CHAPTER 4:

HOW DO ONTOLOGY AND EPISTEMOLOGY HELP YOU ELIMINATE JAR JAR BINKS WITH HEADCAN(N)ONS? PART 1

Mark Childs, Olivia Rowlands, Rebecca Ferguson and Mike Collins

Mikezilla and Markzilla continue their journey through the Realm of Pedagogy. They ask each other, 'How will we ever be able to tell we're not making more bad decisions about what's out there?' Before they can take another step, Markzilla is hit by a pink light. Stunned, he falls to the ground, then slowly rises. 'I see it, I see it all!' he cries.

Mikezilla is unconvinced. 'Isn't the meaning of life the sort of stuff you get at the end of a quest?'

Markzilla shakes his head. 'We need these now, before we go any further. Behold! The Sword of Epistemology, the Magic Backpack of Ontology (see all the pockets!), and the Sorting Hat of Critical Realism. With these we shall know our way.' Revelation finished, he reverts to his normal self and starts swashing his new sword.

This chapter and the one that follows began as a response to Scott Cowan, Information Services Librarian at the University of Windsor, who asked us to try to explain ontology and epistemology, as they're concepts that frequently confuse many of the people he works with. These are key concepts because they form the foundation of how people see the world, what counts as evidence, and what doesn't. The theories we talk about in the rest of the book differ from each other because they're grounded in the different world views of the people who developed those theories.

The explanation we've put together here has been road tested by people who didn't understand the concepts of ontology and epistemology, and then grasped them as a result of our explanation. However, with each iteration the explanation has grown longer, because there are so many nuances: around colonialism, around hierarchies, and ultimately, philosophically, because people don't entirely agree about what 'real' means. There are still gaps, but what we present here is one way to make sense of different views of what makes up the world.

Oh, and the chapter also brings in *Star Wars*, which crops up a couple of times in this book. But then it's a very big media juggernaut, which also seems to keep growing in the telling. The question we're working with is: **How do ontology and epistemology help you eliminate Jar Jar Binks with headcan(n)ons?**

Star Wars

Of all the pop-culture narratives we discuss in this book, *Star Wars* is possibly the one that needs least introduction. For the unfamiliar, it is an extended battle between good and evil, set a long time ago in a galaxy far far away, with spaceships, lasers,

princesses, aliens and nerf herders. The key elements any reader needs to know about *Star Wars* to make sense of this pedagogic metaphor are that, at the time of writing (2024), it has been going for 48 years and those 48 years can be split into three discrete periods.

The first period started in 1976 with the first three *Star Wars* movies. Although these stopped being made in 1983 (don't talk to us about the Ewok movies) there were masses of books, comics, TV cartoons and games which built on those films with sequels, prequels and stories set in between the films. That takes us up to 1999, which was the point at which George Lucas, the creator of *Star Wars*, returned to that narrative and began releasing the prequel trilogy.

That second period started with the prequel trilogy, plus an animated movie. It continued with more comics and books, and especially the TV series *The Clone Wars* (arguably the best thing to come out of that second period), which introduced a new helm to the *Star Wars* universe in the showrunner Dave Filoni. That period continued until 2012, when George Lucas sold Lucasfilm to Disney.

Since 2012, there has been a whole new trilogy of movies, a TV show called *The Mandalorian*, and there are other series in the works at the time of writing, as well as new books, comics, games and so on, all under the Disney umbrella.

During the first two phases, no one was really keeping track of continuity. Yes, there was continuity within the movies, but there was also a radio series version and then a books version, neither of which necessarily tied in with the other. The solution was to establish degrees of canonicity; a hierarchy by which, where there was a conflict, one version was held to be correct.

The films make up the highest echelon in the canon, although even this is complex due to Lucas's tendency to revise his first three films (Lyden, 2012). Next in the hierarchy is

the information that's shared in licensed media, the comics, novels and games (Spelling, 2005; 48). Finally, at the bottom of the heap, there's the world created by the fans. Although there was some attempt to codify and keep track of this whole extended universe through publications such as the *Star Wars Encyclopedia* (Sansweet, 1998) and there was some trickle up through the hierarchy, in that George Lucas would sometimes reference the *Encyclopedia* when developing further films, Lucas wasn't beholden to the continuity established elsewhere. This sometimes led to radically different versions of events.

Also, not everything is canon to start with. So the *Star Wars Holiday Special*, for example, was disavowed instantly, even though it includes the main cast of the original *Star Wars*. Films set in the Star Wars universe like *Caravan of Courage: An Ewok Adventure* (script by George Lucas) even seem to have been largely forgotten. Just canon-fodder.

Why canon matters is because it supports effective world building. You need a consistent view of your imaginary world because the audience inhabits the narrative (Saler, 2012). Without consistency, instead of being drawn into the story, conflicting versions remind audiences they're watching a narrative because the internal reality is undermined.

For example, there are currently three different versions of how the plans for the Death Star were stolen and passed to the rebellion. The radio series adaptation gave us one; there's the Dark Forces trilogy, a series of video games, novellas and their audio adaptation in which Kyle Katarn steals them; and then, most recently, there was the film *Rogue One*, which offered yet another version. The dilemma for a member of the audience is – well, which one do I believe is the 'true' version?

The idea we mentioned earlier of resolving narrative conflicts by giving different versions of the narrative different statuses in a hierarchy doesn't really work if you're trying to create a single

coherent world, so when Disney took over they took a different route. They decided they needed a definitive 'in canon' with everything fitting together so that they had one single consistent narrative, and with everything else non-canon. The question then becomes, who gets to define canon?

Disney created this one, internally-consistent, world in one fell swoop by ditching everything that wasn't part of the original six live action films, or the *Clone Wars* animated film and its TV series continuation. Everything else was consigned to a bin labelled 'Legends'. Disney also established a team, called the LucasFilm Story Group (Burton, 2014) which from that point on has made decisions about continuity. Every time a book is written, a comic is created, or another TV show is made, all of it now ties in to what has gone before, so it all forms part of a single continuity. There is one canon version. The question, 'Who gets to choose?', has the answer: 'Disney, because they paid $4 billion dollars for that right' (Krantz et al, 2012).

All long-term narratives have different ways of dealing with the issue of continuity (Childs, 2012), but not all these solutions meet the needs of audience members. In addition, not all audience members acknowledge the authority of those who decide the canon, which is where headcanon comes in. Headcanon is how individuals make their own choices about which bits of the narrative to include, and which bits not to include.

Ontology and epistemology

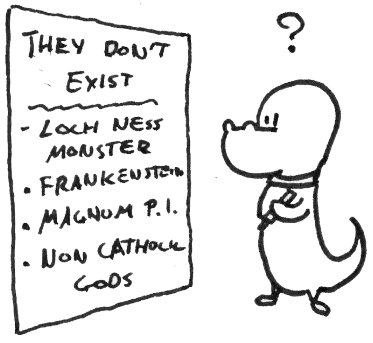
- **Ontology** = What is, what isn't and how should we categorise everything?
- **Epistemology** = What do we count as evidence? How do we go about making those decisions?

Although they're not specifically pedagogical in nature, discussions about ontology and epistemology align with pedagogical theory because, as you'll see in the following chapters, the approach you favour pedagogically is likely to depend on your epistemological viewpoint. We are not aiming to engage readers fully with the philosophy behind the terms but simply to enable you to distinguish between them.

In brief, ontology is what does and doesn't exist and how you categorise it.

What does and doesn't exist

We've all seen ontological debates. For example, there's an episode of the comedy series *Father Ted* (S 3 Ep 2 – *Chirpy Burpy Cheap Sheep*) in which Dougal is talking about the Beast of Craggy Island and Ted says 'Now we have to put it on the list'. On the wall is a list of things that are not real, and they add The Beast to that list, alongside the Loch Ness Monster and Darth Vader. That's ontology. It's a constant debate about what is and what isn't, what exists and what doesn't exist.



(LEGALLY DISTINCT FATHER TED ONTOLOGY GAG PARODY)

To keep everything simple (but not Dougal-level simple), we propose the use of a scale of what's real and not real, rather than Ted and Dougal's binary. This is adapted from a scale that Richard Dawkins used in *The God Delusion* (Dawkins, 2006) to define different degrees of belief in the existence of God. Dawkins says that there aren't simply two categories, atheist and believer, but that a person's position on the existence of God lies on a seven-point scale. At one end of that scale, you've got somebody who 100% believes in the existence of God. At the other end, you've got someone who is 100% certain that God doesn't exist. In between are strong believers, weak believers, those on the fence, those who are inclined to be sceptical and those who are extremely sceptical. The scale has its weaknesses – for example, it assumes everyone means the same thing by the word 'God' – but it's useful for us here because it provides a nuanced way of examining reality.

We can apply the same scale to everything. Whenever you're looking at the ontological nature of something, you could state that it 100% definitely exists at one end of the scale (1), or that it 100% doesn't exist at the other end of the scale (7). Rational scepticism would state that nothing can be a 1 on this scale because of the possibility, however remote, that we live in a simulation, or something similar, which we talk about more in our chapter on experiential learning and *The Matrix*. Or because we can never be absolutely sure we know what's going on.

We see the limitations to our knowledge of what is true time and time again. For example, for a couple of hundred years, scientific consensus was that Newtonian physics absolutely described the motion of objects. Two centuries later, we have Einsteinian physics, and Newton is not considered a true reflection of reality any more. All we can say is that a particular description of the Universe is the best one we have based on the evidence available to us at the moment. Our perspective

is limited, so we can't say with certainty that anything is 100% definitely true. Nothing is a 1 on the scale, at best it's a 1.1 or thereabouts.

At the other end of the scale, we can't say for certain something doesn't exist, just because there's no acceptable evidence for it. You could even say *Star Wars* might have really happened somewhere, a long, long time ago in a galaxy far, far away. We can't say for absolute definite that it didn't. It's a big universe. Father Ted may have been wrong to add Darth Vader to his 'Not real' list. Just because you don't have evidence for something, that's not evidence of absence.

So the other end of the scale is nearly, but not quite, a seven. At that end of the scale, something almost certainly doesn't exist, but we can't know for sure. Ontologically, you're looking at a scale that, for anyone who isn't omniscient, goes from 1.1 to 6.9, rather than 1 to 7. Both Dawkins' original scale and our adaptation here represent a spectrum that can be quite fluid.

'Did the Universe begin with a Big Bang or not?' is an ontological question. Originally there were lots of competing theories about how the universe started. Scientists would probably have ranked some of the non-mythological theories around 3 (we're uncertain but inclined to believe this is right) or 4 (this theory may be right or wrong – the probabilities are equally balanced). But the Big Bang Theory predicted cosmic background radiation and once this radiation was found, instead of the theory being a 3 or a 4, it became a 2 (we can't know for certain but we strongly believe this is the case) or thereabouts, and now it's as close to 1 as you can get. So, when we're looking at anything in the world around us, looking at the shifting evidence for and against and weighing probabilities will mean things are always moving up and down that scale.

To reiterate, this scale is one we have adapted to make our explanation of ontology clearer.

How we categorise things

The other aspect of ontology is concerned with how we categorise the world around us. For example, birds and reptiles were, until recently, considered separate classes of animal. That was because animals were classified based on their phenotype, their observable characteristics. Birds had feathers and looked one way; reptiles had scales and looked very different. Clearly they were different classes of animal. However, the field of genetics has developed and it's now possible to tell how closely animals are related by looking at their DNA. So animals are now classified according to their genotype. They are arranged in clades, groups of animals that share a common descent. Birds and reptiles are descended from a common ancestor so are members of the same clade. This means we have two competing ways of grouping lifeforms, but the one based on closest common ancestors is more consistent and objective than the one based on what creatures look like. Cladistics is therefore a preferable ontological framework.

Grouping elements of the world around us into classifications and categories is an ontological process. However, choices about what sorts of evidence we use to do this – in this case, whether we go by looks or by what the DNA shows us – are epistemological decisions, so the two concepts are interrelated.

Two factors can make ontology and epistemology difficult to discuss.

1. The words are uncommon, which makes them sound much more complicated than they actually are (we propose what-it-is-ism and how-do-we-find-out-ism as alternatives).
2. It's easy to cross from a discussion about one to a discussion of the other. To agree on what exists and what doesn't, those taking part in the discussion must agree on their epistemology. Conversely, it's important to adopt the appropriate epistemology for the area that is being discussed.

How we find things out

Our way of finding things out should be based on how concrete or abstract those things are. In other words, we need to adapt our epistemological approach to the ontological nature of what we're investigating. Which brings us to positivism and interpretivism.

Positivism is an approach to finding things out that focuses on things you can measure, things that you can count, things that have a repeatable, observable relationship between cause and effect. It underpins all the natural sciences. Physics, biology, chemistry, and the disciplines derived directly from them are all sciences you can point a telescope at or put on a pair of scales and so on. A strictly positivist viewpoint would say that the only kind of knowledge that exists is that which you can measure. In the chapter on *Pokémon Go* and behaviourism, we'll see that behaviourism developed from a very positivist approach.

There are limitations to this type of approach. The decisions scientists make about which questions to ask, which subjects are important to investigate, and what should be measured are not purely objective, but are all influenced by culture and environment. Even though scientists have instruments taking measurements, it's impossible to be absolutely sure that those instruments are working correctly. When instruments don't provide the results that scientists expect, deciding why the results are different requires a degree of interpretation. Things are never quite as concrete and objective as positivists would like to make out.

For instance, something fires neutrinos through the Earth and you find out they're travelling faster than light (CERN, 2012)! Later, though, you figure out that a loose cable has thrown your timing off. Or you carry out a brain scan and see effects that suggest there's a causal relationship between showing someone pictures and changes in their brain. However, it turns out you also get a reaction if you plug a dead salmon into the scanner

rather than a live human (Scicurious, 2012). You always need to account for random fluctuations that just happen to coincide with what you're doing.

Like any investigation, positivist investigations are prone to cultural bias. Vast numbers of people are excluded from carrying out research due to social inequities. These limitations reduce the pace and extent of the development of knowledge. They have also led to researchers wasting time going down dead ends because of pet theories held by handfuls of old white men.

To some extent, and given enough time, the process is self-correcting for cultural bias. If a theory doesn't work, you'll have lots of people doing experiments in all parts of the world, and coming up with theories based on what their various experiments show, not what they wanted them to show. Eventually, it will be agreed that one theory explains most of the measurements, and that's the one that generally gets adopted. You get a consensus that is largely irrespective of culture – although it tends to be the richer countries that decide which subjects are important, which questions are asked, and which evidence is acceptable.

At the boundaries there's contention, but in the main body of this positivist end of science there's relatively little. Physicists have now (largely) reached a consensus on more or less everything that happened from the first 10^{-35} seconds after the Big Bang until now (Cox et al, 2017), everything bigger than a quark, and anything smaller than the observable universe (Cox, 36). You may find local differences – Chinese scientists may use a different abbreviation for copper nanotubes than Americans (Duan, Zhang & Xu, 2014), for example, or Indian scientists may call for clinical trials of Vedic medicine (Pilapitiya and Siribaddana, 2013) but, on the whole, this main core of the positivist end of science is the same for everyone, no matter where or who they are. It has been contributed to, and tested by, people on every continent on the planet (Mac Sweeney, 2023; Hamacher, 2017).

However, although this is consensus knowledge, it is still not objective, which would require it to be truly independent of human experience. Using DNA to categorise a lifeform is more objective than using what it looks like, because if you examine the DNA most experts will agree what that reveals about the evolutionary history of the lifeform, whereas fewer people will agree which physical features should take precedence. But it is still not a 1.0 on our scale (definitely 100% true), it still requires human intervention and interpretation. It is, at best, inter-subjective (d'Espagnat, 1983) and the more the 'inter', the less the subjective. All observers agree, but what's actually going on in an objective, external-to-humans way we do not know.

As an aside, we've found the word positivism is a barrier to understanding the meaning of the word, because it sounds as if it's related to being positive. Positivists aren't necessarily optimists, (although they're often very excited about what you can do with just numbers), and they're not necessarily positive that they're correct. We propose 'measure-it-ism' as an alternative word, which makes it clearer what is involved.

When we encounter the limits of what measure-it-ism can do, there are two options. The first is to dismiss anything that can't be measured, on the grounds that it's impossible to know anything definite about it. That would leave educators largely in the dark, because with learning there's a lot that goes on that you can't measure. The other option is to take a good look at what we can't measure and develop the best explanation we can, for which we turn towards interpretivism.

With interpretivism, the aim is not to prove anything, but to make the best possible statement about what reality might be, based on the available evidence. To make these statements as good as possible, we typically look at the thing we're observing from many different perspectives, involving as many people and in as many contexts as we can. Collecting a range of people's

accounts of their experiences is sometimes dismissed as anecdotal evidence by people who only value measurable data. But, in fact, if we're interested in people's attitudes and experiences, then this type of non-numeric data is exactly what we need to draw upon.

These accounts can also help to explain or contextualise numeric data. For example, a survey might assign a code to each country in the world and then ask respondents to select their location by country, treating this as numeric data. Another survey might prompt participants to expand on this information with a free-text response to be analysed qualitatively, which might reveal that some respondents had been in the country for less than a year, some were responding while on a short holiday, some had misinterpreted the question and given the country where they were born, and some had assumed the question was actually asking about the country which they considered home. On the whole, numeric data can be collected about very specific aspects of a large amount of things, while data that will be analysed qualitatively can provide a much more detailed picture of a smaller amount of things.

Note that we're talking about numeric and non-numeric data here rather than quantitative and qualitative data, as they're commonly referred to. That's because it's actually the analysis, rather than the data, that's quantitative or qualitative. You can count or classify anything – there are multiple examples of images, text and conversation being analysed in a quantitative way. Corpus linguistics, conversation analysis, and content analysis all take a quantitative approach to non-numeric data.

On the other hand, numeric data can be analysed for its context and built-in assumptions. Beckzilla's favourite example of this is the statement '1+1 = 2', which seems very straightforward if you make the assumptions that the sum isn't phrased in binary (1+1 = 10 in binary), that the numbers are Arabic rather than Roman (I+I = II in Roman numerals) and that the things you are

counting are the same (1 apple + 1 orange = 1 small fruit salad). Data feminism stresses the importance of examining the context and power structures associated with data, asserting that 'data is not neutral or objective. It is the product of unequal social relations, and this context is essential for conducting accurate, ethical analysis' (d'Ignazio & Klein, 2020).

To avoid non-numeric data simply becoming a mass of beliefs and opinions, we need to be systematic in our data collection, careful not to exclude data that doesn't fit with our ideas, and avoid as far as possible any bias in how we collect the data. We also need to be as inter-subjective as possible about the analysis, drawing upon different viewpoints as we create categories, and looking for exceptions as well as similarities. Above all, we need to be reflexive throughout the research process, examining and making visible our beliefs, judgments and practices. The final result of qualitative research isn't a measurement, instead it's the interpretation of the data that makes the most sense in that particular context. Qualitative analysis can't show a generalisable one-to-one correspondence between cause and effect in the way that quantitative analysis can, but it can certainly assemble evidence that there's a connection between the two.

It may seem as if positivism always involves quantitative research and interpretivism always involves qualitative research. Although positivists may come up with theories about things they can't measure (both the position and speed of a particle) or that they can't yet observe (dark matter), their work is aimed at making these measurable, because positivist research is always quantitative.

Interpretivist researchers may use qualitative or quantitative approaches. They might carry out thematic analysis on a text, or they might count the number of times a particular word is used, or how long the pauses are. They might ask people to rank from 1 (love it) to 7 (hate it) how they feel about something. Although

these are numbers and can therefore be counted, they are still (at their roots) a subjective decision about what something means, so are ultimately interpretivist. Interpretivist studies often explicitly employ a viewpoint that informs the design of the study and the interpretation of the data. For example, feminism or Marxism will suggest that an effect is due to the ways in which society is constructed, and that within that model you will see certain things happen as a result of other actions. These aren't predictive models like those in the natural sciences, but they are still valuable. Identifying the theoretical perspective that has influenced a piece of research makes it clear why it has been structured as it has and foregrounds some of the decisions that have been taken. In the natural sciences, these political and cultural influences are present but more rarely acknowledged. In both cases, the preferences of funders will determine which research areas and designs are prioritised. The impact of colonisation by a particular (for example northern, white, straight) perspective limits the questions we ask, the methods we use, and the interpretations we consider (Ramakrishnan, 2020). For any researcher, decolonising your discipline is not only fairer, it's more robust and helps you get close to that elusive 1 (I'm absolutely certain this is true).

Let's go to Part 2 in the next chapter for the answer to our question, **How do ontology and epistemology help you eliminate Jar Jar Binks with headcan(n)ons?**

Mesa just sharing my references with yousa

Burton, B. (2014) Who decides '*Star Wars*' canon? Meet the Story Group, *CNET*, 8 January. Available at: https://www.cnet.com/news/who-decides-star-wars-canon-meet-the-story-group/

CERN (2012) OPERA experiment reports anomaly in flight time of neutrinos from CERN to Gran Sasso, *Press Release*, 8 June. Available at: https://press.cern/news/press-release/cern/opera-experiment-reports-anomaly-flight-time-neutrinos-cern-gran-sasso

Childs, M. (2012) Transmedia narratives: examples to definitions, *The London Transmedia Fest 2012*, Ravensbourne College, London, 26 to 27 October.

Cox, B., Ince, R., and Feachem, A. (2017) *The Infinite Monkey Cage – How To Build a Universe*, William Collins, UK: London

d'Espagnat, B. (1983) *In Search of Reality*, Springer-Verlag, USA: New York

Dawkins, R. (2006) *The God Delusion*, Bantam Books, USA: New York

d'Ignazio, C. and Klein, L.F. (2020) *Data Feminism*. MIT Press, Boston, USA.

Duan, Y., Zhang, J. & Xu, K. (2014) Structural and electronic properties of chiral single-wall copper nanotubes. *Science China Physics, Mechanics and Astronomy* 57, 644–651. Available at: https://doi.org/10.1007/s11433-013-5387-8

Hamacher, D. (2017) Stars that vary in brightness shine in the oral traditions of Aboriginal Australians, *The Conversation, 8* November. Available at: https://theconversation.com/stars-that-vary-in-brightness-shine-in-the-oral-traditions-of-aboriginal-australians-85833

Krantz, M., Snider, M., Della Cava, M. and Alexander, B. (2012) Disney buys Lucasfilm for $4 billion, *USA Today*, 30 October. Available at: https://eu.usatoday.com/story/money/business/2012/10/30/disney-star-wars-lucasfilm/1669739/

Lyden, J.C. (2012) Whose film is it, anyway? Canonicity and authority in Star Wars fandom. *Journal of the American Academy of Religion*, 80(3), 775–786. https://doi.org/10.1093/jaarel/lfs037

Maani, N., and Galea, S. (2021) What science can and cannot do in a time of pandemic, *Scientific American*, 2 February 2. Available at: https://www.scientificamerican.com/article/what-science-can-and-cannot-do-in-a-time-of-pandemic

Mac Sweeney, N. (2023) The myth of the 'Dark Ages' ignores how classical traditions flourished around the world, *Smithsonian Magazine: History*, 18 May. Available at: https://www.smithsonianmag.com/history/the-myth-of-the-dark-ages-ignores-how-classical-traditions-flourished-around-the-world-180982190/

Pilapitiya, S. and Siribaddana, S. (2013) Issues in clinical trials in complementary and alternative medicine (CAM), *Current Opinion in Pharmacology*, 13:2, 311-312. Available at: https://doi.org/10.1016/j.coph.2013.02.007

Ramakrishnan, A. (2020) Science writers urged to tell stories that include Indigenous perspectives, *National Association of Science Writers*, 13 November. Available at: https://www.nasw.org/article/science-writers-urged-tell-stories-include-indigenous-perspectives

Saler, M. (2012) *As If: Modern Enchantment and the Literary Prehistory of Virtual Reality*. USA: New York: Oxford University Press.

Sansweet, S.J. (1998) *The Star Wars Encyclopedia*, USA: New York, Del Rey Books. Scicurious (2012) IgNobel prize in neuroscience: the dead salmon study, *Blog: The Scicurious Brain, Scientific American*, 25 September. Available at: https://blogs.scientificamerican.com/scicurious-brain/ignobel-prize-in-neuroscience-the-dead-salmon-study/

Spelling, I. (2005) New hopes, *Starlog*, 337, August, 46- 52. Available at: https://archive.org/details/starlog_magazine-337JPG/337.djvuconvert/page/n45/mode/2up

Scan the QR code to listen to the podcast episode

This is the digital Open Educational Resource (OER) version of Pedagodzilla: Exploring the Realm of Pedagogy, by Dr Mark Childs, Prof Rebecca Ferguson, Mike Collins, and Elizabeth Ellis.

We hope you find this useful in your practice or studies. If you do, we'd love to hear from you! Feel free to get in touch at mike@pedagodzilla.com or mark.childs@durham.ac.uk. Your feedback helps us shape our next book.

For more clumsy pedagogy and pop culture mash-ups, tune in to the Pedagodzilla podcast at www.pedagodzilla.com.
To access other chapters or pick up a paperback copy (with proceeds going towards costs for our next book), just scan the QR code below.

First Edition 2024.

PEDAGODZILLA

EXPLORING THE REALM OF PEDAGOGY

MARK CHILDS, REBECCA FERGUSON,
MIKE COLLINS & ELIZABETH ELLIS