

Internal Assessment Resource

Psychology Level 2

This resource supports assessment against Achievement Standard 91846

Standard title: Conduct psychological research with guidance

Credits: 4

Resource title: Red and yellow and pink and green

**Resource reference:** Psychology 2.3A Version 1

This resource:

* Clarifies the requirements of the standard
* Supports good assessment practice
* Should be subjected to the school’s usual assessment quality assurance process
* Should be modified to make the context relevant to students in their school environment and ensure that submitted evidence is authentic

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| Date version published by Ministry of Education | January 2017  To support internal assessment from 2017 |
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| Authenticity of evidence | Teachers must manage authenticity for any assessment from a public source, because students may have access to the assessment schedule or student exemplar material.  Using this assessment resource without modification may mean that students’ work is not authentic. Teachers may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

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Teacher guidelines

The following guidelines are supplied to enable teachers to carry out valid and consistent assessment using this internal assessment resource.

Teachers need to be very familiar with the outcome being assessed by the achievement standard. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the standard and assessing students against it.

**Context/setting**

This activity requires students to conduct their own comprehensive psychological research under teacher guidance. They will be investigating the “Stroop Effect” and measuring how interference affects a person’s reaction time when naming colours. They will then present their findings in a simple laboratory report format with a discussion evaluating their research process as a whole.

It is up to the teacher how the class will select participants. They may choose to use students from other year levels or collect the results from multiple classes. There are a number of websites that provide timed Stroop Tests, or if students do not have access to computers there are instructions for manual completion of the test in the list of provided websites.

Ethics should be considered when carrying out any research related to human participants.

**Conditions**

The students could work in groups but will be assessed individually.

As a guide, assessment against this standard should reflect approximately 40 hours of teaching, learning and assessment, in and out of the classroom.

Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>

**Resource requirements**

Access to the Internet and to relevant primary sources of information.

**Additional information**

***Resources***

The following is a list of helpful resources including the original study on which this research is based as well as instructions for conducting the test manually and a link for conducting it online.

Stroop, J. R. (1935). Studies of interference in serial verbal reactions. Journal of Experimental Psychology,18:643-662. A link to the original paper: <http://psychclassics.yorku.ca/Stroop/>

Stroop, J. R. (1938). Factors affecting speed in serial verbal reactions. Psychological Monographs, 50:38-48.

<http://www.scientificamerican.com/article/seeing-science-exploring-color-perception-with-the-stroop-effect/>

<https://faculty.washington.edu/chudler/words.html#seffect>

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Student instructions

**Introduction**

This assessment activity requires you to conduct your own psychological research to investigate the psychological concept of the Stroop Effect.

You are going to be assessed on how comprehensively you justify the method used, evaluate the reliability of the data and the validity of the method, and discuss the psychological ideas related to the research.

Teacher note: Insert due dates and time frames.

**Task**

***Part A: Conduct research***

You need to:

* develop a statement of the aim and purpose of your research that is linked to Stroop’s original concept
* use scientific research methods and select and record data using the Stroop Test experiment
* record source details
* interpret and report on the findings
* develop a valid conclusion, derived from the findings, which is relevant to the purpose of the investigation.

*Background information:*

Do you sometimes *automatically* walk home from school on Tuesday even though you know you have a hip hop class on Tuesdays? What about when you start learning to drive, you have to concentrate intensely but after a while, driving becomes effortless. How about naming the colour blue when the word that is coloured blue says RED? The brain gets a bit confused with situations like this. This is a famous psychological phenomena discovered by the psychologist John Ridley Stroop in 1935, known as the “Stroop Effect”.

***Part B. Write a report***

Your report must include:

* an introduction with a clear aim and/or hypothesis and purpose linked to Stroop’s original concept
* a description of the Independent Variable (IV) and Dependent Variable (DV)
* a description of how you conducted your research. Include the method, design, sample, materials and procedure used.
* an explanation of your results. This could include tables, graphs, data analysis and diagrams.

As a guide, write approximately 600 - 800 words for Part B.

***Part C: Evaluate the reliability of your research and findings***

* Justify the research method used.
* Evaluate the validity of the method and the reliability of the data.
* Discuss the psychological ideas relating to the research from other source(s).

You need to provide a list of sources used.

As a guide, write approximately 200 – 300 words for Part C.

**Assessment schedule: Psychology 91846 - Red and Yellow and Pink and Green**

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| **Evidence/Judgements for Achievement** | **Evidence/Judgements for Achievement with Merit** | **Evidence/Judgements for Achievement with Excellence** |
| The student conducts psychological research into the “Stroop Effect” with guidance by:   * developing a statement of the aim and purpose linked to a psychological concept or idea * using scientific research methods (an experiment is the only possible method in this activity. Parts of the students’ report such as the hypothesis IV & DV and description of the procedure will illustrate that the scientific method has been used).   **For example: (partial evidence)**  **Introduction**  **Aim:** *The aim of this experiment was to try to see if we would get the same results found by Stroop in 1935 and measure the interference that words of colours, has on naming colours, in a list of coloured words. That is to see if we could demonstrate the Stroop Effect.*  **Hypothesis:** *Our hypothesis for this experiment was “reaction times on identifying the colour of words would be slower for words printed in contrasting colours from their meanings”.*  **IV and DV:** *The IV was the colour of the word (either the same colour as the colour word or different from the colour word, for example “BLUE” written in the colour blue or “BLUE” written in the colour red). The DV was the reaction time for participants to say the correct colour of the word. The experimental design was a controlled experiment.*  Further evidence required by students:   * selecting and recording data * providing evidence of recorded data * interpreting and reporting on the findings * a valid conclusion derived from the findings which is relevant to the purpose of the investigation   A list of sources is provided.  *The examples above are indicative samples only* | The student conducts in-depth psychological research into the “Stroop Effect” with guidance by:   * further refining the research process such as describing the reasons for the choice of the method used to conduct psychological research * discussing the psychological ideas relating to the research based on the findings.   **For example: (partial evidence)**  **Procedure:**  **Experimental design:** *Stroop’s original experiment was a laboratory experiment so we tried to re-create this by choosing a quiet classroom for the test to be held in. By using a controlled experiment the researcher is able to have control over the variables and reduce any distractions or other variables.*  **Discussion:** *We found that when the colour word was printed in the same colour as the word, people named the ink colour faster compared with when the colour word was printed with an ink colour that was different from the word. (For example, when blue was used for the word "blue" , the colour is named faster than when blue is used to write the word "green".) Our findings …*  Further evidence that the student evaluates the validity of the method and/or reliability of the data.  A list of sources is provided.  *The examples above are indicative samples only* | The student conducts comprehensive psychological research into the “Stroop Effect” with guidance by:   * further refining and detailing such as justifying the research method used * discussing the psychological ideas relating to the research based on the findings and those from other source(s).   **For example: (partial evidence)**  **Procedure:**  **Experimental design**: *Stroop’s original experiment was a controlled (or laboratory) experiment so we tried to re-create this by choosing a quiet classroom for the test to be held in. By using a controlled experiment the researcher is able to have control over the variables and reduce any distractions or extraneous variables. By using an experiment, we were also able to show a causal relationship. That is, a case study, survey or an observation were not suitable to the situation because …*  **Discussion*:*** *We found that when the colour word was printed in the same colour as the word, people named the ink colour faster compared with when the colour word was printed with an ink colour that was different from the word. (For example, when blue was used for the word "blue", the colour is named faster than when blue is used to write the word "green".) Our findings …*  *Another theory which accounts for this effect is the selective attention theory. Broadbent’s (1968) theory about this states that …*  Other evidence will include an evaluation of the validity of the method and the reliability of the data.  A list of sources is provided.  *The examples above are indicative samples only* |

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria in the Achievement Standard.