

The form and function of fiction as inquiry: a design heuristic framework

Adam Matthews¹, Charlie Davis²

¹University of Birmingham, Birmingham, United Kingdom. ²University of Nottingham, Nottingham, United Kingdom

Research Domains

Learning, teaching and assessment (LTA)

Abstract

Creative approaches to media and fiction have the potential to create opportunities for multi-perspectival reflexivity. Reflecting upon our own work, developing character-based audio as part of a wider project to create interactive research-informed comics, we propose a design heuristic for carrying out educational fiction projects. We conceptually frame our design heuristic by considering form, function and affordance of media artefacts. Through our reflections and literature review, we consider the technological and creative affordances in creating fiction through a variety of media. As part of these reflections, we consider the possibility of such a methodological approach to support research-engaged media production aimed at contesting monovocal, majoritarian and stereotyped representations of experiences of social injustice in education and beyond. Our work illustrates the affective possibilities of the design process itself (encoding), and the produced artefact (decoding) to make sense of the entangled relationship of the past and present to imagine possible futures.

Full paper

Introduction

Wider societal adoption of social science research activities has heralded a call for a 'descriptive turn' in the face of a methodological crisis (Savage and Burrows, 2017; Power, 2023). Whilst these concerns proliferate the academy, writers and journalists are looking to academic research methods to add objectivity and rigour to their work (Angwin, 2024; Patterson, 2013). These epistemological concerns are social and technological as new digital technologies afford new forms and functions of inquiry and knowledge as an opportunity but also to a crisis in 'truth' (Farkas and Schou, 2024; Harjuniemi, 2022).

Creating education fiction is both a material and discursive act. By considering the material form (medium and genre) and function of educational fiction, we develop an approach which integrates research and fiction to foster activism and resistance (DeLaure and Fink, 2017). Fiction is not created in a void and draws upon experiences of individuals, as does the academic social sciences and humanities (Hrastinski, 2024).

Form

Knowledge production in the information and academic ecosystem is created and disseminated through books, journal articles, conferences, blogs etc as techno-physical mediums (Thompson, 2011). Medium theory is interested in the structuring and affective role of information and communication technologies (Meyrowitz, 2008). McLuhan (2010) famously proclaimed that the medium is the message in that the technology used reframes and forms the message. We must consider what the medium does (Verbeek, 2005) but not let it wholly determine the function (Matthews, 2021; Wyatt, 2008). For example, Adams (2006) makes the case that the structure of Microsoft PowerPoint has determined much of educational practice [CD1] [AM(2] in the 21st century. Such structuring of education has evolved into platforms and algorithmic shaping (Ramiel and Fisher, 2023).

A material technological medium has specific affordances which are negotiated with creatively to adapt and create new genres (Miller, 1984). As digital technologies have become more accessible, technological media has allowed everyone to become publishers. The 'blog' as a digital genre masks the complexity of self-published digital webpages (Belcher, 2023). Medium and genre are interdependent as Sharon (2023) shows with a typology of the podcast as technological, socio-cultural and formalistic (Rosenman and Gero, 1998). The same audio-based medium in longer form has developed into the genre of the audiobook to ask if it remains a 'book' or something else? (Guardian Editorial, 2024).

Form and function are at the foundation of design studies and activity (Townsend et al, 2011). A modernist dictum is that form should always follow function (Parsons, 2016).

Function

Education fiction moves researchers and research to more "post-academic" forms of output which are more accessible to wider audiences (Badley, 2017, p180). We hold that forms of media-rich educational fiction can be integrated with research methods to maintain academic integrity, ethics and epistemology to produce knowledge (Davis et al, 2024; Wood, 2024; Matthews, 2022).

The process of creating media artefacts to develop (encode) and convey (decode) (Hall, 1993; Kropp, 2015; Bødker, 2016; Shaw, 2017) different perspectives on a social phenomenon provokes new ways of thinking about shared realities (Selwyn et al, 2020; Coulter & Smith, 2009). A collective biographical approach provides a space to disrupt, interrogate and (re)imagine social stereotypes (Davis et al, 2024). Beyond the inquiry space, this process continues as readers perspectives and experiences interact with the story (Yorke, 2014). For example, a cliched epistemic victim or plucky self-made hero can be disrupted in a traditionally sociologically manner (Mills, 2000; Nisbet, 2002). Mar and Oatley (2008) describe the function of fiction as both the abstraction, simplification and compression as well as audience focused simulation of social experience.

This methodological process is a form of knowledge production facilitated through connections made with different perspectives as part of the authorial process (Montenegro et al, 2022). This develops research methodology and adds new layers to a research project and builds on theoretical links made between the research focus and methods of data generation. Such approaches provide opportunities to make informed speculations about possible future ways of imagining and representing lived experience, affecting how participants, writers and audiences, act and know ourselves in the present (Hrastinski, 2023). Lives become sites of critique and analysis. The writing process functions as a way to work out our developing sense of becoming.

Form, function and affordance framework for design

Drawing together form and function as an heuristic for researchers and media creators provides prompts for design decisions on form and function as well as acknowledging qualitative interpretivism of producers (encoding) and audiences (decoding) of media and their affordances (Davis, 2020; Sareh

References

Adams, C. (2006) 'PowerPoint, habits of mind, and classroom culture', *Journal of Curriculum Studies*, 38(4), pp. 389–411. Available at: <https://doi.org/10.1080/00220270600579141>.

Angwin, J. (2024) *A Letter From Our Founder, Proof*. Available at: <https://www.proofnews.org/a-letter-from-our-founder/> (Accessed: 13 May 2024).

Badley, G. F. (2019). Post-academic writing: Human writing for human readers. *Qualitative Inquiry*, 25(2), pp. 180-191. Available at <https://doi.org/10.1177/1077800417736334>

Belcher, D.D. (2023) 'Digital genres: What they are, what they do, and why we need to better understand them', *English for Specific Purposes*, 70, pp. 33–43. Available at: <https://doi.org/10.1016/j.esp.2022.11.003>.

Bødker, H. (2016) 'Stuart Hall's encoding/decoding model and the circulation of journalism in the digital landscape', *Critical Studies in Media Communication*, 33(5), pp. 409–423. Available at: <https://doi.org/10.1080/15295036.2016.1227862>.

Coulter, C. A., & Smith, M. L. (2009). The construction zone: Literary elements in narrative research. *Educational Researcher*, 38(8), pp. 577-590. Available at: <https://doi.org/10.3102/0013189x09353787>

Davis, J.L. (2020) *How artifacts afford: the power and politics of everyday things*. Cambridge, Massachusetts London: The MIT Press (Design thinking, design theory).

Davis, C. *et al.* (2024) 'Co-producing composite storytelling comics: (counter) narratives by academics of working-class heritage', *Qualitative Research*, p. 14687941241245954. Available at: <https://doi.org/10.1177/14687941241245954>.

DeLaure, M. and Fink, M. (eds) (2017) *Culture jamming: activism and the art of cultural resistance*. New York: New York University Press.

Farkas, J. and Schou, J. (2024) *Post-truth, fake news and democracy: mapping the politics of falsehood*. Second edition. New York, NY: Routledge.

Guardian Editorial (2024) 'The Guardian view on audiobooks: a growing market that asks existential questions', *The Guardian*, 10 May. Available at: <https://www.theguardian.com/commentisfree/article/2024/may/10/the-guardian-view-on-audiobooks-a-growing-market-that-asks-existential-questions> (Accessed: 13 May 2024).

Hall, S. (1993) 'Encoding and Decoding in Television Discourse', in S. During (ed.) *The Cultural Studies Reader*. London: Routledge.

Harjuniemi, T. (2022) 'Post-truth, fake news and the liberal "regime of truth" – The double movement between Lippmann and Hayek', *European Journal of Communication*, 37(3), pp. 269–283. Available at: <https://doi.org/10.1177/02673231211046784>.

Hrastinski, S. (2023). Characteristics of Education Fiction. *Postdigital Science and Education*, 5(3), 516–522. <https://doi.org/10.1007/s42438-023-00400-0>

Hrastinski, S. (2024) 'Postdigital Fiction', in P. Jandrić (ed.) *Encyclopedia of Postdigital Science and Education*. Cham: Springer Nature Switzerland, pp. 1–4. Available at: https://doi.org/10.1007/978-3-031-35469-4_65-1.

Kropp, E.L. (2015) 'Using Social Scientific Criteria to Evaluate Cultural Theories: Encoding/Decoding Evaluated', *KOME*, 3(2), pp. 10–26. Available at: <https://doi.org/10.17646/KOME.2015.22>.

Mar, R.A. and Oatley, K. (2008) 'The Function of Fiction is the Abstraction and Simulation of Social Experience', *Perspectives on Psychological Science*, 3(3), pp. 173–192. Available at: <https://doi.org/10.1111/j.1745-6924.2008.00073.x>.

Matthews, A. (2021) 'Blurring boundaries between humans and technology: postdigital, postphenomenology and actor-network theory in qualitative research', *Qualitative Research in Sport, Exercise and Health*, 13(1), pp. 26–40. Available at: <https://doi.org/10.1080/2159676X.2020.1836508>.

Matthews, A. (2022) 'Rummidge 2050 (And Beyond!)', *Postdigital Science and Education*. Available at: <https://doi.org/10.1007/s42438-022-00369-2>.

McLuhan, M. (2010) *Understanding media: the extensions of man*. London: Routledge (Routledge classics).

Mills, C.W. (2000) *The sociological imagination*. Oxford [England] New York: Oxford University Press.

Meyrowitz, J. (2008) 'Medium Theory', in W. Donsbach (ed.) *The International Encyclopedia of Communication*. 1st edn. Wiley. Available at: <https://doi.org/10.1002/9781405186407.wbiecm064>.

Miller, C. (1984) 'Genre as Social Action', *Quarterly Journal of Speech - QUART J SPEECH*, 70, pp. 151–167. Available at: <https://doi.org/10.1080/00335638409383686>.

Montenegro, M., Balasch, M., & Pujol, J. (2023). A methodological proposal from situated knowledge epistemology: Narrative Productions. *Qualitative Research in Psychology*, 20(4), pp. 542–551. Available at: <https://doi.org/10.1080/14780887.2022.2135278>

Nisbet, R.A. (2002) *Sociology as an art form*. New Brunswick, N.J: Transaction Publishers.

Parsons, G. (2016) *The philosophy of design*. Cambridge, UK: Polity Press.

Patterson, T.E. (2013) *Informing the news: the need for knowledge-based journalism*. New York: Vintage Books, A Division of Random House LLC.

Power, S. (2023) 'Confronting the "Coming Crisis" in Education Research', *British Journal of Educational Studies*, 71(5), pp. 477–491. Available at: <https://doi.org/10.1080/00071005.2023.2221720>.

Ramiel, H. and Fisher, E. (2023) 'The epistemic machinery of educational platforms', *Learning, Media and Technology*, pp. 1–16. Available at: <https://doi.org/10.1080/17439884.2023.2243812>.

Rosenman, M.A. and Gero, J.S. (1998) 'Purpose and function in design: from the socio-cultural to the techno-physical', *Design Studies*, 19(2), pp. 161–186. Available at: [https://doi.org/10.1016/S0142-694X\(97\)00033-1](https://doi.org/10.1016/S0142-694X(97)00033-1).

Sareh, P. and Loudon, G. (2024) 'The form-affordance-function (FAF) triangle of design', *International Journal on Interactive Design and Manufacturing (IJIDeM)*, 18(2), pp. 997–1017. Available at: <https://doi.org/10.1007/s12008-023-01648-3>.

Savage, M. and Burrows, R. (2007) 'The Coming Crisis of Empirical Sociology', *Sociology*, 41(5), pp. 885–899. Available at: <https://doi.org/10.1177/0038038507080443>.

Selwyn, N., Pangrazio, L., Nemorin, S., & Perrotta, C. (2020). What might the school of 2030 be like? An exercise in social science fiction. *Learning, Media and Technology*, 45(1), pp. 90-106. Available at: <https://doi.org/10.1080/17439884.2020.1694944>

Sharon, T. (2023) 'Peeling the pod: towards a research agenda for podcast studies', *Annals of the International Communication Association*, 47(3), pp. 324–337. Available at: <https://doi.org/10.1080/23808985.2023.2201593>.

Shaw, A. (2017) 'Encoding and decoding affordances: Stuart Hall and interactive media technologies', *Media, Culture & Society*, 39(4), pp. 592–602. Available at: <https://doi.org/10.1177/0163443717692741>.

Thompson, J.B. (2011) *The media and modernity: a social theory of the media*. Reprinted. Cambridge: Polity Press.

Townsend, J.D., Montoya, M.M. and Calantone, R.J. (2011) 'Form and Function: A Matter of Perspective', *Journal of Product Innovation Management*, 28(3), pp. 374–377. Available at: <https://doi.org/10.1111/j.1540-5885.2011.00804.x>.

Verbeek, P.-P. (2005) *What things do: philosophical reflections on technology, agency, and design*. University Park, Pa: Pennsylvania State Univ. Press.

Wood, M. (2024). Anecdote, fiction, and statistics: The three poles of empirical methodology. *Possibility Studies & Society*, 2(1), pp. 37-48. Available at: <https://doi.org/10.1177/27538699231222379>

Wyatt, S. (2008) 'Technological Determinism Is Dead; Long Live Technological Determinism', in E.J. Hackett et al. (eds) *The handbook of science and technology studies*. 3rd ed. Cambridge, Mass: MIT Press.

Yorke, J. (2014) *Into the woods: how stories work and why we tell them*. London: Penguin Books.