

## Research article

# Climate change education (CCE): a case study of the BAFTA albert Education Partnership's Applied Skills for a Sustainable Media Industry module

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## Abstract

This article explores the integration of sustainability skills within a screen industry module through the critical lens of climate change education. Applied Skills for a Sustainable Media Industry was designed for UK higher education by a university–industry collaboration with BAFTA albert. This initiative started with a handful of higher education institutions and representatives from education bodies, but it now includes more than 50 partner institutions and organisations. This case study focuses on the module developed by the university–industry collaboration. The Applied Skills course, which teaches both production-based and content-focused curricula, is explored through its various continuities and alterations in the context of the wider literature on climate change education. While the name may sound deceptively simple – in being teaching about climate change – climate change education is a complex and multifaceted concept which spans international education policies, disciplines, interpretations and actualisations. In recent years, focus has been placed on understanding climate change as a complex social issue as well as a scientific one. This has meant a shift away from a science-only approach towards more systems-level thinking that cannot escape sociopolitics. Thus, there is an imperative within climate change education to teach both 'climate' and 'change'. In response,

this article explores how the offerings from Applied Skills can be analysed with reference to the wider scholarship on climate change education, with a particular focus on the scientific (climate) and social (change) themes. The research concludes with an overall reflection on the BAFTA albert Education Partnership in the context of climate change education, the wider university landscape, and university–industry collaborations.

**Keywords** BAFTA; albert; climate change education (CCE); pedagogy; film; TV; streaming

## Introduction

Through the lens of historical and current thinking on climate change education (CCE), this article explores the integration of sustainability and climate change skills within a screen industry module designed for UK higher education. The university–industry collaboration known as the BAFTA (British Academy of Film and Television Arts) albert Education Partnership (BAEP) has produced the Applied Skills for a Sustainable Media Industry module. Much like the aims of BAFTA albert (<https://wearealbert.org/>) – the leading UK industry body on screen sustainability – the Applied Skills course has a twin focus on production and content. It teaches the next generation of screen professionals key skills, from climate science and measuring CO<sub>2</sub>e (carbon dioxide equivalent) for productions, to editorial toolkits for sustainability onscreen. To paraphrase [Kääpä and Vaughan \(2022\)](#), it straddles both issues of representation and issues of materiality. While different film, television and streaming (FTS) disciplines and partner institutions can adopt the module in diverse ways, much of the content and the assessments are prescriptively set within clear learning outcomes.

Such developments can be explored via the lens of the wider scholarship and developmental thinking on CCE. This article begins with an overview of CCE, followed by a section on how the specific FTS disciplines have been engaging with sustainability and climate change. This provides a foundation from which to outline Applied Skills in detail, subsequently applying the critical lens of CCE perspectives to the module as it has developed and evolved since 2018. Particular attention is paid to the course through the frame of understanding climate change as a ‘complex social as well as scientific issue’ ([Stevenson et al., 2017](#): 67). This is because CCE would argue for a closer examination of systems thinking and society to move beyond the science of climate change and towards the imperative to teach both ‘climate’ and ‘change’ ([McKeown and Hopkins, 2010](#)).

The research for this study uses open-source ASReview Lab software to sift literature on the extensive field of CCE and to extrapolate relevant thinking on CCE specifically as it pertains to teaching and pedagogy. Scopus was the main database used, returning 2,981 results for searches on ‘teaching and climate change’ and 646 results for searches on ‘climate change and pedagogy’. ASReview Lab is artificial intelligence systematic literature-reviewing software that can be trained from these datasets to recognise articles specifically relevant to CCE. For example, from the 646-item dataset, 253 results were reviewed, finding 47 relevant records for further review. Because the software sifts the relevance of records to the top, it is acceptable to stop reviewing after finding 100+ irrelevant records – negating the need to survey the entire dataset. Doing this for both datasets allowed for a thorough exploration of historic and current thinking on CCE. Because CCE is such a wide-ranging and unfixed concept, it is important to explore this in detail before applying some of its ideas to an analysis of the Applied Skills module.

## Climate change education (CCE)

The practical application of climate change scholarship for teaching in FTS disciplines is currently unclear and under-researched. However, in education more broadly, teaching about climate change has a long tradition, commonly known as climate change education. The first thing to say about this is that because the term sounds deceptively simple, even the articles that cover it or conduct systematic literature reviews about the idea rarely actually define what it is. CCE scholarship is instead mostly concerned with the

functions of CCE, topics that should be covered, learning and education philosophies, or how it can be effective or evaluated. In other words, other than teaching about climate change, the definitions or pedagogies are unfixed and fluid.

While there has been a steady growth in articles about CCE since the 1990s (Monroe et al., 2017; Reid, 2019), it is only recently that courses on climate change have become a more frequent part of college and university curricula (Leichenko and O'Brien, 2020). Yet, others argue that CCE is still 'sparse and ad hoc' (Beasy et al., 2023: 1678). While there is a significant body of work on CCE, from assessing its role in universities (Reimers, 2021a, 2021c), through to early education contexts nationally and internationally (Liebhaber et al., 2024; Monroe et al., 2017; Reid, 2019; Stevenson et al., 2017), privileging the physical sciences has long been a priority. For example, UNESCO launched its Climate Change Education for Sustainable Development programme to foster 'climate literacy' in 2010 (Reimers, 2021a, 2021b, 2021c). While some recent work aimed at educators is still framed as teaching and learning about climate change from a science education perspective (Ben Zvi Assaraf et al., 2024; Shepardson et al., 2017), it is now accepted that CCE is no longer something that should only be focused on the science of climate change. Instead, for some, CCE should be 'about learning in the face of risk, uncertainty and rapid change' (Stevenson et al., 2017: 68).

One certainty is that 'a great variety of approaches and methods co-exist under the same term Climate Change Education' (Reimers, 2021a, 2021b, 2021c: 13). It is now widely established that CCE is seen as crucial to address the climate emergency, with grand expectations being placed on this enterprise (Beasy et al., 2023; Gough and Gough, 2021; Liebhaber et al., 2024; Perkins et al., 2018; Reid, 2019). 'Mainstreaming' CCE is advocated by several researchers and international bodies (Stevenson et al., 2017), yet evidence on its effectiveness is contested (Reimers, 2021a, 2021b, 2021c). Progress in this area has been slow, especially considering that over three decades ago, education was highlighted as a crucial aspect of the 1992 United Nations Framework Convention on Climate Change (Reid, 2019; Reimers, 2021a, 2021b, 2021c).

Furthermore, Gough and Gough (2021) argue that environmental education has been on the international agenda since 1972. Subsequent UNESCO reports and international frameworks have reinforced the connection between climate and education, from the United Nations Sustainable Development Goals (SDG 4 – Quality Education, and SDG 13 – Climate Action) to regular events at the annual Conference of Parties (COP). However, Reid (2019: 770) argues that teaching CCE is still 'far from a requirement' for educational institutions. While some universities made commitments to sustainability three decades ago, and SDGs have been implemented in the curricula of some institutions, many others are yet to commit to initiatives such as the SDGs or CCE more broadly (Gough and Gough, 2021).

It is worth stating that while UN-led initiatives such as the SDGs are 'non-binding' (Kääpä and Vaughan, 2022: 4), some still consider that universities are 'uniquely positioned to be at the forefront of the transformation process' (Molthan-Hill and Blaj-Ward, 2022: 944). The same authors point out that while progress has been made in the UK, with bodies such as AdvanceHE and the Quality Assurance Agency highlighting the need for a sector-wide approach, how (and whether) climate change is being taught varies greatly. Accordingly, Molthan-Hill and Blaj-Ward (2022) cite disciplines that do not have connections to the physical environment, or that are without professional accreditation, as those not contributing as much as they might to developing CCE.

## FTS and CCE

One such set of disciplines that might not be immediately obviously connected to climate change education are FTS studies. Yet, academic scholarship in this area demonstrates a deep engagement with sustainability and the environment. Although ecocriticism has had many iterations over the past three decades (Kääpä and Vaughan, 2022), the environment has been entwined with the humanities for over half a century. Raymond Williams's (1973) *The Country and the City* is the starting point of UK ecocriticism,

with the 1990s seeing the development of more critical analyses of the media and news agendas covering environmental topics (Ader, 1995). From here, we see ecocritical literacies applied to film and media, with the evolution of theories and practices around eco-cinema and eco-media (Lopez, 2024; Rust et al., 2013, 2015).

Following this focus on representational patterns, there has been a more pronounced engagement with the impact of media production in the 2010s (Cubitt, 2017; Käätä, 2018; Maxwell and Miller, 2012; Starosielski and Walker, 2017; Vaughan, 2019), and, consequently, new disciplines such as environmental media studies (Shriver-Rice and Vaughan, 2020) have emerged. Film, television and media educators are deeply engaged in scholarship around the climate crisis, as evidenced in recent years with substantive edited collections (Käätä and Vaughan, 2022; Lopez et al., 2024), leading Leyda (2023) to assert that the concept of the Anthropocene – the epoch of humankind’s visible mark on the Earth’s systems – has taken hold in humanities scholarship.

Whether this interest is actualised in classrooms and pedagogy is less clear. Research demonstrating how the humanities engage in CCE is scarce, beyond pointing to the obvious connections between stories and change narratives (Shwom et al., 2017). Internationally, there is a push to include ‘sustainability teaching and learning for “non-green” degrees’ (as expressed in a personal email invitation from the publisher Pearson to the ‘Let’s Talk Sustainability’ webinar on 10 May 2024). In Europe, there are currently job advertisements for professors with a focus on media and the environment (personal email communication posted in the Sustainable Media Workgroup for the European Network for Cinema and Media Studies, 26 June 2024). It is not controversial to say that higher education in general is yet to align sustainability with equality, diversity and inclusion initiatives (except where intersectional issues arise). In the UK, a sizeable number of film-making courses are now involved in the BAEP, but Hjort (2022) argues that environmental sustainability is still marginal in film-making education more broadly.

While this special issue addresses the fact that little scholarly attention has been paid to applied environmental research in the classroom from an FTS perspective, such reflections do exist (Hjort, 2022). For example, a handful of works have now explored the work of albert in various degrees of detail (Breton et al., 2022; Chapple et al., 2020; Käätä, 2022; Käätä and Vaughan, 2024; McWhirter 2022; Özdemirci 2016), but research into its training materials remains underexplored. Few so far have published on the BAFTA albert Education Partnership (McWhirter, 2022, 2023), or reflected on how its learning materials are considered within courses (Fox, 2022).

Simultaneously, it is important to note that albert is not the only organisation in the screen industries that has engaged with climate change. Many industrialised screen media industries have ‘developed extensive programs for carbon calculation and mitigation of their production footprint’ (Käätä and Vaughan, 2022: 2). There are existing CCE frameworks that are comparable to the design of Applied Skills. For example, the Alberta Council for Environmental Education talks of six key principles: focusing on solutions; teaching for the appropriate age and context; offering an action-oriented curriculum; extending beyond the science; establishing connections to the curriculum; and evaluation (Reimers, 2021a). Yet, it is unclear how many run education initiatives like the university–industry collaboration that is the focus of this article. While the environment, sustainability and, more recently, climate change have been present within FTS scholarship and its industry for some time, there are rarely connections made to the concept of CCE itself. Perhaps this is due to the aforementioned focus on hard sciences over social sciences, arts and humanities disciplines. Accordingly, this is why it is important to explore what connections exist between CCE and a module such as Applied Skills, which is largely taught in FTS studies.

## BAFTA albert Education Partnership’s Applied Skills module

Applied Skills for a Sustainable Media Industry is a module that teaches students about climate change and the screen industries across four learning outcomes mapped to four assessments. The learning outcomes and assessments for Applied Skills are entwined and operate across material

and representational issues in the context of climate change and the screen industries. Assessments involve a climate science quiz, a sustainability pledge, demonstrating use of the albert calculator, and a creative pitch. All partners adhere to these – even if there is flexibility around how learning outcomes or assessments are achieved. For example, calculator use can be demonstrated across a few student productions or by using model datasets from genre productions from industry data. The slide decks delivering the standard materials are a minimum of seven hours of learning, but how the module can be implemented varies greatly: from standalone, optional or extracurricular, to credit bearing or being embedded across multiple years.

The module is part of a university–industry collaboration with BAFTA albert and UK higher education institutions. BAEP started in 2018, but the Applied Skills learning outcomes and assessments have remained broadly the same since its inaugural teaching years, with some minor reorganisation and rewording. While a lot of the content of the delivery materials has been reorganised and streamlined into more manageable parts, with regular updates and cosmetic changes, some material would still be familiar to educators or industry personnel who have completed any albert climate change training over the past decade. In 2020, an editorial pitch was introduced to the assessments, mirroring the focus of albert itself, as it attempted to place as much emphasis on climate content as it had done previously on reducing production emissions.

The Applied Skills course takes its lead from the main objectives of albert (in the latest 2024/5 version) to: ‘Inspire; empowering the industry to create content that supports a vision for a sustainable future’, and to ‘Restore; enabling the industry to make positive contributions to the environment while actively eliminating waste and carbon emissions from production’. Two particular strengths of Applied Skills are: (1) how it contextualises climate change teaching for the FTS industries; and (2) the flexibility it offers the BAEP to deliver its content. Generic approaches to climate change teaching are often seen as a limitation of CCE (Reimers, 2021a), with Reimers (2021c) arguing that context is central to the design of climate change teaching. Not only does Applied Skills contextualise CCE in the FTS sector; it also offers (within the parameters of its learning outcomes) flexibility to delivery. Many higher education institutions teach it differently (embedded, elective; over one session, over many sessions; over one year, throughout the years; and so on).

Additionally, Applied Skills conforms to the widely accepted ideas about what education is for: qualification, socialisation, subjectification (Reid, 2019). It certainly qualifies students in the knowledge of climate change and to do something about it personally; and it subjectively involves them in how the issue impacts their lives and their future careers. However, it may fall short in terms of socialisation, because it does not necessarily integrate individuals into existing social, cultural and political orders, or challenge said orders. For the ‘change’ part of CCE (McKeown and Hopkins, 2010), it is especially important that as well as being creative and transformative, CCE pedagogies must be critical (Liebhaber et al., 2024). Most of the Applied Skills content is created to teach students what they require for completion of the four assessments, with little room for critical reflection other than in the final assessment. These assessments will be briefly discussed below before two thematic areas – climate science and sociopolitical change – are explored in greater detail in relation to the wider literature and sensibilities on CCE.

There exist very few studies in general that focus on assessments related to climate change (Molthan-Hill and Blaj-Ward, 2022). To address this gap, and to provide critical reflection on the BAEP assessments in the context of scholarship on CCE, the case study reflection comes from Glasgow Caledonian University (GCU) – a founding member of the BAEP that has taught the Applied Skills materials over the past five years, both online and in-person, through various iterations. GCU embed the work as part of the curriculum in a Media and Communication credit-bearing course in Year 2. The department is atypical within the BAEP, as most of the higher education institution members offer production-focused degree programmes. However, other members do take a similar approach. Fox (2022), for example, notes that Canterbury Christ Church University embed Applied Skills in an employability module. Below, the Applied Skills assessments will be evaluated through the lens of CCE scholarship.

## Applied skills curricula and assessments

### **Assessment 1: Climate change science quiz**

The climate change science quiz is a multiple-choice test that can be retaken as many times as desired to achieve a pass mark of 16/21. Climate literacy comes from understanding the basic principles of climate change, assessing scientifically credible information, encouraging meaningful communication about climate change and making responsible decisions (Shwom et al., 2017). Applied Skills delivers on climate literacy according to these CCE measures. This approach to teaching students the factual evidence of human-caused climate change is like other models of CCE in higher education where the aim is to 'get the truth' (Molthan-Hill and Blaj-Ward, 2022: 946). Although not specifically talking about quizzes, Molthan-Hill and Blaj-Ward (2022) argue that a blueprint for obtaining truth is a natural fit for disciplines further removed from obvious connections to climate change science, such as media and journalism, but they fail to highlight the BAEP or albert's existing engagements with those disciplines. For example, GCU's Media and Journalism Department has been teaching undergraduate and postgraduate students about ecocriticism and green media since before the BAEP was formed.

### **Assessment 2: Make a commitment to sustainability**

Making a commitment to sustainability involves a consideration of current and future behaviours in relation to an individual's CO<sub>2</sub>e footprint. Similar CCE undertakings have happened with exploring carbon footprints in secondary education (see the section 'You and CO<sub>2</sub>' in the Curriculum for Wales [Carbon Copy, 2019]). Knowing oneself critically is seen as key to CCE (Liebhaber et al., 2024). This constructivist approach enables connections to be made to the everyday lives of students (Stevenson et al., 2017) by asking them questions about their current behaviours in their personal, (future) professional and educational lives. However, Reimers (2021a, 2021b, 2021c) is critical of CCE focusing too much on individual behaviours, rather than framing the learning and actions around a systems-level problem requiring system changes. It is widely recognised by CCE scholars that addressing climate change requires more than focusing on just individual consumption or behaviour changes (Reimers, 2021c). However, while Reimers (2021c) has shown that CCE has limited effects on student attitude and behaviour, GCU research highlights that successive cohorts of 'albert grads' are sticking to behavioural changes – although social desirability bias in telling the researchers what they want to hear cannot be discounted (Sekargati and McWhirter, 2023). Other BAEP members have demonstrated comparable results; Fox (2022) shows similar impact through student testimonies.

### **Assessment 3: Using the albert footprint calculator**

Assessment 3 involves a series of tasks in which students create and reduce production footprints using albert's carbon calculator. This an actualising part of the module where students should feel compelled to be able to do something context-specific about climate change and the CO<sub>2</sub>e emissions of FTS productions. The calculator training is learning by doing, whether through data simulating real-world productions or through students using productions of their own. Thus, the focus on the albert calculator provides real-world practice-based learning. Assessment 3 is thus attributable to similar CCE that goes 'beyond equipping people with the skills to understand climate change' (Reimers, 2021a, 2021b, 2021c: 8) and instead gives them skills for future careers. Here, active social learning and action-based teaching help learning, but also help to overcome feelings of hopelessness (Stevenson et al., 2017). Indeed, Houghton et al. (2023) argue that agency is central to pedagogy more broadly – and that authentic settings are key to engaging all students (Ben Zvi Assaraf et al., 2024). In their systematic review of CCE literature, Monroe et al. (2017) find that active methods are one of two central components common to most teaching (the other being personally relevant information). Accordingly, this assessment is indicative of 'learning to do climate change education by doing it in a real-world context infusing a project-based experience into an existing course' (Reimers, 2021c: 181).

### Assessment 4: Editorial storyboard/elevator pitch/ideas

Assessment 4 involves a positive and solutions-based media idea that can be evidenced in any format. It is important to remember that most individuals make sense of the world through narrative and not through science (McBeth et al., 2022), so the *science deficit model* – using more facts to convince people of the importance of the problem of climate change – is not enough. The supporting materials for Assessment 4 have grown in recent years as industry developments and toolkits have been launched and have evolved. The very broadcast media that the albert framework seeks to influence are responsible for agenda setting, and are capable, we are told, of influencing minds through climate content (Kääpä and Vaughan, 2024). The gap between what is and what could be is important to CCE (Liebhaber et al., 2024), and media content and stories would seem to be the logical playground for such imaginations.

At the same time, there is a sense of ‘could do more’ in this area, which requires its own research article exploring the COP26 Climate Content Pledge (CCP) – a BAFTA albert-led initiative where most major broadcasters in the UK committed to providing more climate stories and information on screens across genres. While some CCP signatories, such as the BBC, have reported clear actions since 2021, others have mixed results or convolute their reporting of climate content with reducing production emissions, and most show a distinct lack of action in storytelling genres such as drama (Perlmutter and McWhirter, 2025).

## Climate (change)

Two key areas of Applied Skills will now be explored with greater reference to CCE literature: (1) climate science – or the *climate* part of teaching CCE; and (2) social contexts – or the *change* part of teaching CCE. Focusing on the science has been an integral part of CCE since at least 2009 (Ben Zvi Assaraf et al., 2024). CCE recognises that there will be various pedagogical approaches (Gough and Gough, 2021), and therefore different approaches to teaching the science. While CCE advocates the importance of understanding greenhouse gas effects as part of climate literacy (Shepardson et al., 2017), and Applied Skills delivers on that importance, there has been an incremental decrease in the science-based learning aids in Applied Skills in recent years.

While in late 2024, a new paid course called Sustainability Champion was launched for a ‘deeper understanding in climate science’ (expressed in a BAEP meeting on 5 December 2024), which is accredited by the Carbon Literacy Project, this has coincided with a streamlining of certain areas of the Applied Skills module in the BAEP. Sections on how people know climate change is happening have been reduced in Applied Skills, alongside some important learning aids such as Michael Mann’s ‘hockey stick’ curve – an iconic graph that most famously appeared in the 2001 Intergovernmental Panel on Climate Change report (Weart, 2017). This is an image that can strikingly show climate change in a single graph. Teaching about climate change must tread a fine line between not misleading students with a false sense of optimism and recognising that many students will be part of this climate-transformed world longer than their educators (Houghton et al., 2023). By minimising some of the science, there are risks that Applied Skills mitigates some of the severity that other CCE pedagogies do not shy away from. Additionally, more hard-hitting clips and infographics have disappeared from the training in recent years.

There has been an implicit assumption of climate literacy in younger generations, when the reality is quite different (Perkins et al., 2018; Shepardson et al., 2017). While many have heard of climate change, they do not necessarily know the science behind it. According to OECD data from 2019, misinformation is a bigger issue to address than a lack of climate change knowledge in young people (Reimers, 2021a). Applied Skills barely enters this media literacy space, meaning that there are significant gaps which educators themselves or other parts of the curricula must address.

In some respects, a rollback on the scientific content has been in response to concerns expressed in a BAEP survey from FTS educators and practitioners feeling underqualified to teach climate science.

BAFTA albert have tried to offer additions to enhance understanding of the climate science, such as with free access in 2024 to the AimHi Earth's sustainability training, but, as with any research, learning and teaching, comfort comes with experience.

Climate change is an environmental issue with 'more sceptics than virtually any other environmental problem' (Gough and Gough, 2021: vi). The 'not giving it oxygen' approach of the BAEP to dis/misinformation in the initial designs of Applied Skills may need to be reconsidered. Perhaps here Applied Skills could draw more from the FTS scholarship, where media literacies on climate in the form of ecocriticism or eco-media are established (Lopez, 2024). This is because new types of denial have emerged in the digital media spaces that young people frequent the most (CCDH, 2024). A significant majority of 'albert grads' are conscious of a rising problematic media environment when it comes to climate change information (Sekargati and McWhirter, 2023). The same study found that students also used the climate science they were being taught to educate others.

Instead of scaling back, a deeper understanding of climate science can function as its own form of media literacy in correcting or being able to easily sift problematic information on climate change and its solutions. If science educators such as Weart (2017) recognise the importance of stories to CCE, then media educators – and practitioners and industry – should be comfortable in weaving interesting stories about historical climate change development, which is a story that takes place over 150 years about inspirational individuals, crazy ideas, outcasts, organisational tussles and more (Gough and Gough, 2021; Weart, 2017). Even the story around Mann's famous 'hockey stick' graph could play as a John le Carré-type drama, with clandestine actors, sabotage, conspiracy and more tropes to draw from over a few decades of the story.

Accordingly, a sense of history is important to climate science. To give one example, showing students historic developments such as the decisive 1979 National Academy of Science study on CO<sub>2</sub> and climate can contextualise denialist videos circulating on TikTok and X, which attempt to show that British Prime Minister Margaret Thatcher was talking about climate change in the 1980s. An original clip posted by Extinction Rebellion on TikTok in 2022 (Extinctionrebellionxr, 2022) highlights that there was a whole decade between the 1979 study and Thatcher's 1989 speech. It raises the question of whether earlier interventions could have averted some of the crises, and it also highlights how long governments and corporations have been aware of the problem. Yet, denialists have attempted to manipulate the discourse around the clip, arguing that this suggests that it is not a major crisis to be considered in the contemporary environment.

## (Climate) Change

The 'change' aspect of teaching about climate *and* change (McKeown and Hopkins, 2010) means educating students about more than just the science. This is as broad as it sounds, from CCE that explores climate anxiety to coming to terms with European colonialism. Applied Skills cannot cover every eventuality of CCE, just as it cannot be expected to contextualise every role that exists in its collaborative sectors (from scriptwriters, to gaffers, to publicity). Although albert does make connections to specific roles in the curriculum, and more so in its wider resources, FTS scholars have suggested that there is 'no clear one size fits all' on thinking about media and the environment (Kääpä and Vaughan, 2022: 7).

Yet, climate change is often seen as an environmental issue only (Leichenko and O'Brien, 2020). CCE can be said to be dominated by these didactic approaches of teaching facts (Perkins et al., 2018; Reimers, 2021a) and focusing on science. However, a pedagogy which seeks to solve the problem via technical solutions and education is seen by some as misguided, because there is no universal solution (Reimers, 2021a). Several scholars argue that CCE must involve the arts, humanities and social sciences more (Houghton et al., 2023; Monroe et al., 2017), as they are well versed in critical thinking on societies and systems. Such perspectives mean that climate change is also more than an environmental issue and a scientific phenomenon – it is also a 'socio-scientific issue' (Stevenson et al., 2017: 68)

Yet, the systems-based thinking demonstrated in areas such as eco-media (Lopez, 2024) is not only limited in the Applied Skills curriculum; for some, it is also absent from CCE more broadly (Reimers, 2021a). Like a reduction of climate science, what little systems thinking was included in the module – namely, video content and examples relating to the circular economy – has since been removed. There is a danger that a tread-lightly, or business-as-usual approach is taken, which sees some CCE educators reluctant to challenge the prevailing views or dominant political structures (Reimers, 2021a). To illustrate this, some previously included graphs and content that highlighted the part (however small) that the industrial revolution played in climate change and the rise of consumerism in the petrochemical era have been removed. The BAEP was never intended to be, and could not be under BAFTA stewardship, a political entity. Sociopolitics has been kept to a minimum in Applied Skills – other than brief discussions of climate (in)justice. This aspect of the university–industry partnership could be interpreted as a ‘cultural clash’ (Bjerregaard, 2010: 106) because the more humanist-critical traditions of FTS disciplines are the ones likely to ask questions about how much media production is even necessary at a time of climate crisis. Industry is unlikely to question how much production is enough (McWhirter, 2022), so there are certain things that Applied Skills will never discuss, including concepts such as degrowth in the sector, given that the ‘over-developed’ worlds are the ones that have contributed arguably the most to the climate crisis (MacGregor, 2010). It is unlikely that the module would endorse the views of Jason Moore (2016), who uses the term Capitalocene (over Anthropocene), or would focus too intently on inequalities, as FTS scholars such as Kääpä and Vaughan (2022) suggest that inequalities are unlikely to be addressed by those industries which place economic realities ahead of environmental concerns.

The focus of Applied Skills is on the science of climate change – however reduced in recent iterations – and on teaching industry-specific skills such as production carbon calculation and toolkits for creating more sustainability on screen – both seen as valuable pedagogy in CCE literature. However, beyond the industry contexts, it is possible to say that the module does not necessarily focus on the climate crisis as a ‘complex social as well as scientific issue’ (Stevenson et al., 2017: 67). Indeed, the removal of some content noted earlier – such as hard-hitting videos, industrialisation graphs and sections on the circular economy – emphasise this point further. This approach is at odds with the wider FTS scholarship in this space – such as ecocriticism – which encourages critical thinking of all industries in relation to the environment. Indeed, some argue that CCE itself has been lacking such a critical edge (Stevenson et al., 2017). A university–industry collaborative approach that strives to keep sociopolitics out of the learning is, then, perhaps understandable but also flawed.

Film education in whatever form should realise that change is driven by the next generation (Hjort, 2022). Even if students disagree about how to solve the issue politically, then they should be fully informed of the causes of climate change. Students do not only need to know that ‘progress with respect to climate change is insufficient’ (Reimers, 2021b: 4); they also need to know why. That should involve an exploration of the industrial revolution, colonialism, capitalism, power structures and current politics. It should point to how, even in the face of hard science, early climate change pioneers such as Mann and his colleagues were relentlessly hounded by vested fossil fuel interests.

For Houghton et al. (2023: 4), teaching in the climate crisis must start with the foundations of how climate change has come to be understood, represented and framed before ‘exploring the politics, structures and inequalities which shape problem-solving strategies’. Applied Skills has never been political, but it is increasingly apparent from the transformative growth of BAEP that there are more conscious attempts to stress this point – and perhaps this is reflected, consciously or otherwise, in the removal of some previous content, limiting the ability of the module to take part in impactful CCE. However, BAEP is far from being the only example of CCE pedagogies that fail to engage with the systems thinking and the sociopolitical ‘change’ part of climate change education. CCE should give students the agency to ‘influence the complex systems which undergird climate change’ (Reimers, 2021a: 8). Therefore, discussions of climate and *change* are necessary beyond individual actions. Students do

not necessarily need to be told to take to the streets and protest (as some European academics instruct their classes to do). However, students do need to be able to debate cases such as Just Stop Oil, the UK legal system, and what alternative approaches exist – including what role the media industries play. Many of the degrees on which the Applied Skills module is taught are bachelor of arts (BA) programmes built to philosophise the problems of society and, as such, they have benchmarks in their programme outcomes for doing so in ways that distract from more immediate politicised actions.

## CCE and reflections on the BAEP university–industry collaboration

It is often recognised that when organisations grow, they begin to differentiate, developing roles, departments and areas that are not part of the original entity. There have been various changes to the albert team, and changes in the BAFTA leadership of the collaboration. BAFTA albert has grown as UK broadcasters have mandated productions to use its greenhouse gas calculators. With more productions seeking albert certification, and a growth in the BAEP, there is a greater need for control and oversight, which leads to many new roles being created.

The growth of the BAEP presents BAFTA albert with transformational change challenges, including the need to standardise, to enhance guidance and controls on intellectual property (IP), or to simplify the logistical challenges involved in monitoring (in)active memberships. This transformational change has been recognised in creative sectors before, as when numbers grow there is a parallel desire for control and ‘buy in’ from members (Hotho and Champion, 2011). Where processes, regulation and monitoring become more standardised, there is the caveat that creativity and innovation can be lost along the way. Similarly, with the growth of BAEP, changes in personnel have not stopped the regular updates of materials with small innovations, but some important aspects are now becoming dated. For instance, the sections on the industry’s own CO<sub>2</sub>e impact are several years old in the 2024/5 materials. Change has been evidenced more in a streamlining of content and training delivery after the Covid-19 pandemic, with the added benefits of recorded materials, more structured learning plans, and less carbon-intensive travel to higher education institution partner destinations.

In terms of developing the co-design aspects of the BAEP, the volume of higher education institutions makes it more difficult to foster the same collective discussions around curricular design that happened in the founding years. Shared cultural spaces are important to university–industry collaborations (Bjerregaard, 2010), or, to paraphrase Pierre Bourdieu, the habitus and fields of academia are different from those of industry. Universities are public institutions in the UK, whereas private and commercial firms dominate the screen industries. It makes sense that there will be different viewpoints between educators and industry, who must prioritise commercial imperatives. This overall tension has been recognised before in such university–industry collaborations more broadly. For instance, Käätä and Vaughan (2022: 15) argue that academics need to be the mediators to highlight to the shielded industries the realities of the world that surrounds them. In their global survey of CCE educators, Perkins et al. (2018) have demonstrated both the desire and the actualisation of university–industry collaborations to be change agents in the climate crisis. While arguments can be made about the depth of science required or the pivots away from sociopolitics, the BAEP and the Applied Skills module is undeniably one of the most popular examples of such a collaboration.

In the UK, there have been two opposing ideological perspectives on education: education as responsible for respecting tradition and passing on cultural heritage, and education as techno-instrumentalist to serve the purpose of readying people for the economies in which they reside (McWhirter, 2024). Perkins and colleagues (2018: 1044) argue that the ‘fundamental role of the educator is to help students become better thinkers and life-long learners’, which is a different philosophy from the approach which thinks that universities are there for students to get jobs.

Applied Skills would align more with the latter, even if some of the disciplines that partner institutions belong to – arts and humanities and cultural studies – are aligned to the former. That said,

many higher education institutions are also subject to the turn towards techno-instrumentalism and student employability. This presents inherent tensions in, for example, how an educator treads the line between critical-humanist scholarship in the field which says that industry environmental practices are public relations exercises or amount to corporate greenwashing (Kääpä and Vaughan, 2024), and trying to train students with industry-set skills to give them competitive advantages to overcome barriers to entry. The latter is especially important in universities that take higher numbers of disadvantaged students: a population less well represented in UK film and television sectors. The techno-instrumentalist approach has been criticised in CCE more broadly, and by ecocritical positions that note problematic representations of climate change as a techno-scientific problem requiring technical solutions (MacGregor, 2010). Indeed, any techno-solutionist approach from the FTS industries as a response to climate change has also come under scrutiny (Kääpä and Vaughan, 2022).

There are also habitus differences within UK academia between the Russell Group, 'red brick' and post-1992 skills and vocation institutions. Some universities are more aligned with techno-instrumentalism and educating for sectors and specific employment than others. Furthermore, there are differences between departments – some more critical and theoretical, and some more practical. The academic members of the BAEP could work harder to coordinate better with one another, and to input more to the pedagogies and future (re)designs of the module. However, some issues remain continuous from the founding years: educator capacity, resource and institutional acquiescence.

## Resources: 'Our house is on fire!' 'But how much to put it out?'

Research with educators teaching CCE – and especially in the FTS space – is sparse. There is a wider recognition that CCE often 'relies on the efforts of an impassioned few' (Beasy et al., 2023: 1678). To teach CCE, especially outside of the hard sciences, requires resources and motivated individuals. Finding capacity to teach CCE when there are challenging economic times, including redundancies and efficiencies, is difficult. Reimers (2021c) suggests that enlisting graduate students to help is a solution. Yet, there are additional obstacles, from techno-instrumentalism and marketisation, to hostilities towards the social sciences, arts and humanities and cultural studies, to an increasing mistrust of expertise.

Furthermore, there is little consensus over what CCE should be or who is responsible for it (Reid, 2019), and this is reflected in the struggles of educators who teach in this space. Many educators outside of those interested in climate change are unaware of even the most basic signifiers, such as '1.5 C'. Additionally, there is a business-as-usual approach from academics more broadly, having resumed international travel and events post-pandemic, even in the face of regular evidence of climate change. While many teachers do not have any training about climate change (Beasy et al., 2023; Reimers, 2021a), the BAEP host training events a few times each year. Some are now led by the institutions themselves, who have more experience with the materials. Thus, understanding the meaning that both staff and students attach to climate change is an important first step, but many educators are concerned about a lack of time and resource to address this issue (Stevenson et al., 2017). Instead of being interested in climate change, Reid (2019) notes that what many educators value (accreditations, development, research and so on) can be said to contribute to the deepening climate crisis. This is even before considering the UK screen industries' own initiatives, which can be seen as 'glossing over the business-as-usual bottom line mentality of an industry that has long escaped environmental regulation' (Kääpä and Vaughan, 2022: 13).

Unsurprisingly, there exists a lack of research on the economics of climate change education itself (Reid, 2019). When Liebhaber et al. (2024: 1) say that 'at this crucial climate moment, radical change is non-negotiable', the exception is with negotiations over costs, reflecting Kurt Vonnegut's statement that we will go down in history as the first society that would not save itself because it was not cost-effective. However, whether universities have the resources is not an issue, if we consider that what they do have is scale. Universities vastly outnumber international agencies, and if even a small number of

them do get involved more in CCE, then the impact can be more dramatic than that of those agencies (Reimers, 2021a).

If colleagues' eyerolls on sustainability have lessened over the past decade, CCE educators are still faced with 'whataboutery' (China, India and so on); new forms of denial, not of the issue, but now of the solutions (CCDH, 2024); and regular statements about net zero being important, but expensive too. Asking practice-oriented staff in media and journalism questions such as 'How can the news media ecosystem be redesigned to afford collective climate action?' (Lopez, 2024: 101) is still largely idealistic in the minds of those working there. This is especially the case in universities educating for employment in more techno-instrumental ideological environments than have existed before. The explicit or implicit resistance from colleagues can be just as off-putting to educators in higher education institutions as the problematic parental responses to climate change making secondary teachers hesitant to teach about the topic (Monroe et al., 2017).

The BEAP could work better to explore these issues and, indeed, other issues, such as the mental well-being of those teaching climate change materials over a sustained period. For instance, Beasy et al. (2023: 1687) found that many CCE educators were 'actively hiding their own negative feelings about climate change and working hard to offer a hopeful framing of the issue'.

## Conclusion

While there are no fixed definitions of climate change education other than the name itself, there has been a recognition for pedagogies in this area to focus minds on social systems as well as on climate science. While there are challenges for educators to do this, particularly in university–industry collaborations, as is demonstrated by BAEP's Applied Skills module, expanding the ideas of CCE into disciplines that are not obviously aligned, or into 'non-green' degrees (as expressed in a personal email invitation from the publisher Pearson to a 'Let's Talk Sustainability' webinar on 10 May 2024), is important. There are not only challenges to bring more sociopolitical thinking into university–industry collaborations between public institutions and private entities, but also varied outlooks even within the FTS disciplines themselves. There is no 'one size fits all' application of sustainability and climate education. Some FTS institutions will have more techno-instrumentalist approaches, and others will have more humanist-critical traditions. If the overriding sensibilities in the UK education system currently pivot towards the former, others have pointed to this binary as cyclical, where one ideology dominates at any given time (Bristow, 2016).

There are many areas that Applied Skills delivers on with regard to CCE (context specifics, active learning pedagogies, empowering solutions), but there are areas that can also be enhanced. The overwhelming strength of the BAEP is in its flexibility around Applied Skills deliverables. Applied Skills is a valuable contribution to CCE and the higher education sector in the UK. To paraphrase Kääpä and Vaughan (2022), if some 'deleted scenes' are missing from the learning, then it is up to us as educators to fill those gaps, by extending the learning and contextualising it accordingly for the public institutions in which most of us reside. Where absences are recognised, educators have the agency to involve more from CCE or academic discipline sensibilities of their choosing. They just cannot do it under the official content branding of the partnership materials.

The analysis of Applied Skills in this article has focused on areas of the module relating to climate change and areas that go beyond the science. Future research may explore other themes in similar detail, against the frameworks of CCE, or against FTS scholarship such as ecocriticism and eco-media. It is important to say that this is a single-institution reflection (from a founding partner) and a department in the minority in the BAEP due to not being solely production-focused. GCU is also highly involved in the SDGs, and the department may have more awareness of CCE because it sits in the unusual position of being in a business school. Others are encouraged to write their own reflections – the partnership would certainly benefit from more scholarship from members both experienced and new to the initiative.

## Declarations and conflicts of interest

### Research ethics statement

Not applicable to this article.

### Consent for publication statement

Not applicable to this article.

### Conflicts of interest statement

The author declares no conflicts of interest with this work. All efforts to sufficiently anonymise the author during peer review of this article have been made. The author declares no further conflicts with this article.

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