

Valid Reasoning or Sophist Manipulation? A Critical Review of Gray and Malins

**Book Reviewed: Gray, C, and J . Malins. 2004. *Visualizing Research*.
Aldershot, UK: Ashgate.**

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Introduction

There is a strong case for developing new approaches to research in the visually based domains of art and design.

Research that focuses on the visual aspects of design must address several central issues that are relatively peripheral in other research contexts. These include:

- Research into design activities whose focus is visual appearance – including the internal processes of individual designers and communication between designers
- Research into the visual appearance of designed objects – in particular objects whose appearance is secondary to other functions, else this would be art rather than design
- Research into the contexts of visual appearance as it relates to designed objects – design-related aspects of culture, meaning etc
- Relationships between research-based knowledge about visual perception and design cognition
- Research into changes in user attitudes and behaviours resulting from perceptions of visual aspects of designed objects.
- Research targeting the building of necessary and sufficient epistemological and ontological foundations for theory-making relating to visually based aspects of art and design.

All of these are conceptually difficult arenas of research that require careful differentiation of concepts, critical thinking and detailed attention to valid reasoning. Without the application of these skills, discussion and conclusions become unjustified speculation of the sort that has been problematic in the literature of art and design research in earlier years.

After careful reading of this book by Gray and Malins, I felt that the authors do not adequately apply these research skills to make the case for new research approaches in visually based domains of art and design.

Carole Gray and Julian Malins do quite the opposite. Their use of fallacious reasoning and sophist rhetoric damages the case for creating new research approaches tailored to the visual aspects of art and design. It also potentially compromises the research of postgraduate students and supervisors who draw on this book. The authors demonstrate weak knowledge of research with evidence of problematic thinking in analysis, reasoning, and research methods. These weaknesses are significant in view of the intended purpose of this book as a text for the training design researchers and guiding research supervisors in art and design.

Many argue that we require new research techniques for research in fields whose focus is visually perceived, culturally interpreted objects. Building this case requires intelligent reasoning to identify where, how, and why traditional research methods do not meet the needs of research in these fields. This also requires analyzing the epistemological and practical characteristics of existing research methods, showing that well-developed methods for gathering and analyzing data are unsuited to art and design.

A skilful argument based on sound reasoning would offer a basis for identifying new research methods. It would also demonstrate when, how, and why current methods could readily be adapted to new uses. Gray and Malins do not do this. They present an approach to research based on false reasoning and use clumsy, ill-conceived arguments to attempt to persuade readers to their point of view that 'art practices' should be regarded as identical to 'analysis and research'.

Reviewing this book was hard, slow, and unpleasant. The central difficulty was the problem of getting a coherent meaning out of a structurally messy muddle. Flawed logic, questionable evidence, and sophism made it difficult to understand what, exactly, the authors mean. This required me to work through the book several times, often reading it word-by-word and sentence-by-sentence.

At first, I thought that a problem in collaboration between authors might have been the reason for some difficulties. This can happen when two authors write different parts of a book that goes to press without adequate proofing. Identifying and mapping out problems, however, made it clear that these problems are part of the strategy these authors use to support their position.

In many cases, there are errors of reasoning that involve conceptual and logical fallacies. More serious, however, is what appears to be deliberate sophistry. The book relies on deceitful argument, false logic, and manipulation of evidence to bolster the authors' position and conclusions.

The extensive use of false reasoning, and the many examples conceptual, logical, and factual errors, are a serious problem in a book on how to do research. This book is labelled as a teaching text for postgraduates who are learning to do research. As such, readers have the right to expect authors who demonstrate excellent reasoning and thinking. The authors should support their argument with good examples rather than using bad examples that create problems.

This book suffers from a particular misfortune. Malins and Gray identify the art and design domain as an education sector that is weak in formal research skills (see, e.g. pp. 4, 167). Given this understanding, we expect the authors to demonstrate positive examples of good formal research approaches. Instead, they demonstrate a huge number of reasoning errors. In

a book where the authors argue that reasoning and critical thinking are essential to research, this is unlikely to be due to ignorance. This is why I raise the question of misdirection and deliberate sophistry.

Overview

The book has 214 pages and a foreword by Mike Press. The book contains an introduction, five chapters, four appendices, and a glossary.

The foreword opens the case by arguing for the authors that ‘creative art and design practices become research methodologies [sic]’ (p. xi). This perspective echoes through the book. The authors make a special pleading for creative practices in ‘art and design’ as a form of research that is different to research in other fields (echoed for example on pp. 18, 19). At the same time, the authors remind the reader that research in the art and design sector has been weak. Problems include a lack of methodological awareness, poor research supervision, and a lack of rigor in art and design practice-led research. This often leads to questionable research outcomes.

In their introduction, Gray and Malins state the primary aims of the book as educating doctoral and master’s degree students, supervisors and research managers. They also intend it to be a guide for postgraduate art and design students undertaking the research process. In actuality, it is unclear what the authors intend from this book. Sometimes the authors position the book as a ‘proposal contributing towards a public debate about the role of creative practices in research’ (p. 5); as a guide for research students and supervisors (pp.1, 5); and as a definitive text. This chapter introduces the central metaphor of the book, research as a journey.

The difficulties start at this point. The authors repeatedly and deliberately obscure the distinction between research and practice. They shift repeatedly from discussing practice-led research to presenting practice as a form of research in its own right. This point emerges throughout the book, sometimes in clear form, at other times disguised (see, for example, pp. 165). The agenda behind this confusion is an attempt to persuade us we should regard visual art practices as research.

The introductory chapter presents the initial foundations of this position. Here, the authors create a pseudo-argument that conflates art and design practice to research by stating that we can regard both research and practice as ‘journeys’ in art and design. Gray and Malins exploit the conceptual slackness of the loose metaphor of ‘the journey’ throughout the book to support their underlying perspective.

First, they assume that both visual art practices and research can be conceived of in terms of a shared metaphorical property, a journey. They next assume that this implies that visual art practices and research are similar. This is the fallacy of the undistributed middle. Most of us know this fallacy from a childhood example of false logic: cats must be dogs because both have four legs.

The other chapters are:

Chapter 2. Mapping the Terrain: methods of contextualizing research

Chapter 3. Locating your position: methods of orienting and situating research

Chapter 4. Crossing the Terrain: establishing appropriate research methodologies

Chapter 5. Interpreting the Map: methods of evaluation and analysis

Chapter 6. Recounting the journey: recognizing new knowledge and communicating research findings

The four appendices comprise adaptations of others work. The glossary problematically reworks well-established research terms into definitions that support Gray and Malins notions of ‘art and design research’.

The content of the chapters is evident from their titles and apparently follows the flow of a conventional research process.

This review will not describe each chapter in detail. Instead, it will draw attention to some of the problems of flawed reasoning and sophist argument found throughout the book. These problems compromise the book to such an extent that a discussion of content is almost irrelevant.

There are additional problems with the content of this book that this review does not address. These problems generally involve the authors’ practical advice on research. Many other research-training texts give better advice on specific aspects of theoretical perspectives and research methods for data collection and analysis. Discussing these problems here would require a point-by-point comparison with better sources. This, in turn, would require a far longer review that would be mostly irrelevant in view of the serious logical problems in the book as it stands.

Problems that fundamentally compromise this book

Valid reasoning is central to research, to critical thinking, and to creating useful knowledge that can be shared with others. At one point, Gray and Malins (p. 24) quote Brian Eno’s statement that ‘the arts routinely produce some of the loosest thinking and worst writing known to history’. I found that weak standard of loose thinking and poor writing permeates this book.

In research terms, to remedy these problems of thinking and writing in the arts sector requires researchers and authors to avoid flawed reasoning, bias, and deceit. This requires careful attention to three aspects:

1. Avoiding fallacies

It is important to avoid fallacies. Errors in the structure of reasoning lead to mistaken or unjustified conclusions.

2. Avoiding lack of reasoning

A lack of reasoning altogether leads to assertions without explanation.

3. Avoiding sophistry

Solid research requires that researchers and authors never use sophistry. Sophistry includes deliberate attempts to deceive or persuade readers to the authors' position through false reasoning, bad syllogism, and biased or manipulated evidence.

Unfortunately, all three of these problems of *fallacies*, *lack of reasoning* and *sophistry* are widely found in this book. Gray and Malins use a typical argumentative tactic throughout. First, they build a scenario to elicit sensible agreement. Then, they introduce a series of distractions (fallacies of distraction) and they shift the use of terms (fallacies of equivocation and amphiboly). Finally, they use false reasoning to build an argument based on the apparently sound evidence they have created by the stratagem that allows them to open with a reasonable scenario that they transform through distraction and a shift in meaning. While this distracts the less than careful reader, the sheer quantity of such cases in this book tends to anesthetize even the most careful critic. Some examples are given below.

Quickly thumbing through my marked up copy of this book, I note a large number of pages that contain between six and twelve serious problems. These include errors of reasoning, faulty understanding of concepts, confusion and conflation of concepts, flawed understanding of research methods, incorrect description of research methods, and what appears to be manipulation of cited sources materials or bias in choice of references. In some cases, it seems that the authors purposely intended to persuade readers to their views by deceit.

Much of the underlying problem seems to revolve around a process by which Gray and Malins first assume that visual art practice is research and then build whatever arguments they can to attempt a post-rationalisation of their position by building a weight of evidence in favour by any means. They enable this strategy by redefining key research terms and concepts in ways that differ from the way that other researchers use them. Gray and Malins use such terms as 'analysis', 'argument', 'valid evidence', and 'research' in ways that few serious researchers would use them, and this includes the growing number of researchers who work in the art and design sector. Finally, Gray and Malins derive support for their redefinitions by selectively using quotation from a small number of authors. These techniques are used to attempt to indicate that many other researchers join Gray and Malins on their incredible journey.

The book makes widespread use of sophist manipulative techniques taken straight from the ancient Greek marketplace. This includes using false syllogisms to persuade the reader of the authors' arguments regardless of problems with the underlying validity of the syllogisms, the authors' reasoning, or the validity of their evidence and assumptions. The authors use a range of techniques to distract and confuse readers in an effort to make it seem that the authors have developed a fully justified, reasoned argument when they have not done so.

A broad and critical view of the text as a whole suggests that this barrage of tricks is intended to persuade readers who lack the time or skill to check carefully for false logic and weak evidence.

The book is aimed at novice researchers. It should be beyond reproach in these matters. It is not. The primary sophist technique used by the authors takes the reader from apparently solid ground to false conclusions by subtle changes of meaning, false arguments, and carefully selected references. These are interposed with other material as a distraction, after which the

authors claim conclusions radically different from those that would be logically deducible from the premises with which they start each sophism.

The following sections of this review will describe some of the main problematic issues:

Reasoning

This book contains little valid reasoning, although the authors briefly mention reasoning at several points. They state that reasoning is an essential foundation of the critical thinking central to competent research. Beyond this, however, the authors omit or ignore the role of valid reasoning in research and critical thinking.

In Chapter 2, Gray and Malins state ‘Critical thinking and critical response are key postgraduate skills applicable across the whole research process...’ (p. 38) and ‘The critical thinker bases arguments on the use of evidence and sound reasoning’ (p. 39). For the remainder of that chapter, and elsewhere in the book, there is a conspicuous absence of reference or discussion the central role of correct reasoning, avoiding fallacies, eschewing sophistry in relation to critical thinking, argument, intellectual standards, critical writing, reflection, reviewing and analysing literature, and writing up research. Instead, the authors focus on presentation techniques that are well suited to represent content without representing reasoning.

Problematic redefinition of ‘analysis’

The authors use the term ‘analysis’ in very different way than researchers generally use the term. To be fair, their use aligns with the strict etymology of the term. In this etymology, analysis involves breaking a whole into distinct parts, a taxonomic view that is opposite to synthesis. The ‘new’ use of the term analysis in this book contrasts with the more common research perspective in which ‘analysis’ refers to developing a well-justified causal explanation of use by others. The usual research meaning of ‘analysis’ depends heavily on the use of valid reasoning. In contrast, the word is only weakly related to reasoning as Gray and Malins use it.

Gray and Malins choose a taxonomic definition of analysis to build support for the position that ‘art practice is research’. They do so because it allows them to claim that the researcher’s personal opinion with the advice of artistic peers is the reference point for the valid analysis as the subjective choice of ‘which bits to break something into’. In practical terms, they interpret analysis as being a judgement or comparison-based mechanism that filters data either by a ‘sieve’ that only lets some data through), or by a ‘lens’ that only allows you to see some of the data (pp. 130 – 133).

Chapter 5 is where Gray and Malins present their alternative perspective on analysis and evaluation on which much the rest of the book hinges. It is also the chapter in which loose thinking, conflation and confusion of concepts, fallacies and sophism are most significant. The central theme in Chapter 5 is an argument based on the excluded middle fallacy by which the authors persistently suggest that analysis is a process of personal judgement and that analysis and creative practice are identical. Discussion of the roles of reasoning and the study of causal relationships and explanations are significant by their absence throughout the chapter.

Gray and Malins attempt to argue the equivalence between analysis and art practice based on shared properties using the excluded middle fallacy (the cats are dogs problem again). In addition, they attempt to force the issue by undertaking the same fallacious reasoning from a number of directions. This is presumably based on another of their claims that argument depends primarily on building a weight of evidence from whatever sources. They argue that analysis is ‘creative construction’ (p. 155); analysis is presentation (p. 144-155). There are multiple fallacies evident in these arguments and to some extent, many of these problems originate from a, perhaps deliberate, conflation of the process of analysis as usually undertaken in research and the visual tools used in representation data during and after analysis

The authors never explain that their approach is at odds with the extensive research literature in other disciplines. Perhaps they don’t know this literature, but their approach to this combines a variety of fallacies in explanation, definition, and motive in place of reasoned argumentation, supporting their problematic arguments by distractions and sleight-of-hand.

Problematic redefinition of ‘argument’

Where Gray and Malins’ describe how to build an ‘argument’, they ignore the role of valid reasoning in developing an arguable position. Instead of using reasoning, they suggest that researchers simply build up a weight of material; ‘evidence’ that has been selected, snipped, reinterpreted from wherever it can be found (see, for example, pp. 164, 165). In effect, they argue that research in art and design involves persuading the reader to the researcher’s viewpoint in the style of political manipulation. They themselves use evidence in examples that make it apparent that they propose weaker standards of validity than normal research requires. They also propose weaker standards for avoiding bias, possibly on the notion that if an artist may choose an artistic statement on purely subjective grounds, then pure subjectivity is an equally valid method for determining or avoiding bias.

Ignoring reasoning as a core research skill

Gray and Malins give a significant amount of space to providing guidance to new researchers on key research skills. This advice almost completely neglects reasoning skills. This is surprising because the authors state that art and design students and researchers are weak in such areas of research as critical reasoning skills. Elsewhere, they state that reasoning and critical thinking are essential and central to research. Despite this, they rarely link effective reasoning to the way they present research methods and research skills.

Chapter 3 (pp. 66 – 91) focuses on the theoretical foundations of research leading to the identification of research questions and research methods, and developing a research proposal. What is described reads from the outset (p. 66) as a basis for undertaking an art project. There is little reference to theory, and the research findings of others. Gray and Malins go against the use of reasoning and normal approaches to research when they claim that, ‘Most research questions in our [sic] discipline do not lend themselves to easily quantifiable answers, and of course they usually cannot be *proved* in the scientific sense.’

They then list six questions to demonstrate their point that new visually based research approaches are needed. Peculiarly, all six questions can be addressed using conventional well-established scientific research approaches. Perhaps indicatively, all six questions read

like examination questions in a didactic rather than research environment. For example, “What kind of roles do artists take on in the public realm?”

Elsewhere they point out it is beyond the scope of the book to describe scientific methods of research (p. 120). This concerns me on a couple of counts. First, it is relatively hidden away in a short section in the middle of the book mixed in with other material. It leaves the reader with the impression that research predominately comprises the approaches described in the book. This is misleading to the new researcher and does not accurately reflect the authors’ position that they are outlining a new and yet not well justified mode of research inquiry. Second, the methods that are described are sometimes described inaccurately. Taken together, with the other problems of reasoning demonstrated in the book is likely to misdirect new researchers.

Role of reasoning in avoiding faulty thinking

The authors avoid a central problem in their argument. Valid reasoning prevents a sharp descent into the realm of faulty thinking, sophism, flawed evidence, and manipulation in winning the agreement of readers. A substantial amount of support for their position comes from selective quotation of Chris Hart’s (1998) guide to doing a literature review in many situations outside that specific context. Crucially, however, they avoid referring to his comment that a key aspect of critical thinking depends on “Finding fault in an argument by identifying fallacies, inadequacies, lack of evidence or lack of plausibility”(Hart, 1998, p. 176).

The lack of attention to valid reasoning leaves the reader exposed to page after page of confused thinking, flawed reasoning, and category confusions.

The authors build arguments on false assumptions, they give little care to the validity of evidence, and they use assumptions without stating or discussing their assumptions in a reflective and articulate way. They do not appear to understand the well-established meaning of research terms and widely used concepts. Worse still, they often define terms in one way, while using those same terms in a way that contradicts their definitions. These flaws are compounded by apparently intentional sophism in their method of manipulative persuasion.

Misuse of the journey/travel metaphor

Throughout the book, the authors use the metaphor of a journey. In one role, they use it to tie the book together as a document. In another role, it underpins the central argument of the book in an effort to support the claim that art practice is research.

Clarifying the confusion and conflation that the authors use to disguise their real logic reveals the classical three-statement fallacy of the excluded middle. (See, for example, Stephen Downes’s Guide to the Logical Fallacies: <http://datanation.com/fallacies/>)

The ruling false syllogism of Visualizing Research takes this form:

Statement 1: ‘Research can be thought of in terms of a journey’.

AND

Statement 2: ‘Art and design practice can be thought of in terms of a journey’.

THEREFORE

Conclusion 3: ‘Art and design practices are research’.

The conclusion is false. Sharing one common attribute does not confer equivalence on all attributes. In this case, even the one attribute is inferred from opinion.

This is one of the classic fallacies taught in secondary school classes on reasoning skills. It is sophist reasoning if used intentionally, incompetent reasoning if it is unintentional. In this book, the fallacy spreads over many pages, combined with a range of other fallacies, mainly fallacies of distraction.

The kind of false reasoning takes this form:

Statement 1: ‘All cats have four legs’.

AND

Statement 2: ‘All dogs have four legs’.

THEREFORE

Conclusion 3: ‘All cats are dogs’.

This conclusion is false because the property of ‘having four legs’ is shared by many objects, including such as objects as tables and chairs that belong to entirely different categories.

This kind of false reasoning, like many other examples in the book, concerns me because the book is supposedly an example of research skills for novice researchers. This suggests either that the authors are not skilled in reasoning and analysis, or else that they are deliberately trying to manipulate the reader through sophism and invalid syllogism.

Fallacies of Explanation

In undertaking their proposal for defining a new form of visualizing research, the authors do not indicate to the reader the counter arguments and literatures, and the counter arguments of the current strong level of discussion within and outside design fields on conflating art-practice and research. This latter omission also shows use of two other classic sophist/fallacious techniques – fallacy by exclusion (ignoring evidence or argument to the contrary) and the straw man fallacy where the authors ignore the main arguments to the contrary and instead address only peripheral issues.

Special Pleadings

The authors base many of their arguments on the special pleading that visually based art and design research is different to other forms of research. For this reason, they argue, art and

design research should not meet to the usual standards of research. They suggest that because art and design research are different from research in the natural sciences, the usual conventions of research should not apply. They fail, of course, to state how art and design research are unlike other disciplines that also differ from natural science. If research disciplines in fields from theology and philosophy to sociology and literature require rigorous research, why should this be different for art and design? If research disciplines linked to professional practice in medicine, law, biotechnology, or engineering require rigorous research, why should this be different for art and design?

In making their case, the authors appeal to sympathy, to evidence from apparent (but unqualified) authorities, biased selection of sources, slippery slope arguments, prejudicial language, and popularity. This combines a range of fallacious techniques, from false appeals to authority to using motives rather than reasons, all muddled over by fallacies of distraction.

Distilled to its essence, Gray and Malins develop three core components for their special pleading:

1. Visually based art practice should be considered as research.
2. The usual criteria and standards of evidence and valid reasoning required in other research disciplines need not apply to art and design research.
3. Judgments about research quality should lie with the researchers and their fellow artists rather than with independent research assessors.

Supervision

The book suggests that Gray and Malins have little awareness of the important role of supervision in research education. There is nearly no reference to the role of supervisors in this book, apart from Mike Press's brief foreword. In the foreword, Press seems to claim that the main role of a research supervisor is to 'build your confidence'. (The foreword is aptly titled: 'Alice is in wonderland'. It is unclear that this is a step forward from Press's well-known conflation of art and design research with the Star Trek television series 'It's research, Jim, but not as we know it'.)

Current research on research education shows that tightly structured supervision is an important factor in achieving good research training outcomes (see, for example, (Sinclair, 2004) . This is particularly the case for students who come to research programs from backgrounds that fail to give them a foundation in research skills or the reasoning and the critical thinking skills that underpin research. This, by definition, is the case for most students who come to art and design research programs from art and design studio programs. Where Gray and Malins do discuss supervision, they mainly use the term 'advisers', and they typically define advisers as artistic peers with competence in visual skills rather than competence in research training(e.g. pp. 84, 160).

A key issue in research training is moderating the standards for degree awards across disciplines. Thus, we expect that a PhD award in, say, environmental science or computer science be moderated to much the same standard as a PhD in, say, philosophy, history, or physics. Much of this moderation depends on an international body of examiner and

supervisors who are skilled in research methods working across disciplines. Visualizing Research is unclear on this point.

In fact, Gray and Malins never address a key problem. They never explain how to moderate research awards relating to visually based research fields when supervisors or 'advisers' are artistic peers with few research skills or none.

Reasoning based on unjustified assumptions

At several points in the book, Gray and Malins build arguments on unjustified assumptions. They base their reasoning on an initial statement of the form 'A *suggests* B' (p. 130, re: trustworthiness, p. 168, re exposition), or 'one explanation of this phenomena *might* be' (e.g. p. 101, re: methodological trailblazing). From this point, they write as though the outcomes of the argument are fully justified. This is a significant rupture of critical thinking and research traditions.

This confuses hypotheses with conclusions. It aligns with the position Gray and Malins' position on effective argument. An argument in this book is anything that can persuade people to agree, and a researcher may use any evidence in any way to persuade them. This is not accepted in most research communities.

Lack of attention 'necessary and sufficient' conditions

Most explanations require the criteria of 'necessary and sufficient conditions'. This is an important basis for enabling a reader to validate the steps of a reasoned argument. Throughout the book, Gray and Malins ignore these criteria in their argumentation. When authors give no attention to the joined requirements of necessity and sufficiency, readers may generally assume that the authors practice invalid or false reasoning, either intending to delude the reader or suffering themselves from delusion.

Sophist manipulative techniques in building argument

Several sophist patterns of reasoning occur through the book.

These generally start with a statement that describes a situation correctly in a valid and understated way that is relatively hidden in the text. The authors then write as if something different were true, writing in a widespread and dominant way to build their claims on the dominant position whilst referring to the fact that they have already written the valid version.

An obvious example of this occurs in the way that Gray and Malins define methodology. Contrast, for example, their explicit definition of differences between 'methodology' and 'method' on pages 17 and 18, and their almost immediate misuse of the term methodology, in their own terms, from p. 18 onwards.

A second example appears where the authors state on one hand that 'art' cannot fully state the complete details of the artists reasoning and argument, while they implicitly assume on the other hand that visual representations in many ways contain reasoning.

A third example is the elision between 'portfolio as presenting evidence of achievement from work-based or practice-based projects' (p.163) and 'PhD evidence portfolio' (pp. 164.165).

The authors do this carelessly in research terms. This is a key issue in terms of presenting evidence of research: they avoid addressing the significant epistemological differences between evidence and validity in the theory-based world of research findings and the subjective and external worlds of created objects and creative practices.

A fourth example is the use of sophist techniques of elision, equivocation, amphiboly, and accent. Gray and Malins often do this gradually, taking several paragraphs to shift the meaning of a term, concept, or argument in two parallel paths of discourse. This gives the illusion of valid reasoning to develop an equivalence that supports their position. An example of the technique follows:

Start Path 1: State that research uses research methods.

Start Path 2: State that art practice uses methods.

Sophist Transition: In both paths, start to use the term ‘practice methods’ as a substitute for ‘research methods’ and ‘art practice methods’.

Sophist Transition: in both paths, omit the definitive prefixes ‘research’, ‘art’, and ‘practice’.

Sophist transition: Continue to use term ‘methods’ in similar ways in the parallel paths whole ignoring the fact that they refer to epistemologically different entities.

Use a supporting distraction: A typical example of distraction in Gray and Malins involves a side step citing respected sources that state that research sometimes requires creative steps.

Sophist transition connecting the two paths: Make the tentative statement that art-practice methods are used as part of research. An example of this is providing evidence to which research data collection and research analysis methods will be applied. This brings two sets of incommensurate concepts together by using the same terminology. This will enable the authors to conflate them.

Use a supporting distraction: The specific nature of the distraction is irrelevant as long as it distracts the reader, reducing attention and disturbing the memory.

Make Claim: Claim that art-practice methods are research methods for research relating to art-practice.

There are many examples of sophist method in the book, for example, several modes of elision and similar problematic techniques are found across pages 26 to 32. This starts with an unjustified assumption that awarded PhDs are evidence of a valid research perspective; that conflates the concepts of ‘argument’ and ‘evidence’; conflates ‘art practices’ and ‘research methods’; elides from the role of art practice as a source of research problems to unjustified claim that art practices (per se) are analytical tools to arts methods are research methods to sensory perception is research data. By page 32, the authors have got to the point of claiming that there is a process of inquiry that places ‘[art] practice and the [art] practitioner at the very heart of research’ This is part of a larger sophist, fallacious path arguing that art practices are research. This is played out using similarly problematic rhetoric in the following five chapters.

False reasoning through false appeal to authority

Gray and Malins often use a false appeal to authority to support their arguments. They do this through selective use of evidence, use of partial quotations, occasionally by reworking material from other writers to support their own claims.

On my second reading of the book, I realized it was important to check original sources carefully where the authors use quotation they claim is 'based on' the work of others. An example is occurs in appendices that quote Scottish Postgraduate education material. The material in these appears to have been modified to support Gray and Malins in their views.

The appendices also demonstrate an additional point. Quoted material is used and chosen in a biased fashion. Material on the same topic from a different research council such as the EPSRC would have gone against the Gray and Malins position.

False reasoning and sophist manipulation using category confusion and conceptual conflation

The book is marked by category confusions that create illusory bridges across epistemologically different discourses. Sometimes these appear deliberate, some may simply be incompetent.

For example, 'content' is confused and conflated with 'process'; 'analysis' is confused and conflated with 'presentation' (e.g. pp. 151, 152, 154, 170, 171); 'perspective' confused with 'analysis' (p. 154); 'analogy' confused with identical theory models (p.154); and 'concept maps' are confused with unambiguous theory (p. 100). This confusion and conflation, deliberate or otherwise, is basic to much of the sophist and false reasoning in this book.

Another example occurs where 'research method' is first used to mean 'method of data collection'. It is later transformed into 'research methodology', defined at one point as 'the study of research methods'. Still later, the authors transformed this into 'anything that the candidate does in their research'. Later still, the authors drop the term 'research' altogether, changing the primary focus of reference to the candidate's 'methodology', which they next transform into 'the candidate's methods'. This last transformation enables the claim that research consists of 'art-practice methods that primarily focus on creative thinking'.

Validation of research by personal opinion

In a category-confused discussion of logic and reasoning, the authors argue that the processes of logic and careful reasoning in research are identical to the innovative creative thinking of an artist. Therefore, they claim that the validity of research is secured and justified by the creative subjective opinions of the researcher and his or her artistic peers. This claim that validity depends on the researcher's subjective judgement contrast strongly with normal practice in research in which validation is undertaken objectively though a formal process. In normal research processes, validation is grounded on checks for valid reasoning and valid evidence. It uses the necessary and sufficient role of logical steps that directly connect the evidence through continuous, valid reasoning and pathways that link premises, processes, and conclusions.

Their claim that validity is\depends on the subjective opinion of the researcher aligns, however, with their overarching assumption that art practices are research. It does conflict, however, with Gray and Malins' other position that validity depends on reasoning (p. 39).

Sophist techniques to parry criticism

A cynic might argue that some material in the book is designed to provide the authors with a way to parry criticism of the sophism and false reasoning found in the text. In reading the book, I often felt that many elements were positioned for use as 'escape clauses', obfuscating and confusing the text to protect the authors against challenges to the underlying claim that art-practice should be considered research. The parrying approach is illustrated by the above example of dual argument. The primary argument presented is that 'validity depends on the researcher's opinion'; the protection against criticism is the short earlier note that 'critical thinking depends on reasoning'.

From this viewpoint, the goal of protecting the authors against criticism seems to be the reason for many problems. These include selective quotation, false quotation, biased interpretation, false logic, flawed logic, and the ongoing lack of attention to reasoning. They also include motivational pleading for special conditions on subsidiary aspects of the argument that art practice is research. The authors use these to support their restructured meaning of the concept of research. All along, Gray and Malins omit any discussion of complex arguments that would contradict their key points. They use elision and manipulation to support their point, whilst including material that contradicts the main thrust of their arguments while minimizing its conceptual importance in the text.

Conclusion

This book offers a case for a new visually based approach to research.

The problem in the presentation of this approach is that this book is compromised throughout by errors of reasoning. It seems to me further that the book is tainted by sophist techniques of persuasion.

Both of these are problematic. Both highly compromise the book in its intended role as a textbook for new students, particularly in its intended use as a textbook on research where sound reasoning and avoidance of sophism are essential skills. Both suggest that new researchers and postgraduate students should be discouraged from using this book as a guide – except of faulty reasoning of the sort that is unlikely to get them a research degree, (unless they can find examiners who have similar skills in reasoning!).

The impression the book gave me was that the omission of reasoning reflects a blind spot in the authors' understanding of the key roles of reasoning in all aspects of research. This blind spot is also perhaps the basis for the extraordinary lengths the authors go to in using rhetoric approaches to persuade readers, where these are so obviously open to charges of fallacy and sophistry.

My deepest personal concern here is the adverse influence of this book on the design research field. Students who use this book as the basis of research training will compromise their opportunities for careers in research in design, and in turn compromise the design research field.

This book is difficult to recommend as a supervision text. It offers highly compromised examples of research, and much here is insufficient to support a research degree.

This raises deep questions in a book aimed at new researchers who do not yet have the critical thinking skills to identify the errors, manipulations, elisions, and examples of false reasoning that underpin the claims and proposals in this book. Gray and Malins ask research students to risk compromising their research careers, wasting time and resources on an inadequate and problematic new form of practice that the authors claim as research. They make this claim in spite of widespread critical concerns about the notion that 'art practice' is equivalent to 'research'.

The problems of false reasoning and sophism in the book extend further. They cast a shadow over the completed PhD theses Gray and Malins put forward as examples of good research. While some of the theses offered here have nothing to do with Gray and Malins, others do, including theses that are marked by the same problems that typify this book.

The book does have one important virtue, though. It reminds examiners concerned with research quality to check a candidate's references. One useful check is to see whether they have used this text.

-- Reviewed by Terence Love

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