**How researchers might find the ‘truth’ and what they can do with it.**

*A number of key factors affect how we undertake research. It is important that, as researchers, we are thorough and thoughtful and work within some broadly agreed boundaries so that our work is ethical and valid. As well as researching in an appropriate academic manner we should consider what it is we hope to find and what we consider to be ‘the truth’. Finally, once we have discovered the truth, we must consider what we will do with it.*

**Introduction**

When starting a research project it is often a good idea to consider what it is that drives us to do so. Are we trying to improve the area that we are studying? Are we assessing to see if an initiative, policy or intervention really does make a difference? Are we just nosey; driven by a desire to know the facts?

Many ‘practical’ researchers, especially teacher-researchers involved in studies using action research, hope to use their research findings to improve the current situation. This type of research is a pragmatic way of researching that attempts to bridge the gap between theory and practice by adopting a form of enquiry that comes from practice and uses the practitioner’s experience and perspective. It suits an *in situ* approach as those within an institution are able to understand its mechanism and gain a better quality of data (using their insider knowledge). Of course, some kind of balance is required and the *in situ* researcher must consider the risk of being too close to their research topic and making presumptions that their research data does not support. Teachers involved in this type of research should not just hope to improve the area under study but their analysis and critical reflections should lead to improvements in their own working practice (Kemmis & McTaggart, 1988). Many teacher-researchers involved in this form of practical enquiry start with questions/issues that arise through a review of practice (Altrichter et al, 1993) and their observations and reflections lead to insights that, in turn, lead to new approaches. This method of research aims to create new knowledge and understanding of the problem (Elliot, 2003) through practical discovery. Practical research into education can be considered as a means of change but it is just as important to consider what we may find as we conduct our research as it is to consider what we will do with our research findings. Researchers should not overlook the validity of their findings in their efforts to apply their research conclusions and recommendations.

**Rigorous and Robust Research**

Whatever reasons we might have for doing a research project there are a number of key concepts that we must all consider in an effort to make sure research is valid and reliable. Concepts such as accuracy, quality and academic rigour help us to create research methodologies that are clear and robust. Concepts such as anonymity and participant voice help us to protect the identity and opinions of the respondents who help with our enquiry. Concepts such as generalisability help us to gauge if our findings are true in all circumstances or if they are only relevant to one specific case. These concepts help underpin research and help us to produce findings that are accurate, worthwhile and robust. However there may be something else - something bigger - that stands above all these factors and allows research to produce something that is truly important. That concept is ‘truth’! Research should be about getting to the heart of things through reasoned enquiry and uncovering what is really going on. Researchers use tools such as ‘triangulation’ to limit any errors in their methods by drawing data from a number of sources. Researchers often start from literature reviews and build their work upon previous research that forms a solid and substantial supporting mechanism. The reason that we use literature and triangulation is to limit any flaws or errors in our methods in the hope that our research findings are reliable and honest. Therefore, it is important that researchers are selective in their choice of reading and build their work on scrupulous and robust material. Research, in this regard, is about finding out what the facts of the matter are and the job of the researcher is to find the truth. However, if educational researchers wish to find the truth then it is worthwhile for us to consider some different ideas regarding what ‘truth’ might be.

**Different Perspectives Regarding ‘Truth’**

Professor David Bridges is a researcher whose work might help us understand links between the philosophy of education and practical research. He asks if educational research is the ‘pursuit of truth or flight into fancy?’ (Bridges, 1999) and offers five ‘theories of truth’ in relation to educational research:

1. Truth as Correspondence
2. Truth as Coherence
3. Truth as ‘What Works’
4. Truth as Consensus
5. Truth as Warranted Belief

In Bridges’ first theory of truth we see truth as a checkable commodity and research is true if it corresponds to the facts. The second theory of truth involves the researcher making sense of the research findings in relation to what they already believe to be true. The third theory is another ‘checkable’ theory in that findings are held to be true if they can be applied and they appear to work. The fourth theory of true involves a common consensus regarding what is true – Bridges likens this to a jury of 12 citizens who agree on the truth of a court case. The fifth theory judges what is true based on the application of tests and critical rigour. We can see from Bridges’ typology of truth that the concept of ‘truth’ is not singular and that a researcher’s definition of truth may depend on a personal understanding of the world and the research methods adopted.

**Different Philosophies Regarding ‘Truth’**

This notion of truth as having different forms is not new and a quick review of educational philosophy shows some of the changing perspectives regarding ‘truth’. Plato felt that knowledge was absolute and certain and could be found through reasoned enquiry. This is shown through Plato’s theory of ‘Forms’ (translated Lee, 2003) where even abstract things such as beauty and, indeed, truth are objective; existing outside the human world. Later, Locke (1996) disputed Plato’s ideas on truth suggesting that the application of reason upon experience is the source of knowledge. This led to a more progressive mode of conceptualising truth whereby thinkers such as Rousseau (1762) claimed that the end product (truth) was not as important as what is learnt along the way. Later still Dewey (1897) would take a more down-to-earth view by arguing that there is no point theorising about what truth is if we cannot make good use of the answer (see Box 1).

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| **Philosopher** | **Dates** | **Concept of Truth** |
| Plato | 427-247 BC | Truth is revealed through contemplative enquiry |
| John Locke | 1632-1704 | Truth is found through the application of ‘reason’ |
| Jean-Jacques Rousseau | 1712-1778 | Truth is revealed from within through natural enquiry |
| John Dewey | 1859-1952 | Truth is created by people through practical enquiry |
| Box 1: Changing Perspectives | | |

The perspectives taken by these thinkers give us a great deal to consider but for the moment let’s reduce this debate into two broad positions:

1. Objectively discovered and pre-existing truth
2. Subjectively created and ever-changing truth

**Objectively Discovered Truth**

The notion of an objectively discovered and pre-existing truth fits neatly into certain research paradigms. Here we see truth as something constant that awaits our discovery. This concept of truth supports a research perspective known as positivism. Positivism is a research philosophy that emphasises perception and measurable phenomena and, in order to support this, implies that there are actual facts and real answers out there that we can find. Of course there are some fixed truths and this system of enquiry can offer a clear and, often, ‘scientific’ approach. For example, a scientist in a laboratory might be able to control experimental factors and discover something in an absolute manner. Or a mathematical researcher might apply logic to a problem and find a specific solution. In both these examples the answers seem fixed and the role of the researcher is to apply the correct methods in order to find ‘the truth’.

But, what about those of us involved in research on educational institutions? It is hard for us to apply ‘classic’ scientific methods, exert rigid controls and limit experimental factors if we are researching an organisation as complex and chaotic as a school. The practicalities of the classic, scientific research model and the actualities of an educational institution do not always fit together neatly. Instead of adopting a position that proposes we follow prescribed methods in an effort to find ‘the truth’ the educational researcher might consider that the answer their research produces is only true of a certain group, at a certain place, at a certain time. This leads to our second notion of truth.

**Subjectively Created Truth**

In this notion of truth the researcher does not assume that they will find the ultimate Platonic answer – and they are unlikely to believe that such a truth exists. Researchers adopting this paradigm might be labelled post-positivist, interpretativist or constructivist as they see ‘truth’ as being dependent on a number of other factors coming together. If you ask me to research ‘Reading Strategies in Relation to Children on the Autistic Spectrum’ my findings might not be able to offer a clear ‘best’ strategy that can be applied in all circumstances. The reason for this is that autistic children are all individuals rather than a homogenous group and some reading strategies will suit some children more than others. It may be that in undertaking such a piece of research I could find a ‘best fit’ model that works well for a large percentage of learners but can I really expect to find one reading strategy that works best for all autistic children? In this example we see that the ‘truth’ that my research seeks to find is dependent upon a number of factors (see Box 2) and that the answer I find might not be generalisable.

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| **Factor affecting research** | **Possible impact upon findings** |
| The research methodology | By observing the children I may draw certain conclusions but by asking them questions I may find they offer unexpected answers. |
| The relationship between the researcher and the researched | If the researcher is an unknown adult the participants may feel uncomfortable and may act unnaturally. Conversely, if the researcher is known, participants might act in ways they think are expected. |
| The personalities of the participants | All participants are individuals, they cannot truly speak for other but can only offer their own perspective when interviewed. |
| The age of the participants. | Older participants are often more able to develop full answers whereas younger children might only offer yes/no responses. |
| Box 2: Examples of factors that may affect research findings | |

Consider factors that could influence your research and the impact they may have on your participants and your findings. It may help to form a table like the one above. You could consider things as varied as self-esteem, time of day, season of the year and participant experience.

**What do we do with the truth?**

As well as considering what the truth means to us – whether we adopt a positivist or post-positivist paradigm – we might also wish to consider what we will *do* with the truth that we find. What if we find something to be ‘true’ that makes participants feel bad about themselves or is in conflict with some previous beliefs?

* What if you found out that the earth does not revolve around the sun or that ducks are genetically closer to vegetables than they are to animals?
* Worse still, what if you found out that testing children for two hours per day really increased educational attainment?

As educational researchers we might have to consider that ‘the truth’ we find might be upsetting. After all, if learning and development have no emotional attachment then when we learn a new ‘true’ piece of information it should be easy to discard previous beliefs. It would, in this instance, be easy to throw the baby out with the bath-water. However Festinger (1957) suggests that this is not the case and that when we learn new information that is in conflict with previously held ideas we find ourselves in a state of cognitive dissonance (see Box 3 for further information on Festinger’s research). Cognitive dissonance occurs when we find out new information or have a new experience which contradicts our attitudes or beliefs. This can be very upsetting and can cause people to question what they hold to be true. However, dissonance can also be productive and many of us working in education hope to support students to reassess certain previous beliefs.

Box 3: Festinger’s Research

During the 1950s Festinger investigated a cult in Boston. The cult members had sold their possessions and lived together in a commune. They believed that a great flood would engulf Boston and that they would be saved by flying saucers. On the day that the flood had been predicted the followers prayed upon the hillside but there was no flood and UFOs did not appear. Festinger proposes that this caused some internal tension in the minds of the believers. This cognitive dissonance in the minds of the cult members made them feel uncomfortable as there was a discrepancy between their beliefs and what had (not) happened.

Festinger suggested that there were two possible outcomes:

(1) Adding to previous beliefs: For example, the cult members claimed that their prayers had prevented the flood and therefore the flying saucers were not needed

(2) Modifying previous attitudes: For example, some cult members began thinking less favourably of the cult and its workings:

*“Who were those people who bought our possessions so cheaply?”*

*“What happened to our huge subscriptions fees?”*

**How ‘truth’ might affect educational research**

The concept of cognitive dissonance suggests that new information might have a significant impact upon individuals; therefore, we must consider the impact of ‘the truth’. For this reason most research starts with an honest review of the ethics of the project. Researchers must consider the impact of their study on the participants and are ethically obliged to make sure that participants are not adversely affected. These ethical considerations most often focus on the early aspects of research (participant recruitment and data collection) but it is also important to consider the ethics at the end of the study. It would be unethical to withhold research findings that would offer a positive outcome for the research population: for example, if you found out that painting landscapes significantly increased children’s levels of happiness, their sense of self-esteem and their academic attainment – then it would be wrong not to pass this information on. Conversely, if your research found that a certain intervention scheme impaired participants’ fine motor skills then it would be unethical to allow such a scheme to continue. In both these cases we can see that it is not what is found that is important but what is done with this ‘truth’.

Whether you regard truth to be objective and awaiting your discovery or whether you feel that your research project will use the dynamics of an educational institution to create a specific truth, it is probably best to consider the impact of your study before you start. Perhaps then, before starting a project, researchers need to address some key questions:

* What do I want to know?
* What methods will I use?
* How will I know if my results are valid?
* What will I do with my research findings?

These questions could then be revisited during the research to help the researcher answer the question: “How will I find the truth and what will I do with it once I have found it?”

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