

## Tools for “undoing” readings, case studies and research reports

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### **Tools for “undoing” readings, case studies and research reports.**

Sylvia Downs and colleagues (Downs & Perry 1982, 1984) concluded from a study of academic underachievers in the UK that people learn through M.U.D., an acronym for Memorising, Understanding and Doing. A feature of “doing” includes “undoing,” or learning about things by taking them apart. The case study and other sources of reading, in business and social science study, can be seen as learning devices that supposedly exploit the “undoing” process. If we were to learn about a sewing machine engine by undoing it, we would need tools such as spanners and screwdrivers. However, when we set students off to undo a case study, they are frequently devoid of tools for doing so. This article attempts to provide a set of tools for the student toolbox, which may be helpful for undoing case studies, reports and class readings.

In addition to Downs and Perry (1982, 1984) as the foundation for this process, the tools themselves are based on:

- a procedure for undoing research reports encouraged among undergraduate psychology students,
- Michael Scriven’s (1976) seven steps to argument analysis, and
- Self Characterisation technique for story analysis.

The article commences with the tools and toolbox presented as Tables 1 through to 4. These tables are then followed by an expansion and rationale.

**Table 1.**  
**Some basic tools for “undoing” readings or research reports.**

**The basic tool (or “question 1”):**

- **Is this a research report, a case study or a general article? What implications does this have for what I should be looking for while reading this?** (Note: The far right hand column applies to analysis of a research report too.)

<p align="center"><b><u>Research Report</u></b>                      (Based on general analysis of a research report)</p>	<p align="center"><b><u>Case Study</u></b>                      (Based on a synthesis of the columns to the right and left of this one)</p>	<p align="center"><b><u>General Article</u></b>                      (Based, loosely on the 7 steps of argument analysis -Scriven 1976)</p>
Was there a cover story or any form of deception used in the study?	Is there language or terminology used in the case that you don't understand? What did you find that these terms mean?	Is there language or terminology used in the article that you don't understand? What did you find that these terms mean?
What was kept constant? - what didn't change across groups...was controlled for...?	What is the main question that the case seems to be addressing? Is there a single main theme, or several?	What is the main question that the article seems to be addressing? Is there a single main theme, or several?
What was the DV? How was this operationally defined?	What is the main output or outcome variable of concern to the authors? The DV if you like - the main thing being measured in the long run.	What is the main variable of concern to the authors? The main thing being measured in the long run, and what their message is all about?
What was the IV? What were its values? How were these operationally defined?	What variables can you identify from the case that might influence the outcomes on that main variable identified above? Why might the main characters have acted the way they did?	What variables do the authors identify that they believe influences the outcomes on that main variable identified above?
In brief - what did the researchers find out? What were their results?	In brief (2 sentences) what happened in the case? Did the authors draw any conclusions or place the case in context?	What main conclusions do the authors draw? Have they put the article in context or is it purely academic and theoretical?
What implications does this study have for us as both students, future workers and researchers? What can we learn from it?	What implications does this case have for us as both students, future workers and researchers? What can we learn from it?	What implications does this article have for us as both students, future workers and researchers? What can we learn from it?
Does the report conform with the expected structure? Did this make it easier or harder to read and analyse?	Can you draw up a general, simple and coherent structure of the case?	Can you draw up a general, simple and coherent structure of the article?

**Table 2.**  
**More advanced analytical tools for undoing readings.**

<u>Research Report</u>	<u>Case Study</u>	<u>General Article</u>
Can you identify any pitfalls or flaws in this research?	What pitfalls or problems did the characters in the case fall into?	Can you identify any pitfalls or flaws in the article? Do you find it credible?
Can you detect any confounding variables?	What things helped and what things hindered the characters in the case.	Can you identify anything important that the authors did not think of?
Can you detect any demand characteristics?	How did the characters perceive the situation and how did they respond as a consequence of their perceptions?	What underlying assumptions (both stated and unstated) do you think the authors are making?
Was the sample of respondents, informants or participants adequate? (in size, type, whatever seems relevant)	In generic terms (groupings) who were the characters in the case? If an organisation study, can you draw an organisation chart?	In generic terms (groupings) who is this article aimed at? What sort of people is the article concerned with?
Can you detect threats to <i>internal validity - linking power,</i> or <i>external validity - generalising power?</i>	Can you detect any flaws in the logic of the case? Does it do a good job of getting across to you the message that it intends? Could it have been improved? Are the authors conclusions sound?	Can you detect any flaws in the logic of the article? Does it do a good job of getting across to you the message that it intends? Could it have been improved? Are the authors conclusions sound? Can you think of any counter examples that would refute the authors claims?
Was the method of data or information analysis adequate, comprehensive, carried out correctly?	How representative do you think this case is? Is it a typical and commonly met story, or is it a unique "one-off"? Does it "ring true"?	Do you think the phenomenon or situation addressed in this article is significant - or is it really a fairly minor issue?

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On the next page you will find a further method for undoing a story, article or report. You might use this technique instead of, or in addition to that above.

**Table 3.**

**Characterisation - Story analysis tools from Personal Construct Psychology.**

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- Read the article or case and make yourself familiar with it.
  - Is there one main theme or many themes? List them. If you can, list the contrast of the themes. (For example if a main theme you have identified is “conflict” write down what the contrast would be - maybe “harmony.”)
  - Read the first sentence as if this was all there was. What does this tell you? What is expressed in this sentence.
  - Do the same with the very last sentence, as if it was all that there was.
  - Divide the article or case into **beginning, middle** and **end**. Ask yourself...
    - What way is the **beginning** different from the middle and the end?
    - What way is the **middle** different from the beginning and the end?
    - What way is the **end** different from the middle and the beginning?
  - Select a sentence.
    - Take a highlighting pen and as you read the sentence, highlight the words that you stress or emphasise.
    - Take a different coloured highlighting pen and highlight different words in the sentence. Now read the sentence again, this time placing emphasis on the newly highlighted words. Notice the difference. What does this tell you?
    - Repeat the procedure with a third colour of highlighting pen.
  - Repeat this procedure of placing emphasis on different words with several other sentences.
  - Ask yourself whether any of the following are expressed in the article or case:
    - Preferences.
    - Priorities
    - Advantages and disadvantages.
  - Look at the preferences and priorities that you have listed. Ask yourself...
    - **Why** are these priorities or preferences?
    - **How** are these priorities or preferences currently being met?
    - **How** else might they be met?
  - Make an attempt to synthesise all the understanding you have gathered into a brief statement (no more than 4 or 5 sentences).
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**Table 4.**  
**Concluding from Tables 1, 2 and 3.**

**What have you learned about: your future career or profession, research, research reports, case studies, articles and the content/implications of the reading.** In the same way as you might learn how a sewing machine works by taking it apart --- undoing it.

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**Expansion of the rationale behind the tools.**

An integral part of carrying out a tertiary education qualification involves interpretation and analysis of readings, whether these be case studies, classic essays, research reports, extracts from text books or journal articles. As a student and until a few years ago as a lecturer I found the general format for using readings was: hand out the reading, ask students to have read it by next week, arrive back in class a week later and lead a discussion related to the reading. Frequently, following the reading, there would be a list of set questions to be answered.

In the late 1970's and early 1980's a Welsh research team headed by Sylvia Downs (Downs and Perry 1982, 1984) were commissioned by the UK Further Education Curriculum Review and Development Unit to introduce young people and their trainers to the proposition that there are many ways of learning and to develop an experimental "training for trainers" programme.

The project lured Downs and her colleagues into an investigation of underachievers from the UK education system. As a general conclusion Downs and associates presented an adage that in the UK school system (and no doubt elsewhere in western societies) most pupils "learned to be taught" rather than "learned to learn." The team extended their research into an investigation to discover how people do in fact learn.

Downs and Perry (1982, 1984) report the outcome of their studies as being MUD (Memorising, Understanding and Doing). That is, they concluded that people learn by memorising things, understanding things and by doing things. A feature of the doing aspect also included the recognition that we learn by undoing things. We might learn how a sewing machine works by undoing it; by taking it apart.

Downs and Perry (1982, 1984) developed a system of training and a series of “training for trainers” workshops based on providing opportunities for memorising things, understanding things and doing things (including undoing them).

For example, traditional apprenticeship training was based on telling and showing a person how to do a task, followed by mimicry of the commented demonstration (with any deviations corrected by the instructor). There was little explanation as to why particular things were done, and no opportunity to use “questioning” as a method of learning.

In response to this Downs and associates developed the “silent demonstration” as a learning to learn technique. A reasonably complex task would be demonstrated in absolute silence (such as mixing a salad dressing.) The learners observed the demonstration and were later required to execute the task for themselves. However, it would not be possible for the learners to repeat the task without firstly answering questions (such as “what was the first ingredient you used?” “How much did you use?” “Why did you shake it in a beaker first?”) As such the silent demonstration develops the acquisition or learning of two principal skills of learning: careful observation and asking questions.

The case study is used as a learning device in management and business education, and in many other disciplines including all social sciences. It is presented to students in the form of a reading, with an instruction to analyse, interpret it and maybe answer some set questions. It occurred to the current writer that the value of the case study lies in the “undoing” process. Just as we might learn how a sewing machine works by undoing it with spanners, screwdrivers and other tools, we learn about organisations, societies, cultures and special circumstances by undoing case studies.

The tools (the screwdrivers and spanners) have probably been assumed to be the skills and knowledge acquired from the course work to date. However, many students have difficulty knowing just how to begin. What questions should they ask themselves as they read the case? What should they focus on? It seemed reasonable to expect that undergraduate students would find some *spanners* and *screwdrivers* for undoing their readings useful tools to have in their toolbox.

As an aside, the current author attempts to invoke the “learning to learn” education philosophy into an undergraduate Organisational Behaviour course

by providing case studies for “undoing.” At the end of the semester, and to bring the process full circle, the students are always provided with one take-home examination question that asks them to “do” a case study. That is, having experience in undoing case studies and readings, they are invited to write a case study that highlights and synthesises specific features of organisational behaviour. While daunting for the students at first, post-course feedback has indicated that the students have actually enjoyed the opportunity to write a case study and have found it to be a refreshingly novel thing to do. Furthermore, they have tended to turn out some excellent pieces.

As well as Downs and Perry (1982, 1984) being the basis behind the undoing approach, the tools as presented, have been formulated on the basis of three reasonably credible procedures - quick short-hand depiction of research reports, Scriven’s (1976) seven steps to argument analysis and Self Characterisation Technique used in Personal Construct Psychology. A rationale follows.

### **Short-hand Depiction of Research Reports**

As undergraduate students in psychology, we were provided by one lecturer with a short-hand method for quickly depicting a research project, as set out in a research report.

The procedure involved:

- **Identifying whether the researcher had used any cover stories.** What did the respondents believe they were involved in? For example, Rosenthal and Jacobson (1966) told teachers at an elementary school that the IQ’s of all pupils were being measured. In fact they were unknowingly involved in a study about self fulfilling prophecies.
- **Identifying constants in the research.** That is, identifying what happened, unvaryingly to all participants. Rosenthal and Jacobson (1966) tested all the children at the school, placed all the children in one of two categories - “bright” or “dull,” gave teachers a list of their pupils in each category and then re-tested the children 8 months later.
- **Identifying the independent variable (IV).** What did the researcher manipulate? Also identifying the operational definitions and values of the IV. The pupils in Rosenthal’s study were not allocated to the “bright” or “dull” groups on the basis of their test score. Instead they were allocated at random. The IV was the information the teachers received about each pupil - whether they were labelled as “bright” or “dull.”

- **Identifying the dependent variable (DV).** What did the researcher measure? Again, also identifying the operational definitions and values of the DV. Rosenthal and Jacobson (1966) were interested to see if there was later any difference in performance between the two groups of children when tested 8 months later.
- **In summary form, (one sentence) what was the main result.** The children who had been randomly allocated to the “bright” group significantly out performed those who had been placed in the “dull” group.
- **In summary form, (one to three sentences) what was the main conclusion** drawn from the results. Rosenthal and Jacobson (1966) concluded that this was an example of a self fulfilling prophecy. The teachers formed expectations about the children and then acted in ways that fulfilled their expectations. From debriefings and observations, it was reported that the teachers found the so-called “bright” students more rewarding and in return gave those pupils more attention and clearer explanations than was the case for the so-called dull students.

A secondary level of analysis, beyond this depiction involved searching for threats to the validity of the study:

- Identification of pitfalls and contaminants in the research design, such as confounding variables, demand characteristics and ambiguous instructions.
  - Adequacy of the sample of respondents or informants used.
  - Adequacy of the data or information analysis procedure used.
  - Adequacy of the reasoning used in drawing conclusions from the results gained.

Rosenthal and Jacobson’s (1966) studies have received a good deal of criticism. The sample has been considered unrepresentative, the study is questionable ethically, and the methodology has been criticised.

This procedure has been used in the left-hand column of Table 1. above, to provide a series of tools for undoing a research report.

### **Scriven’s seven steps to argument analysis**

Scriven (1976) provides an introductory textbook to the logic of argument analysis, titled “Reasoning”. The critical examination of premises or assertions

made by a writer (or speaker) and the inferences drawn from those premises. In some 240 pages Scriven describes and provides practical exercises in structuring a person's argument, testing the logic of the assertions made and identification of fallacies.

In summary Scriven (1976) provides seven steps to argument analysis. These are listed as:

1. **Clarification of Meaning.** Clarifying the meaning of the argument, its components and in particular ambiguous terms.
2. **Identification of Conclusions** - whether stated or unstated.
3. **Portrayal of Structure.** Outlining the string of premises used to lead to the conclusion.
4. **Formulation of (unstated) assumptions.** As well as those actually detailed in the argument, what other assumptions has the author made? Are there any missing premises.
5. **Criticism of:**
  - **The premises** - whether missing or given. Usually an assessment of the truth, validity or credibility of the premises or assertions made
  - **The inferences.** Usually an assessment of how sound the inferential leap is from premises to conclusion.
6. **Introduction of other relevant arguments** and,
7. **Overall evaluation of the argument,** synthesising and in turn concluding from the six previous steps.

These seven steps have been used as the basis for tools that might be used to undo a general article, extract from a textbook or essay. They are shown in the right-hand column of Table 1. It should be noted that they are also deemed relevant, if not crucial for the undoing or analysis of a research report.

The tools for undoing or analysing a case study, as presented in this paper, represent a synthesis of the research report analysis tools and the general article tools. These are shown in the middle column of Table 1.

### **Self Characterisation Technique.**

In Table 3. above, a hybrid of Self Characterisation Technique, has also been included as a further set of tools that might be used in undoing a piece of prose. As used in Personal Construct Psychology, a person writes a brief story about a character (about half a page). The procedure, outlined above, is then used to identify the personal constructs that the person has used in that story. It may give insight into how the person sees themselves, or at least provides a set of dimensions that might be used in discussion with the individual about him/herself.

Self Characterisation and the position of “the story” as units of analysis have recently become popular building blocks in personal construct analysis (see for example Mair 1988). The technique is deceptively powerful and insightful in establishing meaning and gathering underlying messages from a story. It highlights not only what is intended to be said, but to some extent also highlights potential alternative meanings and meanings that are implied by their very absence. Acknowledging alternative ways of thinking, feeling, perceiving and construing is a central tenet of personal construct psychology - a tenet known as constructive alternativism (see Kelly 1955). It should be noted that the self characterisation procedure outlined in this article is a hybrid, adapted by the current author.

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