On Validity, Reliability and Triangulation

Three fundamental constructs that will help you achieve rigour within your research.

Dr. Jens J. Hansen

These notes are about validity, reliability and triangulation. They are the very essence of simplicity because I do not want to complicate matters at this early stage of your research endeavours. In other words, I do not want to wring everything out of the terms that can possibly be extracted – rest assured that your supervisors will do that with you in the fullness of time!

But you do need, from the very outset of your research apprenticeship, to be acutely aware of these intertwined terms. They are crucial to your success. Paying attention to these pivotal constructs from the very outset of your research journey will help ensure that your work becomes characterized by rigour – a feature that any examiner worth their salt is bound to search for within a thesis.

Can I suggest, therefore, that beyond this session, and in your own time, you delve into Cohen and Manion (as well as any other social science text book that you can locate) and check these pivotal matters out a little further. You will almost certainly find that you will extend your learning even if the kernel of the matter is encapsulated in these slides.
What do these terms mean?

1. On a work-sheet, define for yourself, the terms validity reliability and triangulation.
2. Now make further notes specifically explaining how each term relates to your contemplate thesis.
3. What, in the final instance, will each of these terms mean for your research planning, your data gathering, data management and data analyses?
4. How will you ensure that you have reported validity and reliability and triangulation in your thesis?

Make notes to answer the questions above and below. Some are variations on the same matters but their variance may help you to attack the constructs.

• Just how do you define the terms validity, reliability and triangulation?

• Indicate, with reference to the kind of data you are likely to gather, how each construct will be applied within your thesis? In short, how will each term relate to your thesis? If you can foresee problems, note them down and be prepared to discuss them.

• How, if at all, will you ensure that you have factored consideration of each of these three matters into the planning of your research and the data gathering, data management and data analysis phases?

• How, and where, might you best demonstrate methodological rigour within your thesis? Specifically, where and how might each of these terms be discussed within your thesis?

• In sum, how are these terms important for you with respect to your contemplated thesis? What specifically will you do to make sure your data are valid and reliable and how will you go about ensuring triangulation? And how will you ensure that your reporting robustly demonstrates rigour?
Validity

- How valid is it? When we ask this question, we inquire whether selected data gathering procedures achieve what we want them to achieve.

- Validity, therefore, refers to the degree to which data provide **relevant** information about the research situation being explored. How can you apply this to your topic?

What words from the slide above would you pair together in order to demonstrate your understanding of the term validity?

Where, within your research proposal, will you demonstrate that you have aligned relevant data to one or more questions that validly address the issue or thesis that you intend to investigate?

In the space below, list points that you would make when explaining to a colleague, and/or to your supervisor, how and why the data gathering procedures you have selected are justifiable, relevant and, therefore, valid.
Internal and External Validity

**Internal Validity** refers to whether or not selected procedures influence data gathered.
- How can an interview procedure impact upon data obtained?
- What about observation techniques, surveys, etc?

**External Validity** refers to the extent to which findings can be generalised. Will this construct be relevant to your contemplated research? Why, or why not?

You can add your own notes here but make them pertinent to your contemplated research by noting things you need to make sure of and things to you need to avoid when striving to achieve both internal and external validity.
Slide 5

Reliability

- How reliable is it? When we ask this question, we are concerned with the accuracy of data we have gathered. Are the findings the truth, the whole truth, and nothing but the truth.
- Reliability, therefore, refers to the degree to which data are truthful and the extent to which results are replicable.

What was the source of error in the exercise of measuring the table?

Why, or why not, was each of the measurements acceptable?

What have you learned from this activity and how, if at all, does this apply to your contemplated research?
Slide 6

Ways of ensuring reliability

- Reliability can ensue as a consequence of deriving data from multi-sources (this is the very essence of triangulation)
- Iterative data scans for similar results may indicate reliability (test-retest) but might not demonstrate validity. Why could that be so?
- Testing different segments of a procedure can indicate reliability (split-half).
- But again, the instruments must be valid or incorrect (invalid measures) will occur.

Even though these points might be thought of as enrichment ones, they remain important. Triangulation, in its simplest form, means that more than one measure, or strategy, or proof is completed by the researcher when data are being gathered about a unitary matter (e.g. policy documents and interview results may be examined in order to demonstrate the same thing). The important point is to understand that in the first instance, the researcher takes nothing for granted. Although you are beginning the first steps of your research journey, it is not too early to be thinking about possible strategies for triangulating. In the space below, identify multiple ploys that you might employ with respect to investigating a single phenomenon. What procedures do you believe that you will you use to demonstrate that your findings are going to be reliable?