For television, the story should not be longer than six minutes. That structure limits the form of reporting recommended for environment stories.

Probably due to reasons related to the political economy of the media, many editors were reported to be less interested in climate change stories. The stories are considered “boring” to the audience and expensive because they often take too long (and too much resources) to cover. Sometimes, confirming that water is contaminated, a journalist may need to take samples to an analytical laboratory and pay for the service. As a result, one journalist noted that “no one is willing to commit” unless a journalist gets a grant to cover the story. A male journalist from Kampala noted that editors sometimes tell them, “I will run the story but I do not believe it.” This statement demonstrates that other than the shortage of money, editorial attitudes sometimes represent an obstacle to running such stories.

Many of the journalists who attended the trainings are senior. They had spent at least seven years in the newsroom. In Uganda, typical journalists are between the age of 25 and 35 (ACME 2021). That means that newsrooms often lose the knowledge of such experienced people when they leave. One of the participants interviewed for this paper had already left the newsroom, but expressed his ability to use the environmental reporting knowledge gained from the training in a telecommunications company.

Journalists from upcountry areas stated that it was difficult to travel from their work stations to Kampala for training. Apart from their bosses being reluctant to release them to attend the training, they lose a lot of time in travel due to the underdeveloped transport system.

Participants noted that it was hard to get sources, such as office bearers to give comments before the stories were published. Often office bearers were too busy or did not want to commit themselves about environment and climate change issues, probably because of the nature of the big actors involved in the conflicts in these stories.

Moreover, the twin subject of environment and climate change looks complicated because it is not common to many people. There are historical perspectives, international treaties, carbon footprint issues and

green financing schemes that are hard for many journalists to make sense of.

Besides, some stories require journalists to travel out of town. A participant from Kampala stated that journalists normally cover many of these stories using grants. In the absence of those grants, “you end up using your money to execute the story idea.”

## Impact of the training

The lead trainer noted that eight of the participants successfully completed their impactful environmental stories after the training. The stories covered a wide range of subjects, from worldwide challenges to regional environmental difficulties, demonstrating the relevance of the knowledge and skills in the work of the journalists. The low completion rate is due to resource constraints.

Participants indicated that they had learned a lot during the training. The knowledge gained ranged from learning about international treaties, the possibility of attending conferences, the position of refugees in the climate change debate, understanding water patterns and fisheries, to investigative skills for environmental stories.

A WhatsApp group was formed as a direct outcome of the training to ease networking. On that WhatsApp platform, alumni of the programme collaborate, share ideas, resources and opportunities and links to impactful stories they have done. The network has allowed participants to stay in touch beyond the training.

The training opened opportunities for ACME to collaborate with government and non-government agencies. The collaborations have opened avenues for joint initiatives, research projects and shared resources.

ACME was able to test the environmental journalism curriculum. The implementation and resulting evaluation of the curriculum have enabled the organisation to sharpen the relevance for subsequent cohorts. As a result of this training, several journalists who attended the training have published impactful stories. For example, the story on the adoption of biogas we referred to earlier. Another journalist shared a story “West Nile reclaims 300 acres of land in tree planting drive” published in the *New Vision* newspaper. Other stories include: \$400m climate cash mired in donor politics, short-termism (*Daily Monitor*); Putting gender at the frontline of climate resilience (*Daily Monitor*); Uganda chiefs fight to save 'sacred' shea trees felled for fuel (*Reuters*); As Uganda's shea trees battle freak weather, grafting to revive their numbers becomes a lifeline (*Numecc*); and “Why do they punish us?” Uganda charcoal ban ignites transition debate (*African Arguments*).

## Potential for integration

To overcome the challenges and ensure integration of environment and climate change issues into journalism practice, the lead trainer suggested that it will be essential to adapt content to the diverse regions as a way of customising. Accordingly, it will be crucial to provide case studies that are country- and region-specific and that are in line with the particular environmental issues, cultural contexts, and journalistic practices of Uganda, Kenya, and Tanzania for increased relevance. That may be achieved by involving local facilitators and/or mentors to provide the necessary connection between the content, and participants lived realities.

Further, it was noted that using technology especially in delivering virtual field trips of shared projects can reduce the geographical distances, and facilitate shared learning among the participants.

For convenience in journalism skills development, a blend of online resources, webinars and self-paced modules can be integrated to enable participants to continue learning after the scheduled sessions. Such an approach, the lead trainer noted, can enable facilitators and participants to use the contact sessions for “critical discussions and hands-on exercises, maximising the impact of the training”.

For sustainable environmental reporting training to happen in countries with limited resources, like Uganda, the lead trainer suggested the use of online learning platforms to provide accessible and cost-effective resources through webinars, video tutorials and other interactive modules for self-paced learning. However, while online learning allows journalists with busy schedules to attend and minimise the need for travel, the fluctuating internet may make it hard for upcountry journalists to attend such sessions regularly.

Partnerships in form of sharing resources, training materials, expertise, joint grant proposals, and networking of different professions inclined to environment and climate change journalism, is necessary. Such collaboration allows synergies between and among professionals for the benefit of the dynamic interdisciplinary area of environmental journalism.

Training of trainers' programmes are essential since training organisations normally have limited spaces. Training of trainers can enable journalists to mentor their peers in skill-building sessions that can happen in form of on-job training within their respective newsrooms.

### **Organisation of future trainings**

Participants indicated that future trainings should be organised at regional or district to enable more journalists and content producers to participate, which would help those who cannot travel to places such as Kampala.

More time should be allocated to the training. ACME should also increase the number of participants, since many journalists are interested in learning how to cover climate/environment. We are aware that for this proposal to be achieved ACME would need extra funding to cater for an increased number of trainees.

Another potential way of integrating the content and skills learned is journalists sharing knowledge with those who missed the training. This form of mentorship enables journalists who did not get an opportunity to attend the training or are too busy to travel for the training to learn about environmental and climate change issues.

Environmental issues should be mainstreamed in the news. Journalists argued that all beats including education, health, and sports should include elements of environment and climate change. This puts a huge responsibility on institutions of higher learning to incorporate environmental content in their journalism programmes.

Special sessions should be organised for editors to allow them to understand more on environmental and climate change issues. It was noted that some editors are climate change deniers. Such trainings could enable editors to understand environmental and climate change issues, and perhaps change their attitude toward such content for improved coverage.

Journalists should adopt the ESG (Environmental, Social and Governance) approach. The ESG approach can enable journalists to approach all stories with an environmental lens. Future trainings should be tailored to attract the young journalists since they represent the future of the profession.

## **Discussion**

The results from the study suggest that several journalists and newsrooms are interested in environment and climate change issues. There are also organisations such as the European Union interested in sponsoring such training initiatives. Yet, several challenges exist in creating an educational environment and climate change-friendly platforms. In this discussion, we show that the hierarchy of influence is at play as the trainings have an impact on the individual, their media organisation, the media industry, the country, region and international community as technology allows the sharing of local content in a global sphere.

Our findings indicate that most journalists in Uganda are not specialised, (ACME 2021), but rather generalists. This is partly due to newsrooms being very small, often operating with less than half of the required number of employees. Thus, it is difficult to optimise the skills gained from the training as journalists have to wait for long to put their knowledge into use. Considering that newsrooms rarely have the money to invest in environmental stories, opportunities for coverage remain event-driven; i.e. mainly when landslides, droughts and floods take place. However, for detailed investigations to be conducted, journalists need to 'collide' with a grant. Although the use of grants confirms the blurring of objectivity pointed out by Appelgren and Jönsson (2021), it appears that in the case of Uganda, without such grants, many environmental stories, such as those about the lion massacres in Queen Elizabeth National Park, and the dying lakes of Uganda may never have seen the light of the day considering the remoteness of places where events/issues happened. Trainings such as the one conducted by ACME might never have been conducted. Some journalists might never produce an environmental story after the training except if they are dedicated. While it is acknowledged that environmental stories affect people at various levels from individuals to countries and continents (Shoemaker & Reese, 1996; Reese, 2019; Wahyuni, 2017); the question of sustainability of both training and coverage in Uganda remains.

Moreover, there are still structural factors that hinder journalists from practicing environmental journalism. The disinterest from some editors is a particular concern. A recent study shows that people who are disinterested in the environment are "less likely to engage in pro-environmental behaviour" (Höhle, 2020:1). The presence of such editors limits the support journalists get from their newsrooms, and consequently denies citizens and other interested parties' access to environmental and climate change information.

The curriculum was rated adequate by both trainers and trainees. However, it falls short of providing for the mental effects of learning about climate change proposed by Tytler and Freebody (2023). Such a shortfall is excusable considering that facilities for supporting journalists suffering mental effects resulting from their profession are almost non-existent in Uganda. Perhaps mental effects on individual journalists, news organisation and citizens of the country will be a topic for the future.

Considering the effects of climate change and the necessity to engage the public by using journalism and related platforms (Appelgren & Jönsson, 2021; IPCC, 2022), it will be necessary for journalism schools to mainstream environmental issues in their curricula as a way of improving the presence of environmentally aware journalists in newsroom, and institutionalizing such content for sustainability. While such a move does not entirely solve the challenges of environmental and climate change journalism, it provides a starting point upon which specialised training can be built to keep the journalists abreast with the trends on the subject and in honing their professional skills. A healthy engagement between the journalists and other stakeholders including scientists and the public on vital environmental topics will be necessary for such trainings to be impactful (Lukanda, 2019). The positive aspect of the training offered by ACME is that it was gender inclusive with women slightly exceeding men. That means that as the movement toward improving women presence in newsrooms, the beat of environment and climate change will not lag behind. As noted, women participation in generating news reduces the chances of reinforcing gender stereotypes and encourages women to take a lead in protecting biodiversity and sustainable development in the context of individuals, organisations, institutions, communities, countries and beyond (Vallado, 2024; Netz, 2020; Nakiwala & Selnes, 2020; Eide & Bamezai, 2020; Geertsema-Sligh, 2014).

However, the challenge of shortage of climate change trainers well-versed with the ever-changing environmental issues identified by the lead trainer remains. Wahyuni (2017) has named this as micro-level problem, in addition to the meso problem of journalism schools failing to mainstream climate change education, and the macro problem of journalism being a business. Therefore, impactful climate education will necessitate training journalism instructors to empower them to impart critical knowledge about the subject as a way of building a critical mass of journalists able to report about climate change at the start of their careers. Early training is expected to give climate-literate journalists a chance to climb the newsroom leadership ladders and influence gatekeeping in the future as a way of developing a favourable hierarchy of influence in which climate and environmental reporting can thrive. Environmentally literate journalists can influence news organisations in terms of how the environment is covered at community and national levels in the global context. The prime positioning of climate change journalists can enable them attract partners at the level of the European Union to support further trainings aligned to the dynamic field of climate change and environmental reporting. Thus, incorporating options for solution and sustainable journalism (Thier & Lin, 2022; Rice, 2021), will not only be ideal but practical in the continued training in the short, medium and long run at micro, meso and macro levels.

## Conclusion

The study has established that environmental journalism and climate change trainings are rare in Uganda, but when available as was the case in the evaluated initiative, they impact the hierarchy of influence in the ecosystem. Yet, considering the effects of climate change at community country, and regional level, such trainings are relevant to Uganda and the East African region. The training offered by ACME provided an opportunity to a group of journalists to train in climate/environmental reporting. From the testimonies, the training seemed relevant to the work of journalists and opened several opportunities for career growth. The modules offered in this training were relevant as the trainees indicated applying the knowledge they acquired from the training to report stories of community, national and global significance. However, we note that climate change environmental journalism in Uganda remains low in the pecking order if compared to politics, business and sports because the beat is very expensive to report in the face of financially struggling newsrooms operating in a weak economy. For that reason, it is hard to sustain environmental reporting and training, without donor grants. In other words, for this kind of training to be conducted, issues of climate change should remain high on the hierarchy of the donors. The inclusion of women and upcountry journalists gave the training a national character, to ensure that the environmental needs of marginalized groups such as women and rural dwellers are given attention in future. However, our intention was not to conduct a representative study. We recommend that climate and environmental journalism be mainstreamed in the curriculum of journalism schools as an opportunity to accommodate the journalists of tomorrow, although such a move should not undermine the mid-career trainings offered by media-development organisations that take care of the contemporary needs. The short trainings also cater for the needs of journalists who may not have had the opportunity to attain formal



journalism training.

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# Climate essays

Essays allow for a shorter and more polemic style of academic writing designed to accommodate comment on more recent events than full research often allows. They can open discussion about journalism's role in the issue of climate change and the way journalism educators can facilitate students' understanding.

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## Constructive journalism - a useful framework for climate crisis reporting and journalism training in developing countries such as Kenya

By Joy Kibarabara, Stockholm University

### Abstract

That Africa is the 'least responsible', 'most affected' and 'least informed' about the effects of climate change; has been well documented in scholarship and media discourse. This essay proposes constructive journalism, a holistic journalism approach that provides an antidote to problem-based narratives in news coverage, as a useful framework to effectively mediate these challenges. More specifically, the essay discourses four key attributes: solutions-orientation, contextualization, inclusiveness & diversity of sources, and future-orientation, as useful tools that can inform the training of journal-

ists, and in turn, the effective communication of the climate crisis in Kenya, the contextual focus of the essay, and by extension developing countries in the Global South.

**Keywords: Constructive Journalism, Climate Crisis, Developing Countries, Journalism Training**

**“Kenya declares a surprise public holiday for a national campaign to plant 15 billion trees,” read an Associated Press news headline on November 7, 2023, in a story about Kenya’s most recent intervention to address the effects of climate change in the country.**

Variations of this announcement reverberated across local and international media outlets perhaps in awe of the oddity of a holiday to undertake such an exercise. In a Gazette notice posted on the social platform X, the country’s interior cabinet secretary Kithure Kindiki described the tree-planting exercise as a “patriotic contribution to the country’s efforts to save the country from the devastating effects of climate change”. Two days after this historic activity, government spokesperson Isaac Mwaura reported in a press briefing, that more than 150 million trees had been planted, with about 10-million documented on the *Jaza Miti App*. This mobile application is a government initiative that helps track the number of trees planted and guides users on which tree species to grow in varied geographical areas. The ambitious tree planting project is managed by the country’s Ministry of Environment, Climate Change and Forestry and aims at growing 15-billion trees by 2032. Such drastic measures are not new to Kenya, being among the leading countries to enact strict regulatory measures to ban single-use plastic bags for retail or household packaging (Omondi & Asari 2021). The country has also been in the limelight having hosted the inaugural Africa Climate Summit in September 2023. The Summit culminated in a call to action for African citizens to take a more active and leading role in solving climate change challenges on the continent. These and other ongoing debates such as the institutionalization of carbon credits, make Kenya a suitable context to explore how it, and by extension developing countries in the Global South are mitigating the effects of the climate crisis. Besides, Kenya’s vibrant media and educational environment, point to the critical role they play in mediating and shaping how the climate crisis is appropriated in the larger society.

This essay proposes constructive journalism as a suitable framework to inform the professional training of journalists and the subsequent media coverage of the climate crisis. Constructive journalism’s ‘self-corrective ethos’ (Ahva & Hautakangas, 2018), can help address knowledge gaps (for e.g., poor/low climate literacy), and challenges (for e.g., the political economy of the media). The latter often results in the diversion of crucial resources away from climate crisis news to more pressing political and socio-economic issues, a pattern that is characteristic of climate crisis reporting in Kenya and other developing countries (see for e.g., Rochyadi-Reetz & Teng’o, 2021). Constructive journalism encompasses a holistic approach to news reporting wherein problem-based narratives are de-emphasized in favor of solutions narratives, with the end goal of promoting societal well-being. Already there are ongoing efforts to mainstream constructive journalism and its counterpart solutions journalism in the Kenyan media context, and other parts of Africa (see for e.g., the Solutions Journalism Africa Initiative). Moreover, the Kenyan media and journalism education fraternity are not new to related concepts such as peace and development journalism (see for e.g., Weighton & McCurdy, 2017; Kalyango et al., 2017). Taken together, these models conceptualize journalists as change agents and community members, whose purpose is to bring about meaningful change for people and society (Skjerdal, 2012). In view of this, I argue that constructive journalism provides useful tools for strengthening journalism education, but also the effective communication of the climate crisis in Kenya and other developing countries.

Constructive journalism can counter the conflict and alarmist perspectives characteristic of climate change news coverage, as well as the privileging of news values in environmental news which prioritize “drama-driven story-telling” at the expense of cooperation and consensus (Pezullo & Cox, 2022, p. 179). Moreover, given its emphasis on inclusiveness and diversity, constructive journalism can confront the elite-official source bias observed in climate change news coverage. Overreliance on elite sources often results in the conveyance of generic narratives that adopt global perspectives which may not necessarily accurately reflect the local context (Lidubwi & Wamwea, 2023). With regards to the education and professional training of journalists, constructive journalism can serve as a tool to increase climate change, science and environmental literacy among journalists in Kenya and developing countries. Climate change education is perceived as an important contributor to climate change mitigation and adaptation given its ability to help with communicating complex scientific information, but also in showing how people can individually and collectively mobilize and contribute towards climate action (Höhle & Bengtsson, 2023). Exposure to training can raise literacy levels, but also help mitigate reporting inaccuracies on the science

of climate change, especially for journalists in the East African region (see for e.g., Lidubwi & Wamwea, 2023). Constructive journalism complements journalism's instructive role, given its explanatory attribute. In addition, constructive journalism can provide an alternative to the so-called 'standard model' of journalism education that is dominant in Western countries (Solkin, 2022), but ill-suited to non-Western societies such as Kenya. According to Solkin, the standard model entails "a single unitary model of journalism as professional practice underpinned by a stable, democratic, free-market system" (Solkin, 2022, p. 451). Applied to journalism education, this model emphasizes objectivity and monitorial roles in the training process, as opposed to, for example, an emphasis on unique contextual factors and service to the community (ibid). The standard model's usefulness in non-Western societies is increasingly being challenged not only by decolonial scholars (see for e.g., Moyo, 2022), but also because it is not serving the needs of people living in Western countries, and as such can neither serve African students, journalists or their audiences (Hochheimer, 2001, cf. Solkin, 2022). Indeed, as Obijiofor and M'Balla-Ndi Oelgemöeller (2023) have argued, journalism education and practice should no longer be viewed through the linear and dominant lens of Western theoretical and practical ways of knowing. In view of this, I argue that constructive journalism's unique attributes can therefore inform the rethinking of journalism education in Kenya and other developing countries in positive and holistic ways. Constructive journalism exemplifies several attributes that resonate with African communal values such as community and the ethics of care, which seek to advocate the interests and well-being of the larger society. This is in contrast to journalistic work undermined by political and media logics (see Nygren & Niemikari, 2019) primarily serving the interests of politicians and media owners. Constructive journalism's inclusiveness and diversity attribute can provide the framework to incorporate local voices and therefore local knowledge about a given context or issue, as opposed to over-relying on official sources. In turn, the outcome would support the more effective coverage of environmental issues such as climate change. To illustrate this, I draw on four key attributes of constructive journalism emerging in scholarship and practice, which are demonstrative of the journalism model's essential techniques (see for e.g., Kibarabara, 2023; Constructive Institute).

## Solutions-orientation

To incorporate this technique, it is essential to rethink how the concept of newsworthiness is taught in journalism schools. Over the years, an over-emphasis on values such as conflict, negativity, and elitism has yielded problem-based narratives in general news coverage. In turn, this has negatively impacted the mental wellbeing of news consumers (see for e.g., Boukes & Vliegenhart, 2017), contributed to increasing news avoidance (see for e.g., Skovsgaard & Andersen, 2020), as well as declining trust in journalism and the news (see for e.g., Lewis, 2019). In climate change news coverage, the aforementioned news values have resulted in sensationalized and dramatized coverage, at the expense of more comprehensive analyses (see for e.g., Boykoff, 2009). Moreover, the 'contentious' and 'politicized' manner (Perga et al., 2023) in which the term climate change is sometimes discoursed in the media creates an enabling environment for problem-based narratives to thrive. In view of this, it is imperative that a solutions orientation to how journalists appropriate newsworthiness be legitimized as part of journalism training. There is evidentiary support that incorporating solutions discourses in the news coverage of climate change cultivates greater response efficacy both at the individual (self-efficacy) and political level (external efficacy), and can lead to pro-environment engagement (see more, Seeling et al., 2022). Solutions journalism has also been found to mobilize collective climate change adaptation (see for e.g., Thier & Lin, 2022). Solutions-oriented journalists would therefore aim to produce reportage that goes beyond the mere articulation of climate change as a societal problem, to exploring potential solutions. This is not activism or an endorsement of particular solutions, but rather, journalists should aim to provide rich descriptions of solutions, by demonstrating and critiquing how they impact the larger society. Examples of climate news that has incorporated solutions techniques can be accessed for example, from the Solutions Journalism Network's *Solution Story Tracker*. This is a regularly updated database with more than 15,000 total stories, produced by 9,000 journalists, and 2,000 news outlets from 90 countries (Solutions Journalism Network, March, 18, 2024). Herein, climate solutions stories have been foregrounded as one of the key themes, helping readers easily locate relevant stories. Specific examples from Africa, include a story from *African Change Stories* about how recycled jeans are being used to produce sustainable and climate sensitive backpacks in a small Nigerian rural community. Another example is a story about how Kenyan communities are re-appropriating traditional building materials such as grass and water reeds, to build more climate sustainable roofs for their homes.

### Contextualization

A constructive story aims at explanation and understanding as opposed to the mere quick dissemination of news. The latter reflects a typical newsroom routine, while the former aims for depth and context, which can result in ‘truer and more complete’ perspectives of the issues (Yanqiu & Machila, 2019). Depth and context are important for the accurate communication of complex climate change information for the broader public (Moser, 2010). This requires considerable expertise on the part of journalists as well as a willingness of news organizations to dedicate more resources needed to produce contextualized and interpretive news reports (Brüggemann, 2017). A journalist with a constructive mindset is therefore conscious about the rigor expected of a constructive story given the extensive checks and balances in producing a single story (Grijavla, 2018). Journalism training in Kenya and other developing countries should aim to develop niche courses such as investigative, environmental, and science journalism. This means that institutions have to invest more resources in hiring educators with competence in the subject areas. In addition, educational institutions should aim to nurture relationships between journalists, scientists, and climate change experts as a way of promoting greater knowledge output (EBU News Report, 2023). There is still a lot to do in this regard if we consider for example that most journalism training institutions in the Global South do not have stand-alone courses on environmental or science journalism (see, Rochyadi-Reetz & Teng’o, 2021). Notwithstanding, there are initiatives such as the Kenyan led independent media house *Africa Uncensored*, an organization that utilizes investigative and contextual approaches to illuminate a variety of topics including the climate crisis. Co-founded by award-winning Kenyan investigative journalist, John Allan Namu, *Africa Uncensored’s* modus operandi is encapsulated in a three-prong approach (i.e. investigate, expose, and empower). These techniques reflect constructive journalism ideals considering that the paradigm not only seeks to articulate the problem, but also unearth the root cause, resolve it conclusively. The outcome is well informed and empowered audiences. Moreover, *African Uncensored* combines multi-modal story-telling tools (for e.g., visuals and data) to better contextualize their reporting. A range of stories touching on a variety of topics such as the effects of deforestation on local communities, drying wetlands in Kenya’s prime agricultural regions, among others, are accessible from the organization’s website.

### Inclusiveness and diversity

Inclusiveness and diversity counters the well documented overreliance of the news media on elite and official sources for climate change information (see for e.g., Splendore, 2020). Deferring on elite and official sources is not surprising and is a routine consistent with conventional news practices, perhaps due to their accessibility, level of authority and reliability (ibid). Besides, elite and official sources are believed to possess the tools and background knowledge needed to address complex societal issues, compared to ordinary citizens who are considered less knowledgeable and less authoritative (Mulupi & Zirugo; Splendore, 2020). In Kenya, it is government officials, political actors, and NGOs, who dominate coverage as was evidenced in a content analysis of environmental conflict news from a constructive journalism perspective (Kibarabara, 2023). More specifically, government and political actors were credited with formulating and enacting the solutions, while NGOs were positioned as supporting government-led initiatives with donor funds and technical expertise. Inevitably, relying on elite and official sources is an exclusion of a variety of viewpoints. This can lead to ideological polarization in climate change attitudes and knowledge when audiences follow elite partisan cues on climate change, for example, as presented in television news coverage (Feldman, 2016). Politicians and influential public figures can also impact how climate change is perceived for example by under or over-estimating the climate change crisis (Maran & Begotti, 2021). Thus, including diverse perspectives and sources, is a way of empowering everyday news audiences, and affirms their role in mitigating climate change effects. Hermans & Gyldensted (2019) have found in their research on the effects of constructive journalism, that people favor news coverage that includes a wide range of sources, a variety of perspectives, and more detailed and comprehensive information. That said, journalists should be careful about false balance. Journalists should seek to highlight only those perspectives that have strong evidentiary support, and display the complexities of a given story, while being mindful of advancing false stereotypes (for e.g., those of climate change deniers) (Lund Jørgensen & Risbro, 2021).

### Future-orientation

Constructive journalism focuses on the ‘what next’ and ‘how’ of a story, as opposed to conventional news practices which prioritize the ‘what’ and ‘when’ of a story (Constructive Institute, 2023). The former is action oriented, while the latter is descriptive and passively oriented. Constructive journalism thus,

calls upon journalists to explore a future beyond the presentation of a problem. In the context of climate change news, journalists can explore how present effects, their mitigation, will impact future generations. The latter has been one of the motivating factors behind the global *Fridays for Future Movement* (FFF). Driven by youth activists, the movement at its peak generated considerable media attention, and created a sense of political urgency around climate change (Eide & Kunelius, 2021). Incorporated into journalism training, a future-orientation can help learners envision the future as ‘open’, thereby leaving room for the exploration of alternative futures as opposed to predetermined ways (Höhle & Bengtsson, 2023). Understanding the future in this way, helps learners “go beyond what they have learned (how the world ought to look like) and bring in their own ideas of how a future could look like” (Höhle & Bengtsson, 2023, p. 10).

In conclusion, this essay has argued that constructive journalism can provide a useful framework for the training of journalists in Kenya and other developing countries, and in turn contribute to the subsequent effective coverage of the climate crisis. Given its unique attributes, constructive journalism can provide quality media coverage resulting in better informed publics and policy makers (Bosch, 2012). Constructive journalism can influence public engagement and create a more environmentally sustainable society (Smith & Joffe, 2009; Berglez et al., 2017). Constructive journalism can also be useful in building and achieving social consensus on climate change (Blanco-Castilla et al., 2018). Appropriated well, constructive journalism can help African media fulfill its critical role of raising public awareness and mobilizing global help, but also by “putting – and keeping – sustainable development and climate change on the news agenda” (Wasserman, 2012, p. 2).

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# Teaching climate comms to media and science students at Anna University, India

By I. Arul Aram and Vivek Nagarajan, Anna University, India.

## Introduction

**Climate change is a global issue that is increasingly impacting India and there is a broad need for climate education at all levels of education. There is a special need for climate education at higher level education institutions to educate the “green collar” experts.**

Training experts on climate communication is important, and, more specifically, training climate journalists is essential. But without climate education at all levels, climate journalism cannot succeed. This article identifies a number of challenges in university-level teaching of climate education in India, both in journalism education and in mainstreaming climate communication with varied other disciplines. There are challenges that are hard to overcome, but a lot can be gained by building networks among disciplines, societal actors, and nations.

Extreme temperatures, flash floods, and cyclones are disrupting people’s livelihoods around India, making climate education a crucial component of addressing the issue. Teachers and climate experts in the field play a vital role in cultivating a generation of more informed, innovative, and proactive leaders who can lead the way in tackling climate change. To achieve this, teachers must focus on building skills, perspectives, and capabilities that enable students to connect and understand climate knowledge with local observations about the changing natural world. It is crucial to impart knowledge about the latest scientific findings, the consequences of climate change, and the various mitigation strategies that can be implemented. Climate education should not only be aimed at students in schools and universities but also at communities, policymakers, and industry leaders. Education and awareness are crucial for empowering the whole population and for people’s ability to make informed decisions and take action (Bose, 2023).

Educators often find it challenging to teach climate issues due to the complexity of the topic and its connection to different fields of life and politics. Climate education encompasses various themes, from initial causes to mitigation of emissions and to adaptation of impacts and to disaster risk reduction. These topics require a deep understanding of scientific concepts and their practical applications, which can overwhelm teachers and students. To overcome these challenges, teachers must explore innovative teaching methods that can help make climate education more engaging and accessible for their students. This could incorporate interactive activities, practical demonstrations, and real-world case studies into their teaching approach. Climate education is an essential component of the academic education system, and also the Indian education system must give it sufficient importance and attention. Students need to understand the impact and importance of the climate crisis and become active agents of change. According to UNESCO, climate education has numerous benefits. It enables students to understand the impact of climate change on the environment and society, providing them with knowledge and skills. Further, climate education encourages students to adopt environmentally friendly behaviour and attitudes, transforming them towards responsible and green practices (P’Rayan, 2022).

While educational institutions have taken the initiative to address this emerging trend, they need more resources and means. Creating a policy for educating students on climate change and sustainability should be treated as a systematic learning experience integrated into the curriculums. The students should have access to a comprehensive and structured syllabus that covers various aspects of climate change, including its causes, effects, and possible solutions. In addition to providing a theoretical understanding of climate change, it is vital to give them practical experience and encourage them to take part in eco-friendly activi-

ties such as recycling, composting, and reducing waste (Gutta, 2023).

India's stance on climate change has become more proactive and strategic, befitting its new role as an emerging key player on the global landscape of climate efforts. The country has recognized the need for a significant level of climate finance and technological support that remained a stumbling block in meeting the Paris Agreement. Although the overall carbon emissions of India rank third in the world, per capita emissions of the country are the lowest in the G20 grouping. India focuses on two issues: energy security and green hydrogen, which are the most important areas requiring action. This throws light on the understanding that financial resources and technology are critical enablers especially for India (Mehta, 2023). The special place of India at COP28 enhanced the country's climate strategy, reflecting pressing huge development needs against climate action, emphasizing the importance of adaptation, equity, and sustainable development in enhancing global efforts to strengthen the fight against climate change (Nair, 2024).

## Need for green collar expertise

Hands-on learning activities are crucial in shaping knowledge and attitudes about environmental sustainability. For instance, by engaging in their own demonstrative experiments, analysing data on local weather patterns, and creating projects based on the 17 sustainable development goals, students can gain a deeper understanding of the environmental issues that we face today and how they can make a positive impact on the planet. In addition to these activities, educational institutions can also play a significant role in combating climate change. By promoting sustainable products, being aware of green washing, supporting renewable energy, and reducing their carbon footprint, institutions can contribute to creating a more sustainable future (Raju, 2023).

In India, it has been observed that integrating climate education into the curriculum is challenging at school and college levels, and only a few institutions have the resources and expertise required to offer such courses. Unfortunately, many underfunded institutions in India struggle to impart the knowledge and skills required to prepare their students for a future impacted by climate change. These institutions require support from the government and other stakeholders to bridge the gap.

The job market for "green-collar professions" has significantly increased in recent years, with companies seeking professionals to fill various roles. These roles include *environmental journalists* who report on issues related to the environment and sustainability, *sustainable analysts* who assess the environmental impact of business practices and propose improvement solutions, *water waste management* experts who design and implement systems to reduce water waste, *solar designers* who design solar energy systems for commercial and residential buildings, *environment impact officers* who ensure that companies comply with environmental regulations, *safety managers* who oversee safety protocols and training, *water resources engineers* who manage the use and conservation of water resources, and *sustainable managers* who develop and implement sustainable strategies for businesses. The younger generation in several countries is showing an increased interest in green-collar jobs. This interest can be attributed to the growing awareness of the impact of climate change and the need for sustainable practices (Kaushik, 2022).

## Teaching climate communication and journalism

Anna University, located in Chennai, India, is a reputed technical institution that offers various engineering and science programmes, including a media programme. The university has specialised centres for climate change, disaster management, water resources, and environmental science that host public lectures, seminars, and conferences on climate change. Anna University is one of the pioneer institutions in offering climate communication courses in the country. As part of its course offerings, it provides two courses that aim to teach students about climate change and equip them with the skills to communicate the subject effectively. These courses offer examples of the challenges of training climate experts and journalists.

The elective course "Climate Journalism" is made available to students pursuing M.Sc. in Electronic Media. The "Climate Change Communication" course is offered as an open elective (non-major) to those pursuing an M.Sc. in Computer Science/Geology/Physics. Both courses have been specifically designed to equip students with knowledge about climate change and to help them develop the skills needed to communicate complex scientific concepts in a manner that is easy to understand. Students who enroll in "Climate Journalism" are already proficient in journalism. Those who opt for "Climate Change Communication" are learning communication skills to convey scientific information to a broader audience.

## Course on Climate Journalism

This course aims to equip students with the necessary skills and knowledge to interpret complex scien-

tific theories and present them as engaging stories that can resonate with a diverse audience. It provides a blend of theoretical concepts and practical applications to help students learn how to conduct interviews with experts and create compelling narratives. The course engages students with practical projects that range from reporting on local environmental events to conducting interviews with climate scientists. A field visit to the Pulicat estuary or the Vedanthangal bird sanctuary has been organized for the students to provide a hands-on experience on climate beat reporting. Since the environment is base to climate change studies, students are taken to such environmentally sensitive areas to gain an insight into weather patterns and changes in climate. In an article written by a student titled, “What triggers Chennai floods”, the student has written about the causes of Chennai floods, particularly of 2015 and 2023, as complex disasters emerging from climate change, improper reservoir management, unplanned urban growth, and reclaiming of marshlands. Students enhance their communication skills, raise awareness, and inspire communities to act by undergoing these projects.

Field visits have also highlighted climate issues that could be documented by the media so that scientists could put them for validation. For instance, if a coastal area is getting eroded and land is being lost to the sea, it could be a phenomenon of climate change resulting from increasing intensity of tropical storms combined with the sea level rise. But then, there could be an additional angle of ports being built in the nearby shores which could have altered the sediment movements. The observation of sea erosion is true but once reported as a journalistic story, there is a possibility of scientific validation to determine whether or not climate change is happening. Additionally, our Ph.D. candidates work in the area. One of the Ph.D. theses was on the topic, “Communication as a Conflict Resolution Strategy among Pulicat Fisherfolk”. This has a rippling effect with the mainstream picking up the stories of the environment as activism and academic work is already in place.

Teaching climate journalism to media students helps them to gain a comprehensive understanding of climate change and its diverse aspects. Students learn about various earth system components during their studies, such as the atmosphere, oceans, and land surface. They also learn about climate change’s natural and anthropogenic causes and how human activities have intensified it. In addition, the course educates students about the effects of climate change on the atmosphere and oceans. Students learn how climate change impacts weather patterns, sea levels, and plant and animal species distribution; and about the measures that can be taken to both adapt and mitigate climate change. The course also covers the topic of greenhouse gases and global warming. Students learn about the various gases that contribute to the greenhouse effect and how they trap heat in the atmosphere. Further, the students learn about the consequences of global warming, such as melting glaciers, rising sea levels, and changes in precipitation patterns, through class lectures by the course instructor, guest lectures by environmental activists, and additional readings.

It also empowers them to know how the media can better convey information and create awareness about the issue. Students learn how to communicate climate change information to the public effectively through different media channels, including television, print, and social media, in tandem with the communication skills they had already mastered in their media degree program. The course demands two continuous assessments which involve practical exercises on creating climate stories, two internal assessments, and an end semester examination. Upon completion of the course, students should possess a comprehensive understanding of climate change and the critical role of the media in disseminating climate-related information to the public.

## Course on communicating climate change

“Communicating Climate Change” focuses on multiple communication strategies. The course recognizes that effective communication goes beyond conventional journalism and requires diverse approaches to engage with different audiences. These strategies tackled involve engagement with mainstream media, public campaigns, social media, and communities to promote action on climate change. Students can enhance their abilities to design and execute impactful communication campaigns through practical projects. These projects include creating websites, hosting community workshops, or crafting social media content that inspires action towards addressing climate change.

By working together on such projects, students gain valuable insights into creating customized messages for diverse audiences and learn about the power of collective action in combating climate change. Activities in this course involve producing multimedia content such as graphics, videos, and podcasts related to climate issues. This course is designed for non-media students but with a science background, and the students are taught media presentation skills from scratch. A field visit to the Sriharikota rocket launch center is usually organised for the students to provide a hands-on experience to interact with the scientists on communicating climate change. Since both geostationary satellites and polar satellites are used for

understanding changes in weather patterns, climate scientists too work in the interdisciplinary team of space scientists situated at the Sriharikota island.

A cause and effect game on climate change was also conducted with the students with an involvement of an NGO, wherein the students select a random card and at the back of each card, a climate change cause will be mentioned such as heat waves, or melting of glaciers, following which the student must select the appropriate effect card such as drought or sea level rise which would enable the students to have a firm foundation on the cause and effect of climate change.

The course offers a multitude of advantages. The students will learn how to develop strategies to help communities build resilience and adapt to the changing climate. Additionally, the course will equip the students with credible information and communication skills that can aid them in influencing public opinion and policymakers towards climate action. The students will learn how to use scientific information to communicate effectively with policymakers, the media, and the public. The course also emphasizes the importance of interdisciplinary collaboration between science and communication for a holistic problem-solving. This enables the students to understand climate change and its impact on society. Throughout the course, the students will learn how to help communities develop strategies to build resilience and adapt to the ever-changing climate. They also learn how climate change intersects with gender and how to comprehend the challenges faced by women, particularly in the contexts such as dam oustees (those displaced by dam building, who are seeking equitable distribution of water) or climate refugees where women are forced to walk long distances to fetch drinking water. Crucially, the course also aims to equip students to evaluate and advocate for decisive climate action. The students learn how to assess current policies and strategies, identify improvement areas, and have a great opportunity to understand climate change broadly, its impacts and potential solutions. Since they are science students and not formally educated in communication skills, oral presentation, writing and photography exercises on the topic at hand are given, and feedback provided to improve their work.

## Challenges of climate journalism education

While the experiences of teaching climate journalism and communication have often been encouraging, many challenges remain. In most general level, there is still *a lack of awareness among the academic community* regarding the urgency of climate change in general and the importance of climate journalism and communication in particular. There is also resistance from teachers to get involved in the *interdisciplinary* area of climate change. As university careers have traditionally been anchored in disciplines, many institutions struggle to integrate climate journalism or climate communication into their curriculum. As a consequence, teachers themselves still lack climate-related training, which further hampers their ability to educate students on the topic. As for the student population, the involvement in climate issues is still relatively low, and there is an urgent need to develop more *innovative ways of teaching climate change*. A particularly deep concern is that teachers worry about the despair students feel upon learning about the impact of climate change. This can lead to hopelessness and a lack of motivation to address the issue.

## Conclusion

The involvement of both media and science students in *interdisciplinary collaboration* for better climate communication is essential, and this is facilitated. Occasionally, we also conduct capacity-building programs for journalists, policy makers and members of non-governmental organizations (NGOs). Further, our doctoral candidates with media studies background decipher the framing of climate change in English and regional language newspapers and TV channels. Science postgraduate students, with their deep understanding of the scientific underpinnings of climate change, provide the factual basis for communication efforts. Their expertise in climatology, environmental science, and data analysis ensures that the information presented is accurate. On the other hand, media students possess a valuable set of skills that are essential for effective communication. They are skilled at crafting stories, framing messages, and selecting appropriate communication channels.

Comprehensive climate communication requires such collaboration, where media and science students can learn to value diverse perspectives and skills. The mutual involvement of media and science students plays a pivotal role in creating public awareness, influencing policy, and promoting interdisciplinary collaboration. Effective communication about climate change is needed for increasing public engagement and, in turn, this can help to translate climate research into policies that can mitigate the impact of climate change and adapt to its consequences. Crucially, it can also encourage public discourse that demands cli-

mate action and underscores the *interconnectivity of climate science, media representation, and policy decisions*.

Combining scientific knowledge with storytelling abilities creates a compelling synergy that improves communication strategies, resulting in accurate and engaging climate information. To develop effective climate communication, it is necessary to establish connections that resonate with diverse audiences, for example through collaborating with NGOs and activists when possible.

Climate journalism is also critical for ensuring that public climate information is ethical, well-framed, and accurate. Here, a global perspective and transnational networks of scientists, NGOs and journalists are imperative. By integrating these components, climate communication can enrich its narrative, engage diverse audiences, and inspire people to take action.

NGOs are often driven by passion and commitment, and their extensive networks and resources enable climate messages to reach wider audiences. Collaborations with these entities can infuse climate communication with success stories of climate action, showcasing how individuals and communities can be part of the solution. By working together, the students can leverage the strengths, and expertise of NGOs and activists to engage diverse audiences and inspire collective action.

Climate change is not a distant issue but a harsh and current reality. The consequences of ignoring climate change are severe, affecting ecosystems, economies, and societies globally. Our choices today will determine the future of our planet and the wellbeing of the generations to come. Five to 10 percent of our media students, in particular, take to journalism after finishing the degree program. We hope that a few of the science students taking the climate change communication course too would later go in for journalism or some form of climate communication. In case of budding media professionals, climate change is taken seriously and followed up by those who have prior competency over the subject, or else without knowledge of climate change, journalists do not cover a tricky subject like climate change. Having introduced these climate journalism and climate change communication courses in the recent years, we hope to make a difference in the profile of journalists too vis-à-vis climate change coverage.

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# General Articles

All papers in the Articles section are peer reviewed and discuss the latest research in journalism and journalism education. These are intended to inform, educate and spark debate and discussion. Please join in this debate by going to [www.journalism-education.org](http://www.journalism-education.org) to have your say and find out what others think.

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## Could virtual reality transform the education of trainee journalists? A study on the impact of immersive newsgathering on newsroom readiness and resilience

By Lindsay Pantry, University of Sheffield

### Abstract

Simulated reporting of some form or another has long been part of preparing journalism students from a workplace, whether that be in the form of rewriting a press release or attending mock press conferences, council meetings or election counts.

But with trainee journalists expected to cover stories that are more challenging, in a trauma-informed world, can virtual reality help bridge the gap between the classroom and reporting for real?

This paper considers the usefulness of virtual reality as a tool for journalism educators; and analyses its ability to increase engagement in news writing and simulated news gathering exercises for journalism students.

The research found that virtual reality is not only a useful pedagogical tool on journalism courses, but has the potential to help better prepare students for the realities of challenging reporting situations; helping them to be more prepared than ever before for the newsroom.

**Keywords:** Virtual Reality; Immersive Virtual Reality; Immersive-VR; Head Mounted Display; Journalism; Journalism Education

## Introduction

**The value of experiential learning in journalism education is well-known (Steel et al, 2007, pp.332-333; Evans, 2019, pp. 49-58). However, for students it can still be daunting when reporting challenging situations such as death knocks or major crime stories for the first time (Watson, 2014, p.109).**

While students can be taught what to expect reporting from a crime scene, it would be impractical and unethical to build visits to genuine crime scenes into a university teaching plan.

Students today have been shown to have levels of anxiety that are ‘worryingly high’ (Neves and Brown, 2022, p.58), yet they must be newsroom-ready when they leave a journalism course in order to be able to report on challenging stories from the very start of their employment without hesitation or fear.

To address this, I designed a Virtual Reality Immersive Newsgathering Experience workshop that saw first-year journalism students transported to a simulated murder scene. There, they had to navigate a street scene, collect interviews, content and ‘colour’ (ie what the house looked like, police tape, floral tributes) for use in a story.

Previous studies have highlighted the potential benefits of using immersive virtual reality (I-VR) as a pedagogical tool, however, one review found that almost 70% of the studies were from the field of science or engineering, with other subjects being marginally represented (Hamilton et al, 2021, p.21). Other research has also indicated that the skills needed to create VR experiences is restricting the use of VR in teaching in social sciences, and there is a lack of suitable educational content (Jensen and Konradsen, 2018, p.1525).

Drawing on both quantitative and qualitative survey data and results from focus groups and interviews conducted with teachers who ran the workshop, this research explores the pedagogical benefits of using I-VR in journalism education; its effectiveness in preparing students for real-life major incidents; and engagement compared to a traditional news writing workshop, according to student and staff feedback.

It contributes to understanding how technology can better prepare student journalists for work; but also how we as teachers can improve our practice by providing more immersive learning experiences. The article will first address literature on VR as an educational tool, how journalism is currently taught, and VR in journalism education; before describing the development of the VR experience, the research methodology and data collection; then finally, research findings, discussion and recommendations.

## VR and its use as an educational tool

According to Asad et al (2021, p.1), virtual reality is a “computer-generated simulation, where people can interact within an artificial environment” - one which can provide “an experience that encompasses most of the senses, including sight, hearing and touch, and represents an alternative to reality” (Pope, 2018 p.5).

A distinction can be made between non-immersive and immersive VR (I-VR), with the former being a computer-based environment that can “simulate places in the real or imagined worlds”, usually accessed by a desktop computer, keyboard and mouse, and the latter “taking the idea further by giving the perception of being physically present in the non-physical world” accessed via a head mounted display (HMD) or goggles (Freina and Ott, 2015, p.1).

Studies have found the use of immersive VR environments for educational purposes (e.g. Pirker and Dengal, 2021, p.76) allows access to learning environments that are difficult or impossible to physically reach; and provides opportunities for students to carry out experiments or operations in controlled, safe environments in a cost-effective way; by using 360 degree videos or images to replace simulated environments with ones that are very real.



According to Jones and Warren (2011), who studied multi-user virtual environments in school classrooms in the United States, VR learning experiences provide powerful environments for deepening student interaction by combining visual, auditory and immersive stimuli, thus meeting the emotional requirements of 21st century learners.

When discussing the pedagogical advantages of using VR immersive technology, Dalgarno and Lee (2010, p18) identified five benefits including increased intrinsic motivation and engagement, with the 'natural interface' of 3D VLEs potentially increasing the likelihood that the learner shifts mental focus away from the everyday stresses of life to focus entirely on the task. They also found 3D VLEs could be used to facilitate experiential learning tasks that would be impractical or impossible to undertake in the real world, as noted by too Pirker and Dengal (2021, p.76). Specific examples of this included training nuclear power plant workers in Japan (Akiyoshi, Miwa & Nishida, 1996, as cited in Winn and Jackson, 1999; cited in Dalgarno and Lee, 2010, p.19), and astronauts in how to repair a space telescope (Psootka, 1995; Moore, 1995 cited in Dalgarno and Lee, 2010, p.19).

A further benefit regarding vulnerable groups was highlighted by Millea's (2023, p.15) study on the use of 360 degree video to enhance teaching on filmmaking courses, which showed that the technology can enhance the experience of "marginalised individuals such as women or those with disabilities, learning difficulties, or economic restraints".

Liu, Zhang and Hu (2024, p.1), in a meta-analysis of 31 studies on the effectiveness of desktop virtual reality in learning, found it could "effectively enhance students' academic achievement, fostering improvements in their knowledge, emotions and abilities".

In addition to benefits to learning, Asad et al (2021, p.9) found that immersive virtual reality "gives us first hand experience of things and activities that are practically out of our control", helping us to practise in a controlled atmosphere, preventing real-life risks.

This safety aspect could be particularly relevant to journalism educators, with the United Nations (2024) among organisations highlighting that the dangers and threats faced by journalists, online and off-line, continue to grow. There has been some research into the downsides and limitations of using VR. Jensen and Konradson (2018, p. 1527), analysing studies on the use of HMDs in skills acquisition, found that in some cases, using HMDs over other immersive training environments could be counterproductive, "because the immersive experience actually distracts from the learning task".

Cybersickness is a very real phenomena, first noted by Stanney in 1995, as including "headaches, nausea, postural pains, disorientation, and instability" (Simón-Vicente et al, 2022, p.702). Simón-Vicente et al's 2022 systematic review of literature relating to the adverse effects of VR showed that further studies are needed into the use of VR as a medicinal intervention. It highlighted research such as that by Guna et al (Simón-Vicente et al, 2022, p.708) which compared levels of cybersickness after visualising VR content that stimulate neutral or pleasing emotions, such as being on a beach, with "action" content, such as being on a rollercoaster, which generates exciting emotions. There was a higher severity of cybersickness, especially disorientation, following the latter; which could present an area of concern for teachers wishing to develop educational content that contains risky or emotive scenarios.

## How is practical journalism currently taught?

The practical nature of many journalism courses is rooted in models of experiential learning developed by the likes of Kolb (1984, p.27), with knowledge "continuously derived from and tested out in the experiences of the learner". Kolb's theory defines a four-stage process of experiential learning; beginning with concrete learning, when a learner has a new experience or interprets a previous example in a new way; advancing to reflective observation; abstract conceptualisation; to active experimentation.

This was underpinned in relation to journalism education by Steel et al. (2007, p.331), who found that students grew in confidence as they "dealt with the chaos of the newsroom" in an election coverage simulation task. Like Steel et al, St Clair (2015) found that placing experiential learning in authentic settings or around authentic activities further supports learning, by helping journalism students to develop skills and mindsets they can draw upon during their first experiences of work.

Practical simulations and crisis scenarios were also discussed by Australian public relations lecturer Dr Caroline Wilson-Barnao, in the podcast HigherEd Heroes (Kaempf and Stark, 2020) as a way of giving students real-life tasks that "bring it to life in a way a textbook can't do". Evans (2017, pp.79-80), who followed the Kolb model, argued that for experiential learning to be successful in journalism education, there needs to be a "safe place to make mistakes" with the opportunity for critique and reflection; and has advocated the benefits of students publishing their work, with built-in support should it go wrong.

Covering crime is often central to the job of a novice journalist, transitioning from college to the newsroom (Seely, 2020, p.116), however, many feel unprepared to cover stories about crime, disasters, and tragedy (Amend et al 2012; Beam and Spratt, 2009, cited in Seely, 2020, p. 116). Journalists told Seely (2020, p.126) that their first jobs as crime reporters were like “diving into the deep end” and described it as “being thrown into the fire”. Teaching strategies, Seely wrote, can simulate real-life scenarios, such as mock-interviews with actors posing as trauma victims, and “can be used to address the gap between theory and practice”.

Similarly, new reporters told Bradley and Trifonova Price (2024, p.213) that they felt “unprepared for what they would be exposed to from the very start”, from door knocks with terminally ill cancer patients to watching and editing graphic videos from the war in Ukraine. Hopper and Huxford’s (2015, p.38) study found that as there was no formal training on how to deal with emotion while covering the news, participants learnt by example, relying on watching more experienced journalists. This could have “substantial” repercussions, with respondents “deeply troubled” by events covered years earlier.

In response to an emerging trend of increased reluctance of trainee reporters to attend court cases through fear of being emotionally affected, journalism tutors at the University of Sheffield introduced an immersive courtroom experience, featuring trained actors in a mock courtroom, to recreate a “graphic and emotional” sexual violence trial (Bradley et al, 2024, p.222). Despite this new form of experiential teaching, there does appear to be a gap in preparing students to cover emotionally challenging stories in routine journalism.

## The use of virtual reality in journalism education

While much has been written about the use of the VR in teaching, and the use of immersive VR in storytelling and journalism, there seems to be a gap in the literature that combines the two and focuses on the teaching of journalism education using VR, especially given the fast pace of technological changes that journalists are now facing.

Journalism programmes ranked virtual reality third behind artificial intelligence and drone journalism when asked what technologies will affect journalism curricula in the next three to five years (Hossain and Wenger, 2024, p.138). However, this appears to be in connection with the production of journalism rather than the teaching of journalism skills. Nevertheless, the study did hint towards one potential stumbling block in the spread of VR as a teaching tool: the biggest obstacle facing programme leaders in US journalism institutions was the need for long-term investment.

There are also ethical considerations. Pavlik (2021) warned about the dangers of VR production in journalism leading to an increasingly blurred line between fact and fiction; and that VR journalism may impact users in unanticipated ways, for example, triggering an adverse response in a person with post-traumatic stress disorder. It is important that tutors consider the potential negative impact on learners of using VR in journalism teaching.

Remarking on university education more generally, Dalgarno and Lee (2010, p.25) noted that both teachers and learners needed time for “upskilling and development” in using VLEs, as well as guidance on how to plan and implement appropriate learning activities. They warned that approaches for developing such experiences for educational purposes are “largely hit and miss” and are driven by “intuition and common-sense” rather than being underpinned by research-informed models and frameworks, indicating a need for research like this very study.

Asad et al (2021, p.2) found that while higher education institutions are continuously trying to bring innovation in the teaching-learning process and technological advancement in education settings, the implementation of VR is “rarely observed”, with students learning about virtual reality but in most cases, not getting the chance to experience it.

Staff training and willingness to embrace new technology may be becoming more problematic. Voakes et al (2002, cited in Hossain and Wenger, 2024, p.140) found that while educators had high self-confidence in their capacity to master new technologies, “journalism instructors often reported being stressed out by technology on the job. They mentioned technological stress more often than tenure and promotion worries and personal difficulties.”

While it is clear that research exists into the use of VR in higher education, it is focused on sciences or engineering (Hamilton *et al*, 2021, p.21), and more needs to be done on the impact of technology in the social science disciplines, especially journalism. As newsrooms turn to VR to experiment with storytelling (Mabrook and Sanger, 2019, pp. 2096–2112), the next generation of journalists not only need to be familiar with the technology for content creation, but experience the benefits of it for boosting their own newsroom-readiness.

As noted by Hamilton et al (2021, p.22), bespoke I-VR experiences required to teach social science lessons are dependent on an appropriate I-VR tool already existing, or having the technical proficiency to create one. But with software such as WondaVR — used in this study—making the creation of immersive experiences easier than ever before, in just minutes (Wonda, 2024), there is potential for use in journalistic education.

Nonetheless, the use of immersive technologies in journalism education should come with a warning. I argue that just as Mayne and Green (2020, p.472) found in their study of the use of VR in forensic crime scene investigation education, it should not, or will “ever fully replace conventional practical-based learning”, but be considered instead “as an adjunct to teaching and learning, applied for enhancing outcomes”.

## Methodology

### 1. Immersive Newsgathering Experience and workshop design

Based on previous reporting experiences, I created a scenario in which a burglary had taken place at a domestic dwelling. Both a burglar and a homeowner had died, and a murder inquiry was launched. A script was written, with statements to be read by actors recruited by the study author to portray four roles - a police detective, neighbour, local councillor and pub landlord.

I found a real-life location and gained permission to film in a pub across the road from the ‘crime scene’ to film inside. Mock-up social media posts were created using online templates. Props included bunches of flowers to be left in tribute to the deceased and mock police crime tape (See Figures 4 and 5). A location map was prepared in advance to ensure all shots were taken (Figure 1).

The multimedia content (video interviews, 360 and regular photographs, mock social media posts and a 360 stock photograph to represent the reporter’s flat) were used to create the immersive newsgathering experience using WondaVR, a hosting platform used to create, distribute and view interactive learning experiences for 360 and virtual reality. The platform was chosen as it is the University of Sheffield’s chosen VR interface, but others are available. One of the video interviews, with the detective, included the opportunity to ‘ask’ three follow-up questions, of varying degrees of quality, with specific video answers. One of the questions was purposefully a ‘closed’ question and elicited a short, sharp answer - “no”.

The Learning Activity (LA) was planned for use with Level One BA Journalism Studies students (n = 97) in practical journalism workshops on week eight of their first semester, when, via lectures and two-hour workshops, they had already been taught basic news writing and newsgathering rules and techniques and had experienced news writing using basic press releases and one-person mock press conferences.

A lesson plan was shared with three other journalism University Teachers who would be leading workshops. Students (n = approximately 12 per workshop) were provided with a brief explaining what content was included in the experience, and were given a demonstration of how to navigate the crime scene, before using either a desktop computer and/or a HMD (Oculus Quest) to explore the scene (see Figures 9, 10 and 11). Headphones were provided for learners using the desktop experience. Students spent around 30 minutes navigating the scene, collecting all the information and watching the video interviews.

Students were then tasked with noting down key information and quotes before writing a 375-word news story, with the option of including the story in a portfolio of work that was later submitted for assessment for the module.



**Figure 1: The location planning map.**

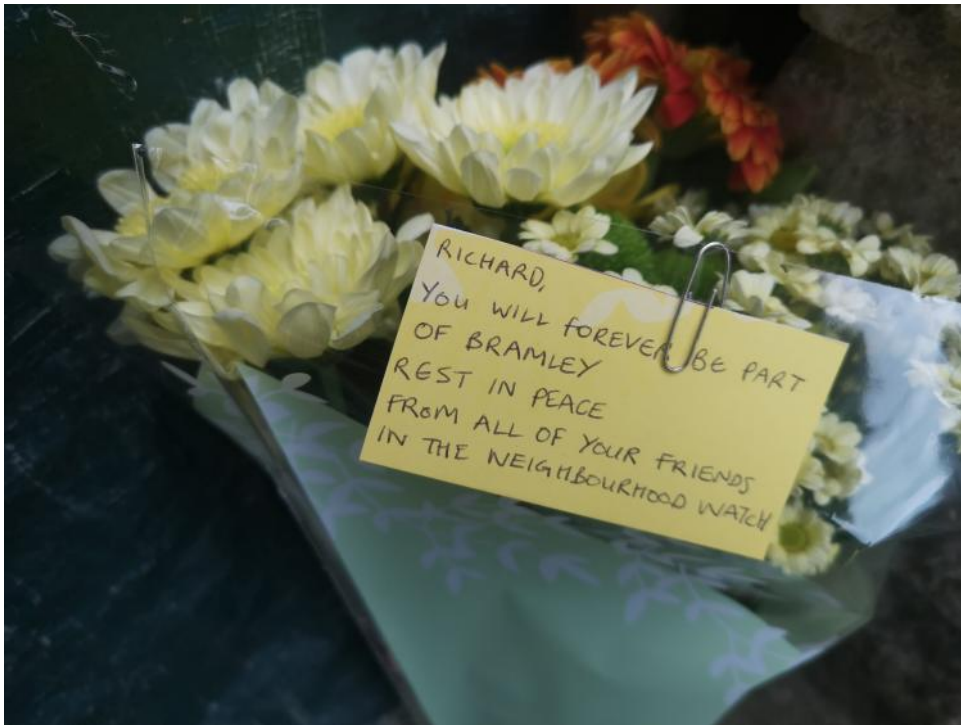
Filming took approximately two hours, with interviews recorded in four locations using a Panasonic CX10 camera, and 360 degree photographs (on a GoPro Max) taken in around 15 locations outside the crime scene and along two streets that included all four filming locations (exterior of the crime scene house, outside the neighbour's home, the local pub, and outside the Village Hall). Photographs were taken of the floral tributes using a smartphone camera.



**Figure 2: Filming the pub landlady scene.**



**Figure 3: Setting up the 360 camera.**



**Figure 4: One of the floral tributes with notes that students could use in their stories.**



Figure 5: Filming outside the crime scene house.

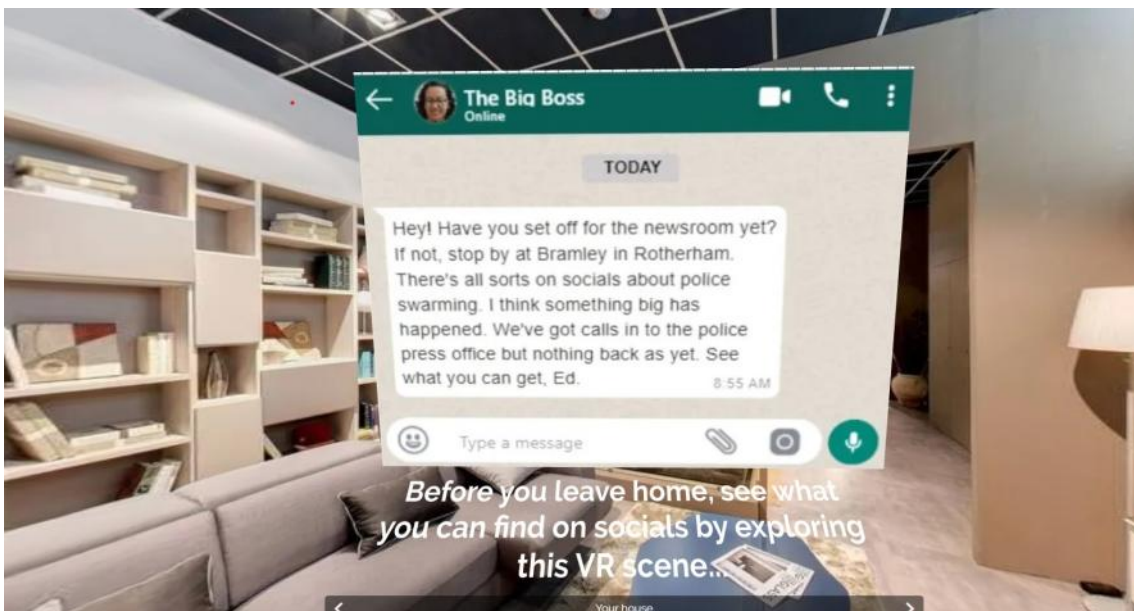


Figure 6: A screenshot of the opening scene of the Immersive Newsgathering Experience. The scene is in the reporter's home and features social media messages.

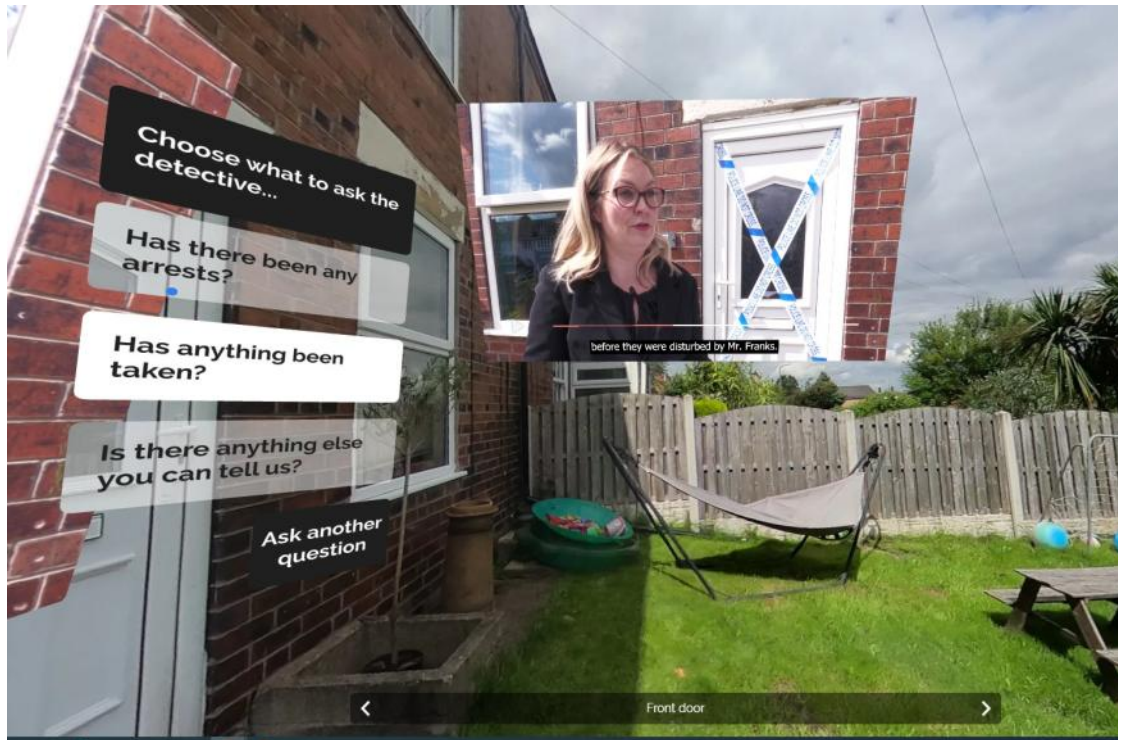


Figure 7: A screenshot of the question options for the detective.

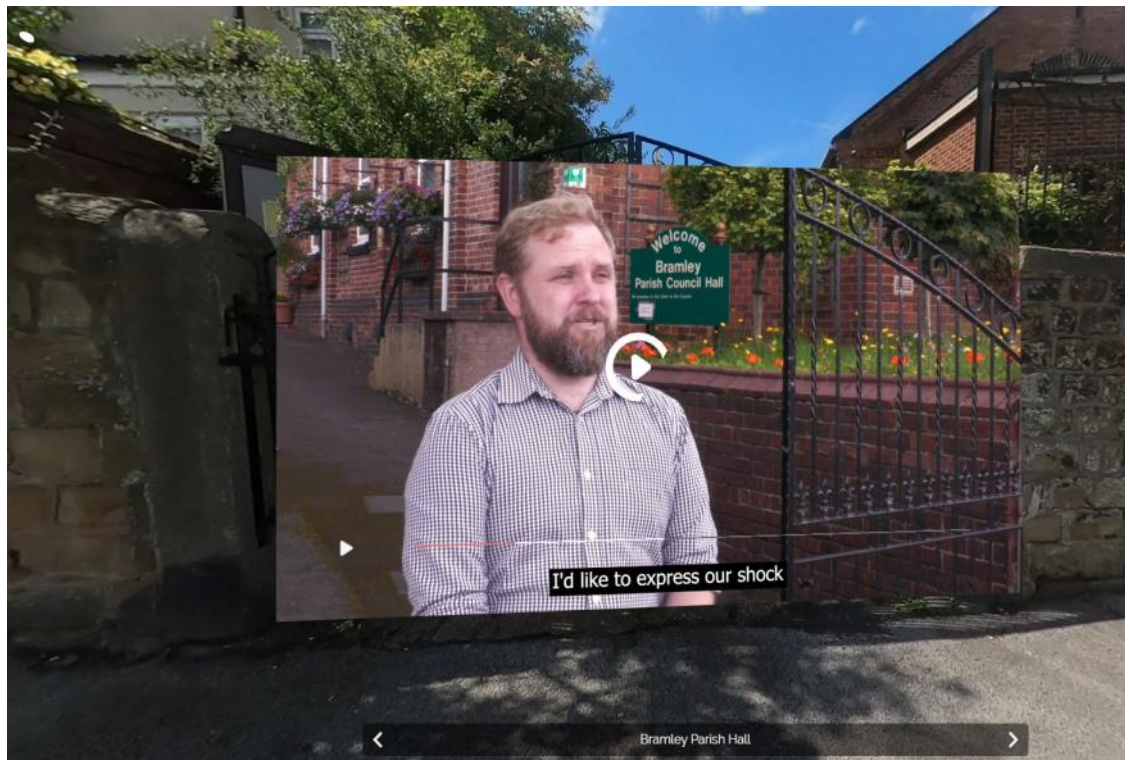


Figure 8: A screenshot of the video of the parish councillor.

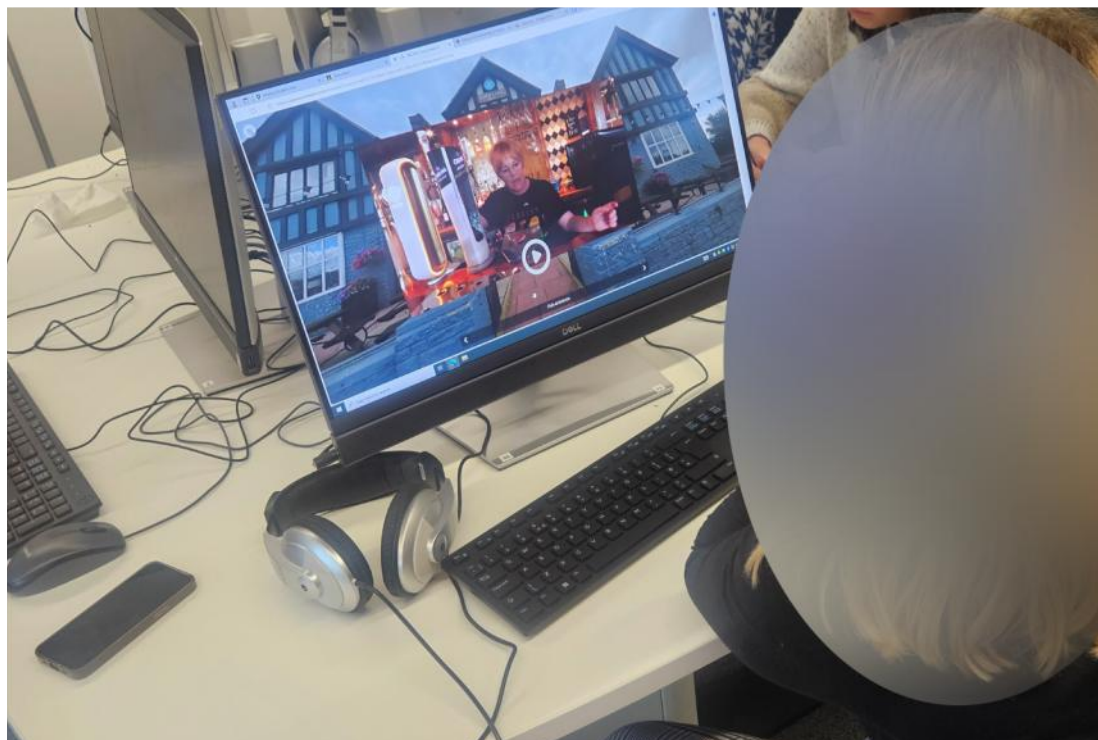


**Figure 9: A student using an Oculus Quest HMD to access the immersive newsgathering experience.**



**Figure 10: Students using Oculus Quest HMDs to access the experience.**





**Figure 11: Students using desktop computers to access the immersive experience in a workshop.**

## 2. Data collection

Following the granting of research ethics approval, an anonymous survey was sent to all Level One (first year) students, along with an invitation to attend a focus group discussion. Of the 97 participants invited to take part in the anonymous survey, 40 responded and 36 completed it in full. In terms of gender breakdown, 17 identified as male, and 17 as female. Two preferred not to say.

The survey was circulated six months after the workshop. The time-gap was vital to ensure the students had the opportunity to explore real-life reporting as part of their second semester newsday workshops so they could reflect on whether the virtual reality experience had been beneficial.

It included a range of open-ended questions and statements to be rated on a Likert scale to produce both qualitative and quantitative data. Likert scales are psychometric scales with multiple categories from which respondents “choose to indicate their opinions, attitudes, or feelings about a particular issue” (Nemoto and Beglar, 2014, p.2), for example, a range from strongly disagree to agree. The advantages of using such a scale include ease and speed of large data collection; highly reliable person ability estimates; and ease of compatibility of data, especially when “combined with qualitative data-gathering techniques, such as open-ended questions, participant observation, and interviews” (Nemoto and Beglar, 2014, p.2).

Nemoto and Beglar (2014, p.8) found that in research into educational phenomena, Likert-scale questionnaires should ideally be administered in conjunctions with other data-gathering approaches, such as open-ended questions and interviews, to produce a “well-rounded understanding of the construct under investigation”.

The nine open-ended questions were designed to evaluate the success of the workshop in comparison to traditional news writing exercises (using a press release or mock press conference); assess engagement in the workshop; elicit views on how the workshop contributed to readiness for the ‘real-life’ reporting the students would subsequently take part in during semester two; assess whether the students felt more connected to the story than with a traditional writing exercise; and how the VR experience was generally.

There were ten Likert-scale questions, on a scale on 1-5 (strongly agree to strongly disagree), including:

- Using the VR experience made me feel more confident about reporting on a breaking news event in person;
- Using the VR experience helped to prepare me for reporting ‘real’ stories on my semester 2 newdays;
- I felt more engaged in the VR workshop than one that involved drafting a story from a written press release.

Four students indicated they would be willing to take part in a focus group, however, just one attended, and took part in a short semi-structured interview.

The second phase of the research involved inviting Level Two (second year) students (n = 115) to attend a workshop-cum-focus group to try the experience and discuss whether they felt it would have made a difference in their training had they taken part in their first year. A total of four volunteers took part, using both the desktop and HMD versions of the experience, before a one-hour semi-structured interview.

The final phase involved a group interview with three colleagues who taught the workshop, one of whom was the module leader, with extensive teaching experience. An additional interview was held with another teacher who taught the students in semester 2.

### 3. Analysis

The survey results were manually coded and analysed. The Likert-scale question responses were calculated automatically by Google Forms, forming percentages. Interview and focus group recordings were manually transcribed and analysed thematically.

I wanted to remain flexible in my approach to thematic analysis, as “rigid rules really do not work” (Braun and Clarke 2012, p.82); so began my analysis by looking at the following themes: learning experience; engagement in task; comparisons with other teaching methods; ‘realness’ and impact on readiness for real-life reporting.

## Findings

### Learning experience and engagement in task

The survey results were overwhelmingly positive with regard to using the immersive news gathering experience.

In total, 80.5% (n = 29 out of 35 respondents) either strongly agreed (44.4%, n = 16) or agreed (36.1%, n = 13) that using the VR experience made the story feel more real than when using a simulated press conference or written press release (question f).

All students (100%, n = 36) either strongly agreed (74.3%, n = 26) or agreed (26.7%, n = 9) that the VR experience helped to prepare them for reporting ‘real’ stories on their semester two newdays (question e).

More than half either strongly agreed (8.3%, n = 3) or agreed (47.2%, n = 17) that the VR experience had a positive impact on the quality of their news writing (question b).

In response to question one, on engagement and whether learners felt it was a worthwhile experience, 35 out of the 36 comments (97%) were positive. Respondents noted it was a “fun experience” and it was engaging “collecting the information myself”.

Another wrote:

*“I thought the session was very engaging and enjoyable as it offered a more interactive experience in which you could build the story yourself rather than reading from a page of information.”*

Being active in the news gathering experience was also a common response:

*“I was more invested because we had to go and find the quotes ourselves.”*

During the focus group with Level Two students, all four students expressed how engaging they thought the workshop was. One said:

*“Last year we were just kind of given like a bunch of text, like just a press release. It's not very engaging. Whereas this I felt like you were just there, doing the actual reporting and getting a sense of people's facial expressions just feels more realistic.”*

Another respondent said:

*“It's quite good that you can just go out in a controlled environment such as this and actually take stuff in, and it gets you on that line of thinking of, okay, who should I be going to speak to for this, that and the other.”*

All three workshop teachers, and myself (I led two workshops and attended four others) noted an increase in engagement levels by the students, with one saying it was “one of the liveliest sessions” of the semester.

## Comparisons with other teaching methods

When comparing the exercise to writing from a press release (question 3), there was no overall consensus on whether it was easier or more difficult to choose the ‘right’ quotes for their stories. However, one student said the VR made it easier to pick out emotion, and gave you a sense of what really mattered to the individual you were watching”.

When asked to compare the task to re-writing a press release, another respondent said:

It allowed me to personalise the story in my own way. I could understand the words from the person's mouth rather than reading it, and I think that gave me a better understanding of their intended emotion.

The respondents also seemed to prefer the VR experience over mock press conferences, writing it felt “more clear and more useful”.

One respondent said they preferred it because they were “too shy to ask my own questions in front of an audience”. Another said that while they enjoyed mock press conferences, “the VR experience offered movement and almost a reflection of how the day would pan out in real time”.

Pace and control also seemed to be a factor in preferring the VR experience, as well as the ability to revisit certain scenes or content.

When asked how the VR experience made them feel in comparison to traditional news writing exercises, students consistently referred to “realness”, “more real”, “authentic” and “veracity”.

One interview was held with a student who had volunteered to participate in a focus group after submitting the survey. This participant had extensive experience with VR technology, owned a HMD mainly for gaming, and said they stayed “up to date of all the VR news and whatnot”. I felt it was important to gauge this particular student’s opinion, as research has shown that 45% of VR users are Gen-Z (born in the late 1990s to early 21st century), according to ARtillery Intelligence (2024, cited by Katatikarn, 2024).

The student said they felt using the VR experience “bridges the gap” between writing exercises using press releases and real newsgathering, being “a lot more realistic”.

Practising journalism through VR was “really cool” but the limitation of not being able to take notes while using the headset was a drawback, they said.

The Level Two students also discussed how the VR experience compared to the traditional learning methods they had experienced the year before. Several of the students remarked on how using the VR experience gave them the opportunity to add “colour” to their stories in a way they could not from using a press release; and the chance to produce a different story from their peers and “independence” in the news production process.

They also remarked on how it gave a better understanding of being “out in the field” than traditional news writing workshops, making future experiences “less daunting”.

One said:

*“You understand that you need to just be turning up to places and just starting conversations.”*

One participant, who described herself as a “visual learner” said seeing the video interviews made it easier for her to decide on which emotive quotes to include in the story.

Another participant remarked on how they had difficulty remembering the press release exercises from Level One and that the VR experience was “more likely to stick with you and you're going to keep those skills into the next year and you feel like you're actually putting in the work”.

In comparison to the large-scale press conferences, one participant said the VR experience was favourable:

*“Like the first year, it was just kind of like, we're in the big room with 100 other people, and everyone else was asking questions. You didn't feel like you were actually doing it. Whereas this I feel like actually using some journalistic skill.”*

The “gamification” of the learning process was also remarked upon, with one student saying the “excitement” of the task led them to strive to find more and more information for their story.

During their interviews, the workshop teachers spoke about the session adding variety and how having a break from traditional news writing activities was positive for student engagement. One said:

*“Just the opportunity to do something a bit different and for it to be such an interactive session, was really helpful for them. Sometimes it’s quite useful to distract them from the matter at hand. A lot of our sessions are to do with getting some material to write a story - that’s basically a supervised story writing session. The opportunity to just get them to do it, but without necessarily thinking overly about it, was quite a helpful thing to do.”*

Another said:

*“There’s no way that you would have taken a group of students out to a crime scene. And so to actually have that in front of them and experience it. I’m sure it made a real difference to them, and the fact that a lot of them chose it to put it in their portfolio says a lot.”*

*“Before the workshop, I held a brief session training the other teachers on using the HMDs and the desktop version. Teachers said using the experience was “straightforward” and students seemed “focused on the task when they were doing it”.*

One said:

*“It seemed very intuitive. It was quite easy to use, and I didn’t have any problems with students not being able to use it. They just got on with it.”*

The availability of the kit was noted by the module leader as a “resource issue”, as there were three or four Oculus HMDs in each session, which, they said, meant “a lot of juggling”.

*“People clearly enjoyed it as a different way of going about it,” they said.*

Another teacher noticed some hesitancy using the headsets, saying some students seemed to think

*“Oh, I don’t want everyone looking at me”.*

## **‘Realness’ and contribution to readiness for ‘real-life’ reporting**

The survey respondents had a lot to say in relation to how “real” they felt the exercise was. They said that it felt “more personal”; “more realistic” and “made the transition to proper news stories smoother”.

Students noted that “VR is arguably the closest thing to a real news interaction,” and that the videos gave you an idea of what to expect, and how the process of getting a story would work. One said they felt like then “actually went there, so when I did go out to interview people I wasn’t so scared”.

One participant said it allowed them to:

*“fully explore what being a journalist was like without leaving the classroom”, while another said “it helped me to better my writing skills”.*

Several students wrote about how useful they found it “in order to prepare for news gathering in the real world”.

One wrote:

*“The VR session was helpful to prepare me for real-life situations in the practice, such as note-taking, asking worthwhile questions, and picking out the best way to handle a story. I think that the experience was worthwhile and engaging.”*

However, there were two comments that indicated that VR was not a silver bullet, and that trepidation about reporting remained. One said the experience

*“did nothing to help with the anxiety of approaching people and the difficulty of choosing the right questions,”*

but that it did help them understand what to expect.

Another student noted:

*“The greatest challenge of being at an event is social pressure and feeling out of place and unwanted there. That is not a problem with VR.”*

One said:

*“It was 100% more real. You had real people talking, not just lifeless individuals. It gave it a more human experience.”*

56% of the respondents submitted a story based on the VR experience as part of their assessed portfolio (question 6).

69% used the Oculus headset to view the experience (question 9). Of these, 11 added further comments. Eight of these (73%) showed a clear preference for the HMD, with respondents writing it was “more immersive”, “more authentic” and “more realistic” (question 10).

One respondent showed a clear preference for the desktop version, noting they felt the HMD was “a little disorientating” and “not useful for actually getting any work done”.

Two respondents showed no clear preference, one of whom (who was later interviewed one-to-one) noted they owned the same HMD.

While the open-ended survey comments were overwhelmingly positive, there were some negative or neutral comments. One participant wrote they did not think it was necessary to use “visual form”.

Another comment said:

*“From a student who has a disability, the VR experience was great but perhaps is maybe slightly inaccessible, if for example, a deaf student might not be able to hear the audio.”*

It should be noted that captions were included on all videos.

From the Level Two focus group, in terms of newsroom readiness, one student remarked on how they were “really scared” to speak to people and how the idea of approaching a pub owner to speak about a story would have “freaked” them out. The VR experience, they said, showed them it was an “appropriate next step” and “what you should be doing”.

Several students remarked on how the experience “bridges the gap” between the classroom and independent reporting, with one stating “you don't feel like it's all handed to you on a silver plate.. but you're not left on your own”.

Another said:

*“Nothing's actually going to prepare you for ever doing it really. But this is, I think, the closest you can get. If you put somebody who's just had someone die and is bawling their eyes out in front of me, I mean, as a person, you know how to approach that to an extent. But as somebody who wants to, for lack of a better term, get something out of it and ask questions, I think it would take me at least a few minutes to sit there and figure out how I was going to go about it. And so I think even for us as second years, having a death knock or something like, this would actually really help us.”*

One participant remarked on how useful the experience was in showing the value of speaking to multiple people for a story:

In real life, when you first start reporting, you don't realise you have to. There is that expectation that it will be really easy and it {the story} will just come to you. Not that you'll have to walk around and piece things together.

The teachers agreed the session contributed to newsroom readiness and independent thinking. One teacher stressed that the session “made them (the learners) think” about the opportunities to introduce numerous voices or sources into a story, rather than “just a police inspector” but a second teacher questioned whether the learners had taken time, in writing the story, to consider which source may be the most important.

They said:

*“The ones I marked ended up quoting most people... maybe not the most emotive quotes. I don't think they necessarily grasped the concept of using the best quotes and being selective.”*

One further interview, with a teacher who took some of the students for newsday (real reporting sessions) in the semester 2 of Level One, was particularly insightful about the impact of the immersive experience.

This teacher said the method “had a direct impact on the learning progression of the students” on two occasions. In the first, when two students were reporting on a murder in Sheffield, they “were able to draw on the experience of the VR learning experience to have a greater understanding of how to approach a community in the aftermath of a tragic incident in a practical way”.

They were able to visit the crime scene and identify the key voices required for the story and how to access them, bridging the gap between the simulated experience and the real world event.

Another example was a major fire, where the students recalled the pub scene from the VR experience and approached the landlord in the area who was able to provide them with exclusive footage. Both stories received a first in the portfolio assessment as a result.

### VR Immersive Newsgathering Survey

Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
It was easier to select newsworthy quotes	27.8%	25%	33.3%	11.10	2.80
VR had a positive impact on the quality of my news writing	8.3%	47.2%	30.6%	11.10	2.80
It made me feel more confident about reporting a breaking news event	8.3%	36.1%	38.9%	16.70	0.00
It made me feel like I could report from the scene of a breaking news event	8.3%	38.9%	38.9%	8.30	5.60
It helped me prepare for reporting real stories on my newdays	74.3%	25.7%	0%	0.00	0.00
It made the story feel more real than a simulated press conference or release	44.4%	36.1%	8.3%	8.30	2.80
I felt more engaged in the VR workshop than in one that involved drafting a story from a written press release	33.3%	38.9%	16.7%	8.30	2.80
I felt safe to explore the VR environment	61.1%	19.4%	13.9%	0.00	5.60
I would recommend the workshop to student journalists learning news writing and/or gathering skills	63.9%	22.2%	8.3%	0.00	5.60
The workshop gave me the chance to use new technology	44.4%	38.9%	5.6%	5.60	5.60

**Table 1. :Likert scale question results:**

## Discussion and Conclusion

This research aimed to explore the usefulness of virtual reality as a teaching tool in journalism education in order to give a more engaging experience in student learning of how to construct a story with multiple sources. The VR experience itself also aimed to allow the students to experience what it would be like to visit the scene of a breaking news event; and help in preparing students to cover challenging journalist situations from a controlled environment.

While based on a single example of an immersive VR news gathering experience, it is clear from both the survey results, Level Two workshop/focus group and teacher interviews, that the findings support claims made elsewhere about the beneficial role of VR in an educational environment (Hamad and Jia, 2022, pp. 10-11).

The findings mirror those of Dalgarno and Lee (2010, p.20) when it comes to focus, with respondents overwhelmingly stating how engaged they were in the VR reporting task, compared with traditional news writing exercises, remarking on the feelings of ‘doing’ active reporting rather than simply undertaking a writing task

VR presents the opportunity for students to immerse themselves in the news gathering process in a safe and controlled environment before they go out to do it for real, honing the skills they are expected to have by employers. This reinforces Asad et al’s (2021, p.9) findings regarding prevention of risks.

The findings demonstrate that the inclusion of VR news gathering has the potential to prepare students for what they will experience as reporters in a way they are not currently, as discussed previously by Bradley and Trifonova Price (2024, p.213). As expressed by one workshop participant in this study: VR is “the closest you can get”.

As VR technology becomes more commonplace, the study suggests a natural progression to the inclusion of more teaching and learning activities designed using both immersive and non-immersive VR technology. This will help to foster confidence and resilience in a generation of students whose levels of anxiety are ‘worryingly high’ (Neves and Brown, 2022, p.58); and allow them to have an active role in the news gathering process during news writing workshops.

## Limitations

While the potential of VR to introduce innovative teaching methods into the journalism educators' classroom is evident, I would caution against overuse, or the pure replacement of traditional methods of teaching news writing skills, such as the press release or the mock press conference, as they too teach important skills that are needed in newsrooms. There is, of course, also the chance that the novelty of immersive technology would wear off if overused; and just like studies have shown gamification in education risks over-emphasizing rewards (Christopoulos and Mystakidis, 2023, p.1236), there is still the intrinsic challenge that the student journalists were simply given the quotes, and were not having their interviewing techniques challenged (apart from in the question section with the detective).

It is also vital that individual learner accessibility and support needs are taken into consideration. Virtual Reality is a very visual medium and not accessible to some people with vision impairments. Care must also be taken to ensure the content is not triggering for people with lived experience of trauma or those diagnosed with PTSD. In this case, a brief regarding details of the task was provided to students before they accessed the link to the VR experience.

It should be noted that while the survey had a good response rate, I had a limited response to the focus group. The study was also limited to just one VR immersive experience. It would be interesting to see what kind of response different storylines would have other than crime stories.

Cost, in time and money, should also be factored in. HMDs start at around £200 each - and will need to be updated as technology evolves, and that is before software licences and camera gear are taken into account. It is worth reiterating the findings of Hossain and Wenger (2024, p.136), that the biggest obstacle facing programme leaders in US journalism institutions was the need for long-term investment. Creating the session is far more labour intensive than simply creating a written press release exercise; and work on the project took place over several weeks, so staff buy-in and workload allocation should be considered.

## Project extension and other uses of VR in journalism education

Throughout this research, ideas for potential extensions of the crime scene project came about from both the author, learners and co-educators.

One teacher remarked on the difficulty of "getting that balance right" when it comes to preparing students for their second semester newsdays and teaching them "all the basics"; while another said the students tend to struggle with finding story ideas and "having the guts" to interview people.

All agreed that slotting the VR experience into the existing teaching plan would help to address these issues, and that they would work it into the timetable in future years, especially for "challenging scenarios" like death knocks.

In the words of one teacher:

*"You could include the ability to knock on doors, and include the act that they're going to tell you to go away. Then you could give them information from the codes [of practice] or something like that. I think we should make loads of these."*

Another teacher suggested giving learners "different pathways" so they could have more choice about "who" they interviewed in the experience.

A further extension task could be to hold an interview with the wife of the homeowner, either in person, or using an AI avatar.

Participants in the Level Two focus group also mentioned the potential of using VR to prepare students for rejection, which they felt they were not prepared for..

One student said:

*"In year one I feel like you weren't used to rejection. You didn't know until you got into the news days. Some people will be like, 'no, I don't want an interview'. Or if you ask them a question, they kind of get a bit touchy about it."*

While this research goes some way to examining the use of virtual reality in journalism education, more should be done to examine potential uses of immersive technology.

As a follow-up to the study, I devised an immersive investigation workshop for my Level Two elective module, Introduction to Investigative Journalism. Held during the final week of the semester, it aimed to

test the 33 students on investigative techniques and skills they had learnt throughout the course and help to prepare them for a multiple choice test that was worth 10 per cent of their overall grade.

The two-hour workshop saw students receive an audio ‘tip-off’ (created using an AI voice) from a member of the public who had been scammed by a website claiming to offer dental services in Turkey. Students were then taken to the website, which I had set up, and had to use OSINT (Open Source Intelligence) techniques to investigate the site and its owner.

The task culminated in an ‘interview’ with the man behind the scam - an AI-driven avatar within the WondaVR software. Students met ‘Danny’ in a virtual cafe, where they were able to question him (figure 12, on next page).

12 of the students completed a short survey after the workshop, and 100% either strongly agreed (83%, n = 10) or agreed (16.7%, n= 2) that it was a worthwhile learning experience.

A large number of students commented on how “engaging” the workshop had been, with one student saying interviewing ‘Danny’ was the “cherry on top”.

One said:

*“What certainly stood out was the interactive AI. I was able to successfully get out the truth from him and it gave me a confidence boost in terms of my ability to ask questions and get out answers. “*

Others remarked on how interviewing the AI avatar was “surprisingly realistic” in how it responded to questions, and helped them to word their questions in a way that would uncover information.

Another wrote:

*“It was really useful because you could see how hostile or closed off someone could become from asking the wrong question or making accusations too soon.”*

As a revision tool, learners said the session “highlighted areas I needed to review”, was “a fun way” to revise for the test and a “practical way of applying” what they’d learned.

Although this was a small-scale review of the workshop, my findings correspond with those of Braun and Slat (2014, pp.469-485) on how avatars can enhance pupils’ understanding in a training environment.



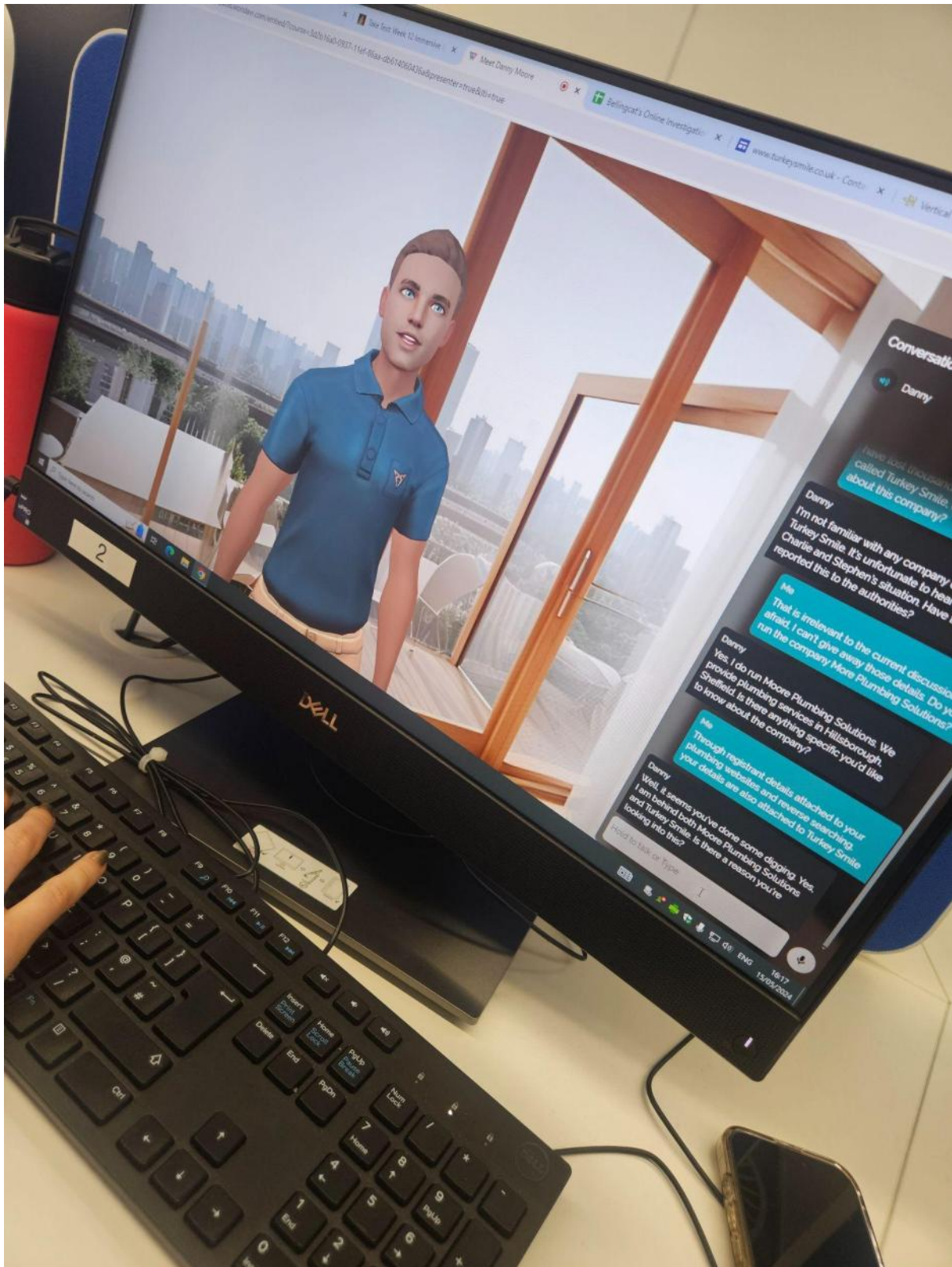


Figure 12: Students questioning AI avatar ‘Danny’.

# Recommendations

With all of this in mind, I set out recommendations to journalism educators who may be interested in using VR technology in their classes. These recommendations draw on my own experience of using VR, anecdotal experiences of colleagues at the University of Sheffield, and the methods and research outlined in existing literature.

## 1. Keep the scripts contained, and the topic engaging

In writing the scripts and preparing materials for the VR experience, I was conscious that I did not overwhelm the learners with too much information. The total word count for the scripts for all four actors was less than 1,000 words, an amount that was comparable to press releases used on the module for other news writing workshops. I also ensured that the topic itself was one that was different to other writing exercises the students would encounter on the course.

## 2. Encouraging engagement and reflection

While students were overwhelmingly positive about using the VR experience, it was clear from the teacher interviews that not all students felt comfortable using the HMDs in front of the class. Students were encouraged but not pressured to give both desktop and HMD versions of the VR experience a try, and I would urge educators to offer choice. I would also encourage designers of VR experiences to test as they go, and gain feedback from both colleagues and learners as their ideas are put into fruition, as the process can be relatively time consuming.

## 3. Not all scenarios are appropriate

In devising the scenario for the immersive experience, I tried to concentrate on an idea that would not be triggering for our students. While it was always possible that a student would have lived experience of a similar situation, I actively avoided developing an idea based on sexual assault, as students are three times more likely than average to have experienced sexual assault themselves (ONS, cited by Lewis, 2022, p.4). While such a triggering topic should not be written off, it should be handled with sensitivity.

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## Appendix

### Link to Immersive Newsgathering Experience

<https://spaces.wondavr.com/embed/?course=4e07a110-4668-11ee-bce3-1d5cfec37af6&presenter=true>

### Link to Immersive Investigation avatar

<https://spaces.wondavr.com/embed/?course=3d2b16a0-0937-11ef-86aa-db614060436a>

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# Thoughts on teaching good practice when reporting human catastrophe – 36 years on from the Lockerbie disaster

By Ken Pratt, University of the West of Scotland

**36 years ago, I was one of the first reporters to arrive at the devastating scene of The Lockerbie Disaster. A master of understatement, my news editor's phone call to my flat was to inform me 'there had been a wee aircraft crash in the Scottish Borders.'**

It took me about an hour and ten minutes to drive from Glasgow. Before I left, the editor phoned - my brief from him was 'to pick up the walking wounded and interview them.' There were no wounded, only dead, on Pan Am Flight 103. And only the sweet sickening smell of burning human flesh, something that reminded me of cannabis and makes me choke to this day whenever I smell it in pubs.

I spent the rest of Xmas 1988 camped in Lockerbie. Yet it wasn't the reporting of the horrific breaking news that bothered me. It was the repetitious journey back and forth to 'visit the villagers' months after the horrific event. It was during these 'newsgathering' assignments that I witnessed a distinct change in attitude from local people to journalists. As I saw it the national and international media had behaved like Magpies, hopping in, and stealing local contacts then flying off without a care in the world.

Today, regular conference debates rage around the future of journalism's 'disaster coverage ethics.' Local journalism is often held up as a comparatively shining light in its ethical approaches in galvanising, not destroying community trust in a free press. "Unless we can trust the news media to deliver common knowledge, the idea of the public – a collective entity possessing shared concerns – starts to fall apart" (Coleman, 2012: 36).

At Lockerbie, in contrast, several thousand national and international media converged on the town just hours after the crash causing massive congestion to the public telephone network at a time when local people desperately needed to contact relatives. The message is clear. In the rush to cover the breaking story, broken hearts were trampled on. Cut off and cast aside.

Our own UK Press and Media can be a selfish and egotistical beast. Linked to news values that are in turn tuned in to maximising profits, its worst characteristics can become magnified during disaster coverage. In today's culture of social media, remote newsrooms, AI, and virtual reality, the physical and, some would argue, emotional polarisation of journalists from the community grows at an alarming rate. It is this isolation that needs to be tackled not just in time of emergencies but in a way that symbiotically links our day-to-day training of students in a way that synthesises routine journalism education with seamless preparation for disaster coverage.

In 2019 the EJO (European Journalism Observatory) published a paper entitled *Can Journalists Learn Empathy?* In it Antje Gluck points to the organisers of the "Aftershock Nepal" project, Bournemouth University journalism lecturers Chindu Sreedharan and Einar Thorsen, who observed how the students who took part developed a greater sensitivity in dealing with survivors of the disaster. Gluck notes: "This helped to counter allegations of "parachute journalism" often made by local reporters when journalists sent by international media outlets to cover a crisis fail to recognise the deep trauma sustained by the people affected. Because they remained in the area for longer than usually happens in the aftermath of a

disaster, the students found that they were able to give the victims the sense that they were being taken seriously and that their stories would be heard by the outside world."

Gluck is right when she says the trainee reporters were in fact practising "solutions journalism" – in which journalism serves to highlight or even to solve social problems. They were happy to respond to the challenge posed by the project which required them to develop a high degree of emotional literacy but made them better equipped to deal with such situations.

Emotional literacy is key. As the dreaded Lockerbie 'anniversary' is almost upon us (December 21, 1988) and as TV Film and companies gear up for high-drama, New Year expositions of the horror, her calm intelligence is helping me to control the sense of anxiety I feel annually. She also moves me on intellectually from my own previously entrenched position regarding allegations of 'parachute journalism' at Lockerbie. As a young Scottish reporter, I shared the sharp disgust of insensitive press conferences dictated by brazen US and Received Pronunciation English accents clumsily trampling across the cultural and linguistic sensibilities of beautiful Dumfries and Galloway. The work at Bournemouth University is leading the way. From a teaching and learning perspective her findings clearly resonate with me on how a uniform approach to the teaching of Journalism with a capital J can help us to synthesise local, regional, national, and indeed global approaches not just to disaster 'coverage' but to coverage full stop. This is the start of a simple accessible solution we can all utilise in future to harness the beginnings of effective delivery of a 'universal' disaster coverage training for our students; one that doesn't necessarily solely involve the 'simulation of disaster scenarios' or the overstated use of virtual reality headsets, useful tools? yes in part, the complete answer no. When combined with new developing ideas on 'the teaching of empathy' to journalism students the lie of the land begins to change and suddenly we can begin to see how simple adjustments to our curriculum and teaching practice can catch the wave of the Bournemouth revolution.

I say revolution because to date disaster coverage training in UK higher education is a patchwork arrangement of little or no joined up thinking. To date, international studies of reactions among disaster survivors are limited (Englund 2022); the impact on local reporters' relations with local grassroots contacts post disaster and post involvement of national and international media even less so. Rex Li (2013) makes a parallel point in relation to International Journalism courses. He writes: "In the UK there is no agreement on what type of subject knowledge should be included in IJ courses. Basically, departments decide on what they believe to be necessary and appropriate for IJ students. But what academic knowledge do we want our IJ graduates to have apart from professional knowledge and the vocational skills required by the industry?"

In discussing the nature and scope of the subject area of Communication, Media, Film and Cultural Studies,<sup>3</sup> the subject benchmark statement published by the UK's Quality Assurance Agency for Higher Education (QAA) recommends that degree programmes in this area may draw on 'different sources of conceptualisation and practice that feed work within the fields', including 'the theories and methods of enquiry developed within the arts and humanities' and 'the theories and research methodologies developed within the major social sciences'. History and Political Science, among other subjects, are listed as examples. The QAA expects that these programmes 'are multidisciplinary and, in many cases interdisciplinary' while some 'individual degree programmes use these sets of resources in different ways and in varying combinations' (QAA, 2008, p. 9).

Low trust in media can also become not just a democratic problem but a real-life practical issue for local reporters trying to re-build relations after the global media circus has fled post disaster. 'Local journalists remain after the Klieg lights go dark and the national media flee our mud-strewn, burned-out Main Streets' (Little 2024). In 2023 Editors from 15 news organisations gathered at the World News Media Congress in Taipei to brainstorm ways to prepare their newsrooms and responses for unexpected disasters. Recommendations that emerged from editors upon analysis of the Framework through a news lens include:

- To take an active and inclusive approach in providing comprehensible information to enhance public awareness at regional and global levels, media outlets must recognise stakeholders' specific roles and responsibilities.
- When disaster-related information spreads rapidly on social media, news reporting should leverage social media and multimedia platforms to bring data, interviews, contextual facts, and background information to the public's attention. The goal is to help individuals better understand the impending situation.
- News media should enhance fact-checking and provide comprehensive reporting of the work already accomplished by relevant authorities.

- News media should collaborate closely with scientists and researchers, utilising data and analysing the impact of disasters.
- Journalists should question policymakers about the causes of such disasters and what steps must be taken next.
- When the disaster subsides, news media should facilitate forums that invite stakeholders, including policymakers, non-governmental organisations, and representatives of the people, to discuss how to better prepare for future calamities jointly.
- Consider the needs of the news audience before, during, and after a situation occurs.
- Who are these audiences?
- What are their needs during different phases?
- What is the priority order of these needs?
- How can news media respond to these needs?
- 

After the disaster, the most important stakeholders include news media professionals, the general public, government agencies, followed by scientists and science-media-related organisations.

- News media professionals must continue gathering facts, conducting follow-up reports, analysing the event's impact, and providing different perspectives to facilitate positive changes.
- The general public needs to learn how to recover from the aftermath of the disaster and prepare in advance for the next calamity.
- Government agencies, scientists, and science-media-related organisations should conduct post-disaster reviews and contemplate how to improve their response to future events.

Newsroom outputs should be visually appealing and interactive and could be disaster-ready by offering:

- Real-time updated maps
- Statistical dashboards
- Expert and survivor interviews in the form of articles, videos, photos, audio stories.

Meantime, The Poynter Institute offers us its *Five Pillars of Ethical Disaster Reporting*. We must train our students to stop calling them 'natural disasters' because disasters are increasingly shaped by man-made factors. Poynter notes: Using the blanket term "natural disaster" perpetuates the narrow thinking that all disasters are "natural." Instead, journalists should call these events "disasters caused by natural hazards" or, simply, "disasters." As also advocated by the Bournemouth University training, Poynter also argues that we need to stick around because a disaster story does not always end when smoke disappears, or floodwaters retreat. As I certainly witnessed at Lockerbie, in some cases individuals and communities never truly recover - instead the traumas they suffer "can manifest themselves in mental and physical health problems that are passed down over generations. Covering the period after the hazard can help capture a fuller story." This may be the case; however, The Poynter Institute should also consider how, or 'the manner in which' journalists 'stick around.' Being in Lockerbie over Xmas I was repeatedly asked if I didn't have a home to go to? And there was something else. As the Xmas trees glistened and stars twinkled in the black sky from where Pan Am Flight 103 had plunged, I felt terribly low at the assignment I'd been set. I was there to report on the emotions of the villagers - like a literary conman touring the village pubs at night waiting for the ubiquitous 'human interest angle'. It was opportunistic and shameful. There needs to be less emphasis on human interest and more focus on the causes as well as increased practice of solutions-based journalism where reporters are freed from their tight and repetitive human-interest deadlines to embrace the bigger picture as to how they can engage with aid agencies and local charities and government agencies to add their intelligence to helping the situation. As The Poynter Institute argues we need to 'stop perpetuating myths and tropes' - and that includes the type of exaggerated human-interest myths and tropes I was expected to regurgitate around heroism, historic family stories and new accounts of 'the night terror crashed from the sky.' Teach our students to focus instead on how people come together to support each other, how new communitarian cultures can arise from the chaos. It is important we also reach out to our students to try to explain what I can only call 'gut ethical responses.' In 2001 while working at *The Daily Record* I was literally the first reporter on the scene after a plane crashed into a field and burst into flames killing eight people seconds after taking off from Glasgow Airport. The twin-engined Cessna 402 Titan aircraft was carrying Airtours cabin crew members on a flight to Aberdeen. I watched the air hostesses burn, some of them still strapped to their seats. As the first eyewitness I genuinely felt I was doing my job by being there. The ethical nightmare for me, however, arrived the follow-

ing morning when I was dispatched to an air hostess's flat in Glasgow to obtain 'collect pics' of one of the dead air hostesses on holiday. It felt wrong being there. My gut ethical response was one of feeling sick. And, like being in Lockerbie during Xmas and afterwards into The New Year my recurrent nightmares were not about 'being first of the scene' but involved the disassociation of being a polarised neo-liberal entity walking the streets, searching through the rubble of lives long lost. This should not happen to our new generation of reporters. By engaging with various forms of solutions journalism they need to be trained to interact with the agencies on the ground trying to solve peoples' issues, instead of being trained to hawkishly swooping further 'human interest' stories, the exact definition of which in hindsight now discombobulates my reflective news sense. As Pulitzer Prize winner Gilbert Gaul (2022) writes: "Fewer tragic narratives about survivors, more stories about the causes of coastal disasters and who benefits from government rebuilding grants."

Teaching students empathy on its own isn't going to be enough. While important, it has to be combined with other progressive areas such as what Murphy et al (2020) describe as 'foot learning':

*"where students learn by walking a similar path as that walked by a journalist in a real hostile environment, but in a 'safe' environment. Immersion in the wilderness environment provides additional stimuli direct from nature, such as temperature change, smells, sounds, mud and dirt, rain, and wind. There are benefits to resilience-building from being in an austere wilderness environment. This in turn, theoretically should make the individual better able to cope in dangerous situations, no matter what the environment."*

During my training at DC Thomson (and later as a trainer there) we would regularly 'parachute' trainee reporters into coastal towns and villages. Their brief was to return with a story by approaching local businesses, churches, police stations. While useful, this had limited benefits over a day or a half-day. Better instead to revert to encouraging students to cover their own 'patch' - a more immersive experience over a lengthier period of time. Yet even this term requires nuanced interrogation. Students should learn to cover their patch, yes, but should firstly be drilled on the importance of reporting with the community not on the community.

'Staying longer' in itself isn't the solution; 'learning empathy' in itself isn't the solution; 'challenging concepts of human interest' in itself isn't the solution - combining the above with a humanities driven pedagogy will also help, particularly when combined with a form of journalistic communitarianism that doesn't view the public as 'the raw materials' of the trade or as an extension of 'the audience' or 'the readership' but one that introduces our students to the idea of embedding themselves not just physically but socially and culturally in the 'intellectual psyche' of the people within disaster hit areas. As Rob Chaney (2023), managing editor of the Missoulian in the USA says:

*"Journalists need to help communities truly adapt to change. Once the floodwaters recede or the flames burn out, reporters rush in to relay the community's tales of survival and loss. And we're usually just a step ahead or behind the local politicians promising recovery and rebuilding. While they're peddling hope, however, we need to look harder at what the future will bring and prepare our audiences for what's to come. Many of the changes we are seeing in our natural environment as a result of climate change are irreversible, and simply rebuilding an exact replica of what we had before is often a waste of time and resources, at best."*

Disasters, including climate emergencies, are a growth industry. And so is our reporting of them. According to Oxfam the number of climate-related disasters has tripled in the last 30 years. More than 20 million people a year are forced from their homes by climate change. Journalists have a critical role in communicating about disasters in their various phases and the approach they take to covering disasters can make a difference to the outcomes for those affected (Ewart and Dekker, 2013). While much of the literature to date has focussed on poor and unethical approaches of journalists to disaster coverage McLean (2018) and Shearer (1991) take a different perspective. Shearer writes: "There are two markedly different findings within the body of research about the impact of journalists' contact with those affected by disasters or their families. The first is that journalists invade the privacy of those affected and in turn cause further grief. The second is that journalists can help survivors of disasters and the families of those who died (Shearer, 1991).

As we enter the New Year, I am bracing myself for Academy Award, BAFTA, Golden Globe and SAG Award-winning actor Colin Firth portraying Dr Jim Swire (someone I interviewed repeatedly) in the upcoming limited event series *Lockerbie: A Search for Truth*. Colin Firth plays Jim Swire, the main character in the series. Swire is the spokesperson for the families of the UK victims. He leads a fight for justice, traveling across different countries. The series shows his journey, which challenges his personal life and his trust in the justice system. It will air on Sky in the UK on 2nd January, 2025 - a dramatic start to The



New Year. The blurb states that *A Search for Truth* is based on the real events of the Pan Am Flight 103 bombing. But a word of warning. Some academics have already cautioned that disasters are increasingly treated by some news media organisations as entertainment or spectacle causing significant issues for those managing responses and individuals caught in the events (Gotham, 2007). Film makers and producers should also note the impact their 'creative perspectives' can have on survivors and their families.

The teaching and learning paradigm should be set. There is, and will be, no escape from the harsh realities of clearly addressing what and how we teach disaster reporting to our students. Scanlon (2007) argues that the mass media can be either an 'unwelcome irritant' or a 'useful ally' in times of emergency and disaster. It is the term 'useful ally' that can hold the key to how we now encourage our students to critically reflect on their approaches to contact cultivation for a range of journalistic assignments, and not just for disaster coverage.

In *The Curious Case of US journalism education: Shrinking newsroom, expanding classrooms* (Mensing 2015: 219) argues that "educators need to be increasingly sophisticated when designing modules due to changes in how students respond to different teaching methods." Coursework, she argues, should have opportunities for critical self-reflection and independent learning. Mensing is right. But symbiotically linked to critical reflection is the need for a more exacting and simultaneously comprehensive guide to disaster coverage training. And here is the rub. One that not only changes how we and our students consider disaster coverage but one that challenges the very root of the definition of Future Journalism itself. One that recognises technology as a tool, not a God; one that challenges established news values; one that redefines 'immersion' in a community not necessarily to obtain 'the sharpest story material' but to trigger the very best of a new form of solutions journalism that makes our young journalists recognisable in the community as a constant force for good and acceptance within that community. If this means life changing experiences of new forms of participant observation, then so be it, let's build that into our curriculums.

In his 1922 study of media and public opinion Walter Lippmann wrote: "The real environment is altogether too big, too complex, and too fleeting for direct acquaintance. We are not equipped to deal with so much subtlety, so much variety, so many permutations and combinations. And although we have to act in that environment, we have to reconstruct it on a simpler model before we can manage it." (Lippman, 1922, p.8) Lippman's hypothesis must be challenged. The subtlety and variety he refers to has to be, and can be, fully embraced. We don't have to 'act' in any environment, we simply have to be real and fully empathetic human beings; a module or two from the humanities, yes even literature, should be build into our teaching as part of the process. And let's not forget literary reportage, the ever-present elephant in the journalism teaching room.

I refer back to Antje Glück. She looked at how perceptions of the importance of emotional awareness in news reporting have shifted in recent decades. It is one thing to acknowledge the role played by the emotions in news reporting. It is quite another to move beyond this and come up with an adequate response to the new challenges raised.

As journalists, we now need to find answers to some pressing questions: Is it possible to learn emotional literacy? If so, can it be learned systematically? Do we actually need to acquire this kind of knowledge in order to be a good journalist? In *Should Journalists be More Literate* Glück writes:

*"Every journalist has experienced a time when emotional intelligence became a more important element in news gathering and reporting than merely stating 'the facts'. Whether they're trying to persuade a reluctant interview partner to give a statement or dealing with unpredictable crowds whose dynamic can change at any moment, reporters need to do far more than just gather information. They also need to be able to perceive, understand and handle a situation emotionally. Journalism scholars – whose job is to observe how the boundaries of the profession are being redefined – are becoming increasingly aware of the extent to which the emotions make a positive contribution to news reporting."*

French philosopher Pierre Bourdieu considers empathy to be 'emotional capital'. So let's begin there. Let's tap our students on their technological shoulders, ask them to drop their mobile phones for a period and in a tutorial ask them to discuss the idea that journalists who possess a higher degree of emotional capital (understood positively as emotional intelligence) are likely to make a greater impact on the profession than those who do not.

Creating accessible simplicity is, of course, a constant challenge. However, as the world braces itself for increasing environmental disasters caused by climate change, global media could do worse than create new regulatory frameworks for listening with empathy to the nuanced post-coverage requirements of local people caught in the frontline of chaos.

It is no longer enough to get in, get the story and get out quick. Real world civic responsibility is now urgently required. Magpie culture should be called out as the enemy of responsible national and international journalism.

For emergency communications expert Joseph Scanlon:

*"The scholarship shows that the media can play a critical role before, during and after such incidents. The media are essential, for example, for warnings to be effective and may be the single most important source of public information in the wake of a disaster."* (Scanlon: 1985, 64)

For journalists that may mean more intellectual self-cultivation to revisit the scene of their original coverage with a firmer understanding of longer term 'solutions journalism' in mind.

Journalists need to re-balance their sense of psychological egoism (getting their name on the story) with that of global civic duty. Draw a clear line between exploiting a community's social capital and helping to build true and meaningful social and cultural links with the zone of coverage interest.

Put simply, good local journalists are correct to feel infringed upon when international media descend on their patch, ruining reliable ethical reputations and the hard fought for trusting relationship with valuable contacts.

On the night of the Lockerbie disaster one man happened to be in the right place at the right time for his work to be published globally. Local stringer Frank Ryan was a local reporter cherished for his accountability and his network of strong community contacts. Everybody loved Frank and the superb job he did of reporting 'from the community' not necessarily 'on the community.' Sadly, he died 25 years after the terror attack. But the mess left behind by 'international journalists' and the shabby way they exploited Frank's local people, will never be forgotten. Once the global media circus left town it was journalists like Frank who were left to pick up the ethical pieces and, as I experienced myself, it wasn't easy in the weeks and months, years afterwards for local people to fully trust journalists again.

An obituary in the *Daily Record*, Frank's former paper, recounts their man telling them:

*"I gazed in disbelief at blazing houses, streets littered with debris and chunks of aircraft. I watched the townsfolk, many of whom I knew, wandering around. They asked, 'What on earth has happened?'"*

The same question was soon to be asked about some journalistic practices after the disaster. Unless we can cultivate a new form of solutions journalism to focus on deep mistrust of the media that exists in some of our communities then Frank's legacy of a journalist you could trust may well never be found again.

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# Reviews

The reviews pages are edited by Sean Dodson. If you have a book you would like to review or have recently read a new book we should know about please get in touch. Also if you have recently had a book published and would like to see it reviewed, please contact Sean on [s.dodson@leedsbeckett.ac.uk](mailto:s.dodson@leedsbeckett.ac.uk)

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## Insights on Science Journalism, 2024, edited by Felicity Mellor Routledge

### Review by Richard Evans

**This collection of research is part of the Routledge Journalism Insights series edited by Richard Lance Keeble which focuses on specialist areas of journalism, such as sport, fashion and human rights.**

The Editor, Felicity Mellor, director of the Science Communication Unit at Imperial College, sets out to critically examine the specialism of science journalism in three sections; from a historical perspective, through discussions about relations between journalists and their sources and by exploring some of the voices used by science journalists. She does so with the help of an international cast of academic researchers into science communication.

The historic perspective is explored in Mellor and Susan Swanberg's account of the establishment of the non-profit Science Service by the retired newspaper publisher E. W. Scripps and the zoologist William Ritter in the United States in 1921 and role of the New York Times in developing scientific reporting. Jane Gregory traces the development of science writers' associations in Britain, France, the US and Latin America since the 1930s. Jared Keller's research in the written archive of the BBC highlights the work of some of the key figures involved in developing popular science talks and radio programmes after the second world war and the subsequent development of BBC coverage in the 1960s.

In international case studies exploring the relational dimension, Alexandra Borissova Saleh discusses the challenges of reporting on science under an authoritarian regime in Russia after Covid and during the war in Ukraine. An Nguyen and Minh Tran explore the 'colonial order of science and knowledge' in a study of the undue dominance of science news from the Global North in Vietnam. Irene Broer presents a study of the work of the Science Media Centre in Germany.

In the section exploring the style and voice of the science journalist, Katarzyna Molek-Kazakowska proposes a thoughtful typology of the news values of popular science magazines involving consonance, eliteness, impact, negativity, personalisation, positivity, proximity, superlativeness, timeliness and unexpectedness.

The writing in this book is clear and well-referenced and at its most illuminating in these historic and contemporary case studies which provide fresh perspective on areas of communication research. Students of journalism looking for the voices of science journalists and advice on developing craft skills for the 21<sup>st</sup> century may have to look elsewhere.

They might consider discussion in the book about the prevalence, reasons and implications of churnalism have been well explored since the publication of *Flat Earth News* (Davies, 2008) whilst in organisations like the BBC discussions about impartiality moved away from false balance some years ago into more nuanced discussions focussed around John Bridcut's 2007 report for the BBC Trust, *From Seesaw*

to Wagon Wheel which encourages consideration of a wider range of opinions (Bridcut, 2007).

A critical discussion of Rebecca Skloot's 2010 best seller *The Immortal Life of Henrietta Lacks* (Skloot, 2010) highlights some of the ethical challenges for the science journalist mediating relationships between readers and subjects, use of first-person narrative and power dynamics in reporting on under-represented communities. In light of her lengthy and well-documented fight for publication Ms Skloot might find it a tough read. Her critics would undoubtedly have written a different book, as indeed might Ms Skloot if she was writing it today. One can only hope it would have been as successful in exposing the injustices perpetrated on Henrietta Lacks and her family since cells from her tumour were harvested in 1951.

With misunderstanding of and disinformation about science spreading in this 'post-truth' era there has arguably never been more of a need for clear and robust reporting of science, and the publication in the UK of another text focussed in this area should be welcomed. One of the challenges for books seeking to provide an academic perspective on current professional practice is reflecting the reality of a fast moving, constantly disrupted media landscape through the lens of more considered academic research which can be swiftly overtaken by events like the disruption of the pandemic. It is here perhaps that this book falls short in places. With the exceptions of the German and Russian research by Broer and Saleh, reporting of COVID is mentioned only in passing, for example.

The book concludes with a transcript of a discussion between the author and Chat GPT about the future of science journalism, in which she manages to tease out of the chatbot a warning of a scenario involving an AI dominated information ecosystem, unchecked information, algorithmic bias amplifying divisive content, a decline in journalist quality, loss of jobs and diminished public trust. There is no mention from Chat GPT of the science journalist becoming an endangered species, podcasting or a science media landscape increasingly dominated by narratives of authored first person opinion. In addition, the book went to press before the election of a US government led by a climate change denier who has nominated a vaccine hesitant health secretary. Perhaps science journalism has nothing to worry about, or maybe that's for the second edition.

**Bridcut, J., 2007. *From Seesaw to Wagon Wheel: Safeguarding Impartiality in the 21st Century*, London: BBC Trust.**

**Davies, N., 2008. *Flat Earth News: An Award-winning Reporter Exposes Falsehood, Distortion and Propaganda in the Global Media*. London: Chatto and Windus.**

**Skloot, R., 2010. *The Immortal Life of Henrietta Lacks*. New York: Crown Publishers.**

Insights on Science Journalism, 2024, edited by Felicity Mellor Routledge 212 pages ISBN-10 : 1032341289 ISBN-13 : 978-1032341286 £31.66

- Richard Evans taught at City St George's, University of London until 2024 where he designed and taught the module Reporting Science and the Environment. He worked as an engineer before moving into newspaper and then broadcast journalism. He is now working as a freelance presenter for BBC Radio 4.

# New books you might enjoy this Christmas

## A Sociology of Japan: The last Empire of the Press by Cesar Castellvi

An in-depth analysis of journalism in Japan during the golden era of the daily press and the gradual introduction of digital technology starting from the mid-1980s to the late 2010s.

By presenting first-hand testimony from journalists and field notes collected from fieldwork in the newsroom of one of the country's largest newspapers, this book provides a unique insight into Japan's highly active yet relatively under-institutionalized journalistic profession. It also explores the changes experienced by the organizational development of Japanese journalism in response to broader changes in Japanese society, such as the emergence of social networks, the evolution of reading practices, the demographic situation, and the new aspirations of the Japanese youth.

Based on an extensive ethnographic fieldwork carried out by the author over several years, this book will be of huge interest to students and scholars of Japanese society, journalism, and media studies.

Routledge; Paperback: 174 pages ISBN-10 : 103261580X ISBN-13 : 978-1032615806 £32.47



## The Newsmongers: A History of Tabloid Journalism by Terry Kirby

Back in the UK, the *Newsmongers* unfolds the seedy history of tabloid journalism, from the first printed 'Strange Newes' sheets of the sixteenth century to the sensationalism of today's digital age.



The narrative weaves from Regency gossip writers through New York's 'yellow journalism' battles to the 'sex and sleaze' *Sun* of the 1970s; and from the Brexit-backing populism of the *Daily Mail* to the celebrity-obsessed *Mail Online* of the 2000s. Colourful figures such as Daniel Defoe, Lord Northcliffe, Hugh Cudlipp, Rupert Murdoch and Robert Maxwell are brought to vivid life. From scandalous confessions to the Leveson Inquiry, the book explores journalists' unscrupulous methods, taking in phone hacking, privacy breaches and bribery. In the digital era, popular journalism succumbed to 'churnalism' while a certain royal is seeking revenge on the tabloids today.

**Terry Kirby** is a senior lecturer in journalism at Goldsmiths, University of London, and the author of *The Trials of the Baroness*. He has been a journalist for more than four decades and has worked for local, regional, and national newspapers.

Reaktion Books Hardcover: 336 pages. £16.38 ISBN-10: 178914941X ISBN-13: 978-1789149418

## News Media and The Financial Crisis: How Elite Journalism Undermined The Case For A Paradigm Shift by Adam Cox

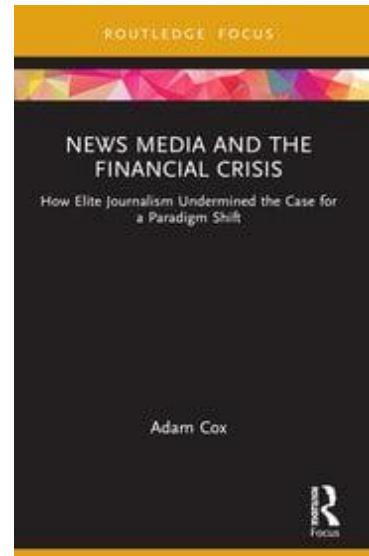
**This book explores how leading news media responded to the 2008 financial crisis and its aftermath, showing how journalists regularly framed discussions about post-crisis regulatory reform in ways that reinforced the same market liberal policy paradigm that had ushered in the crisis.**

Drawing on an analysis of nearly three years of news coverage and on interviews with journalists who covered the financial crash for major media groups, Adam Cox demonstrates how this framing of issues, often focusing on the costs of tighter regulation rather than the preventive benefits, formed the basis of a post-crisis narrative in the United States that undermined the role of the state, despite the wreckage that had just occurred. He looks at how state actors, think tanks and the financial industry worked in concert to encourage such a narrative, ultimately lending support to a market liberal worldview that was being seriously challenged for the first time in decades. While highlighting journalists' ability to resist agenda-building efforts by powerful actors, this book offers a methodology for considering media narratives based on quantitative analysis of framing patterns.

*News Media and the Financial Crisis* is aimed at students and researchers working at the intersection of communications, journalism, political economy and public policy.

**Adam Cox** is a Senior Lecturer at the University of Roehampton, where he teaches classes on journalism practice and theory. Before working in academia, he was a journalist. His career included a 20-year stint with Reuters, where he held several senior editorial roles in Europe and Asia. He has covered many of the biggest financial stories of the past 30 years, including the European currency turmoil of 1992–1993, the launch of the euro and the 2008 financial crisis.

**Routledge: Paperback: 140 pages. £18.50 ISBN 9781032012643**



# Welcome

**Journalism Education is the journal of the Association for Journalism Education, a body representing educators in HE in the UK and Ireland. The aim of the journal is to promote and develop analysis and understanding of journalism education and of journalism, particularly when that is related to journalism education.**

## Editors

### Prof. Chris Frost, Liverpool John Moores University

**Chris Frost is emeritus professor of Journalism at Liverpool John Moores University and has been a journalist, editor and journalism educator for nearly 50 years, working in newspapers before moving into the academy.**

He is a former Chair of the Association for Journalism Education in UK and Ireland. He is a former president of the NUJ and still sits on the union's National Executive Council and chairs the union's Ethics Council. He is a former member of the UK Press Council.

Chris has authored several books, including *Journalism Ethics and Regulation*, 4th edition (2016) and *Privacy and the News Media and Reporting for Journalists*, 2nd edition (2010) – as well as many book chapters and academic papers mainly concerning journalism ethics and regulation.

He has been a consultant or visiting professor in much of Eastern Europe, China, Malaysia, India, South East Asia, and Africa.



### Dr. Lada T. Price, University of Sheffield

**Dr Lada Trifonova Price is a Senior Lecturer in Journalism at the Department of Journalism Studies, University of Sheffield, UK.**

Her current research focuses on challenges to media freedom and journalistic practice in Eastern and Southern European democracies, as well as examining physical and psychological threats to safety of journalists.

She has published several papers on journalism practice in fragile democracies, ex-

amining a range of threats to press freedom, censorship and self-censorship, ethical challenges, and media corruption.

She is the editor of the *Routledge Companion to Journalism Ethics* published in 2021 and just edited a special journal issue on trauma literacy in global journalism education and practice for the *Journalism, Media & Communication Educator* published in June 2023



### Book editor - Sean Dodson

**Sean Dodson is the course director for the postgraduate Journalism and Public Relations program at Leeds Beckett University.**

Before this role, he worked as a staff journalist at *The Guardian* and contributed to various international publications like the *Sydney Morning Herald*, *Melbourne Age*, and *South China Morning Post*, among others. He has also written for newspapers and magazines such as *Wired Magazine*, *Design Week*, *The Big Issue* and *Dazed and Confused*.

His academic work focusses on the ethics of digital journalism. His ongoing research project aims to gauge the extent of influence that traditional media wields over the news agenda in the realm of social media.

Sean holds the position of a senior fellow at the Higher Education Academy and has served as a judge for the Orwell Prize, which is the most prestigious award for political writing in the UK.





# The next edition of Journalism Education

The next edition of Journalism Education is due in spring 2025 and the deadline for paper submissions is At the end of March, although early submissions are always welcome.

The editors will be aiming to publish the following edition in late summer allowing time for those presenting at the summer conference, to expand their ideas. The journal editors are always happy to see new papers submitted either for full referee or as a shorter unrefereed Comment and Criticism essays. Experienced researchers are very welcome to submit papers about journalism education or about journalism as it affects students or lecturers. However, Journalism Education was started by the AJE with less experienced researchers in mind and was structured to give members new to research a place to publish, where their lack of experience will not be held against them. The editorial policy is to give a helping hand to new academic authors who may be highly experienced writers, but less experienced in academic research.

We want to publish the best papers and cutting-edge research about journalism education and training but we believe we have to work closely with less experienced academics to help them get their paper into a publishable form. In order to facilitate that, please don't be afraid to contact the editors to discuss ideas and proposals. We will be happy to advise over what would work, and how to go about it and to make suggestions for improvements in paper proposals. Of course even experienced researchers find such discussions useful! You can get in touch at [AJEjournal@gmail.com](mailto:AJEjournal@gmail.com).

## Academic papers to be submitted to referees

Papers should be between 5,000 and 8,000 words and involve some aspect of journalism education, teaching, research or pedagogy. The pandemic obliged much innovative teaching and new study methods, and these experiences deserve a wider audience. We also welcome papers that have followed your favoured area of research.

## Essays, comment pieces or criticisms of published work

*Journalism Education* welcomes essays commenting on, criticising or describing innovative teaching practice, research methods, or scholarly debate on issues of journalism that crop up in your teaching. Debate is a key method of advancing good practice and is particularly important for an academic field that often welcomes experienced practitioners to become academic practitioners in mid career. Essays can be of any length from 1,000 words to 4,000. Please follow the style advice.

## Book reviews or promotions

Book reviews are always useful in informing us of what has recently been published and giving careful guidance about why it might be useful. Similarly, if you are due to or have recently had a book published, write to us and tell our readership about it. Publishing a new book is a big deal for any author and it's important that people know that it is out there and available. Telling us about it will allow us to put it in our new books section, keeping other members up to date with the latest publication.

Our books editor, Sean Dodson will be pleased to hear from you. Reviews of appropriate books should be approximately 600 words. We can't guarantee publication of unsolicited reviews of books, but are always grateful to be given the opportunity to consider a review proposal. Please contact Sean Dodson, the reviews editor, if you wish to submit a review. All book reviews should include author, title, ISBN number, publisher, number of pages and price.

## Guest editing

If you are considering running a conference on some aspect of journalism in the near future then why not contact us to discuss the possibility of guest editing a future edition with articles from conference speakers?

We welcome guest editions where journalism lecturers and researchers are able to expand on their special interest either by inviting colleagues to produce papers to a particular theme or by organising a conference and inviting colleagues to submit paper ideas.

Guest editors are responsible for identifying potential authors, inviting them to contribute, finding referees for their papers and then submitting the final version to the Journalism Education team. The team will then pull the journal together and send PDFs back to authors and editors for a final check before publishing.

This is an excellent way to spread your academic wings by making contact with authors and referees, assessing papers and deciding what is publishable and steering the research profile of journalism for at least one issue.

## Talk to the editors

You can talk to the editors by emailing [AJEjournal@gmail.com](mailto:AJEjournal@gmail.com) with your proposals, ideas, or finished papers. We look forward to hearing from you.

The deadline for articles and papers for following editions is March 21, 2025 but material sent earlier would be appreciated as would an early notification of intention to submit. Articles should be submitted to the editors at [ajejournal@gmail.com](mailto:ajejournal@gmail.com) together with a 100-150 word abstract. Comment and criticism articles can be more polemic and do not require an abstract.

## Presentation and submission:

Articles should be produced in Word format, double spaced and set in Times New Roman 12pt with the minimum of formatting. Please **do not** press the “enter” button to put a double space between paragraphs and do not use specialist templates. Referencing should be in standard Harvard form with citations in the form: (Simmons 1955: 404) whilst notes should be set as endnotes. References should put the publication title in italic with authors’ name in the form: Jones, Brian (2004).

Please include a short (70-100w) biography as a separate document.

All tables and figures should be produced separately either at the end of the article or in a separate file. Each should be clearly labelled Table 1:..... Table 2:..... Fig. 1:.... Fig. 2: etc and a note inserted in the text identifying approximately where it should be placed.

## Copyright:

Authors should confirm they have cleared all copyrighted work for publication and agree that they will indemnify the editors against claims for defamation, copyright infringement or plagiarism. All authors will be asked to sign a contract confirming this.

## Process:

Papers are sent to at least two referees for comment. On return your paper will be accepted, accepted following editing as identified by the referees or refused. Comment and criticism pieces and book reviews will be decided by the editors but may be accepted on the basis that they are edited as identified.

## Proofs:

Once accepted, authors are expected to return proofs within 72 hours of receipt.

# Style guide

Please provide a title and an abstract and author details together with a 50-100 word biography for each author on a separate sheet to allow for anonymization. This sheet will be separated from the article before being sent to referees so please put the title only at the start of the article.

Sub-heads should be in bold;

Second order sub-heads should be in bold italic;

Please use single quotation marks (double quotation marks for a quote within a quote);

Indent long quotes of two lines or more;

Please do not use the enter button to insert space between paragraphs or headings;

All illustrations, tables and figures should be sent separately either at the end of the MS Word file or as attached JPGs. Clearly label approximately where they should be placed with fig 1, table 1 etc.

## Citations and bibliographic references should be in Harvard style.

### Part I: Citations

Place references in your work in the following order: Name, Date: page number(s)

For example,

1. Directly quoting an author

It is sometimes forgotten that 'English is one of the most flexible and expressive languages in the world' (Hicks, 1993, p.1)

He goes on to say, 'In brief, the reigning media consensus has been characterised either as overly liberal or leftist or as conservative, depending on the view of the critic' (McQuail, 1992, pp.255-6).

2. Indirectly quoting an author (where you sum up what is being stated in your own words). This must be grammatically correct, as well as accurate.

E.g.: Hargreaves (2003, p.47) believes that Henry Hetherington's populist journalistic techniques, employed by him in the 1830s, were the basis of tabloid journalism.

3. Referring broadly to ideas you have read in a publication (not to a specific point/quote). You don't need

to cite page number in this case. E.g.: Franklin (1997) has highlighted the effects and reasons for so-called dumbing down in the media.

4. If the same person is referred to immediately after a previous citation, you can use *ibid*.

5. If there are more than two authors, you can use *et al*.

### Part II: Bibliographic References

A list of Bibliographic References is required at the end. Please provide the names of all authors (including first name initial) and provide references in alphabetical order of surname. With an author who has written a number of books and articles that have been cited, list them all separately, with the most recent first (see Manning).

Examples of how to present Bibliographic references for Journalism Education are given below

Bibliographic references

Franklin, B (2003) 'A Good Day to Bury Bad News?': Journalists, Sources and the Packaging of Politics in Cottle, S (Ed.), *News, Public Relations Power*, London: Sage pp. 45-61

Hall, S, Critcher, C, Jefferson T, Clarke J, and Roberts, B (1978) *Policing the Crisis. Mugging, the State and Law and Order*. London: Macmillan

Harcup, T (2004) in Pape, S and Featherstone, S (2006) *Feature Writing*, London: Sage

# Journalism Education

## The Journal of the Association for Journalism Education

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