INTRODUCTION

The process of research is critical to self-growth and the advancement of knowledge. Research involves important skills such as gathering and interpreting of information and data, making decisions, solving problems and communicating effectively. Research and investigation skills have been identified as critical 21st century skills which assist in the preparation of learners for tertiary institutions and the world of work.

As part of the IEB Grade 12 SBA requirements it is mandatory for learners to do a SINGLE research task in any ONE of the following subjects: Business Studies, Consumer Studies, History, Geography, Life Orientation and Life Sciences, as specified by the school. This Research Task will form part of the final SBA mark for the elected subject. The purpose of the Research Task is to expose the learner to a formalised and carefully monitored research experience in which the various skills required in the research process are practised and implemented. These generic Research Task guidelines ensure that the research process is standardised to allow for a more fair and valid assessment process. The single task per learner approach allows for a rich and thorough investigation which educators are able to effectively monitor and assess.

Each Grade 12 learner is required to produce his/her OWN INDIVIDUAL research task. Data collection /information gathering can be conducted within groups; however, the data analysis and writing up of the process must be done on an individual basis.

The task must be done in the Grade 12 year and must be completed and marked by 15 September of that same year. This is to ensure SBA moderation deadlines are easily met. It is important that educators and learners adhere to this so as to keep the task manageable for all parties. The task must be sufficiently focused, concise and representative of a Grade 12 investigation. It is imperative that educators monitor each learner’s progress through the research process.

The guidelines below are GENERIC and can be applied to ANY subject area. The Subject Assessment Guidelines (SAGs) will contextualise the generic guidelines and provide further detail with respect to the research process in which the subject is undertaken.

The Research Task is divided into THREE manageable sub-sections as follows:
Preparation and Planning: The task proposal
Process: The collection of information/data
Product: The final analysis and processing of information/data into a written report

Educators are required to monitor each of the above processes. This allows for the necessary advice and guidance to be given at two independent ‘check point’ sessions agreed to by the educator and learner. The final step of the task is where the learner analyses the data and information gathered and writes up the research report. The report will then be formally assessed and marks awarded as outlined by the attached assessment rubric.
Figure 1: **Summary of The Research Process**

- Reading and understanding research requirements.
- Recording project deadlines and working out a time frame.
- Studying the assessment criteria.
- Scanning the environment/press for possible research topics that are of interest and are relevant to the subject./ Receiving topic from educator
- Formulating research hypothesis/focus question.
- Reading around the topic and writing the literature review
- Determining possible resources that are easily accessible. (NB: move beyond mere 'google' searches)
- Establishing the research methodology to be used
- Writing a research proposal.
  - **CHECKPOINT 1**

- Reading and reviewing primary and secondary sources
- Applying research methodology to gather and record results
- Analysing raw results/searches
  - **CHECKPOINT 2**

- Analysing and interpreting results/searches
- Re-using literature to analyse and interpret findings
- Preparing and formatting the final report/essay.
- Compiling a reference list.
  - **FINAL ASSESSMENT**
Research ethics and validity of data

It is important that learners consider elements of validity and ethics when conducting and completing the research process.

Ethical issues are bound to arise from any interaction with people. Educators and learners need to be aware of and sensitive to this when setting up the research task. For example:

- Subjects/interviewees must remain anonymous in the research write up
- Permission must be granted before photographs are taken of a person/place
- Permission must be granted for research to be conducted in a shopping centre/museum or other public space
- The rights of ‘vulnerable groups’ (orphans, aged, people with HIV/AIDS etc) must be considered

Learners must take cognisance of what constitutes reliable and valid results and data. Issues of sample size, objectivity of the research process and concerns around the fabrication/falsification of data and results must be explored in schools in the introduction to the research process and set up of the proposal.

ELEMENTS OF THE RESEARCH PROCESS

THE RESEARCH TOPIC:

Educators are permitted to select a research task topic for each learner/the grade as a whole. Alternatively learners may select their own topic based on an area of interest, provided that the topic is suitable and relates to the specific requirements for that subject as outlined by the SAGs.

It is important that the learner selects a problem or issue that is focused and manageable.

The research topic must allow for the identification of a problem or an issue that can be written up as a RESEARCH HYPOTHESIS in the case of the scientific method, or a FOCUS QUESTION in the case of a non-scientific approach.

The Research Hypothesis:

If the learner intends using the scientific approach as the methodology for the Research Task, the research problem to be investigated must be written up as a hypothesis statement. A hypothesis is a statement that is phrased normally in a response to a question and includes the variables involved (ie. the cause and effect). Generally the hypothesis statement is in the form of “If independent variable which is related to dependent variable, then it produces prediction”.

Examples:
"If the size of the body is related to weight, then people with more weight are considered as fat”.
“The rocket with wings will fly further.”
“A high mini- SASS score is an indicator of good river health.”

It is important that the hypothesis statement is testable and specific.

The Focus Question:

Not all research lends itself to a scientific method, particularly in the case of the non-scientific subjects such as Life Orientation or History. It is quite acceptable in this case for learners to phrase their research problem or issue as a simple question or statement.

Examples:
“A critical analysis of an anti-bullying policy implemented in a Grade 8 Class.”
“What are impacts of the invasion and succession process along Glenhove Road in Melrose, Johannesburg?”
COMPILING A REVIEW OF LITERATURE:
Each learner needs to compile a review of literature which is a formal academic discussion of the existing knowledge and information around the hypothesis/question being researched i.e. secondary sources.
Learners are required to read up and find out what is known about the particular topic.
For example:
- Are there different viewpoints relating to the topic?
- Are there any potential issues? If so, why do people view the topic in different ways?
In-depth and extensive research on the Internet, books, encyclopaedias, newspaper articles, journals etc. will be required in order to write the literature review.
It is useful to begin reading in recent journal articles as these provide substantial reference lists which aid in focussing further reading.

THE RESEARCH METHODOLOGY:
The research process can take the form of primary research and/or secondary research. This will depend on the subject area in which the task is completed. Educators are required to refer to the SAGs for further information in this regard.

When conducting Primary research, there may be little data/information available for the learner about the specific investigation to be carried out. Hence the learner has to collect his or her own data through a variety of means; questionnaires, experiments, observations, interviews, needs analysis etc. The data/information will have to be analysed and conclusions drawn. When conducting Secondary research, the learner has access to the necessary data/information or sources available. This information is usually made available through other publications or reports, like newspaper or annual reports of companies.

The research process can involve the collection of quantitative data or qualitative data. Quantitative data includes measurable data usually in numbers with units. Quantitative data is normally objective in nature. Qualitative data includes non-measurable data such as open ended responses provided in interviews, literature (or other sources), observations, diary entries or maps. Qualitative data can be very subjective.

The research process can involve a mix of quantitative and qualitative data collection, for example an ecological study may involve measurements, observations and interviews.

SETTING UP THE RESEARCH PROPOSAL:
The research proposal is a very important component of the task in that it forces the learner to think about and plan the research process carefully. At the first checkpoint session, the educator needs to provide the necessary guidance as to whether the learner is on the right track and whether or not the research task is possible and manageable. The research proposal must consist of the following elements:
- The research hypothesis/focus question
- Motivation as to why this area has been selected for the research
- The aim/s of the research
- A literature review
- An outline of the methodology to be used, i.e. how the data/information is to be collected. Equipment or apparatus to be used must be specified (if appropriate). An example of the questionnaire/s (if used) can be included.
- A list of possible references and resources.
The proposal is NOT cast in stone, and changes can be made thereafter. The proposal is there to scaffold the research process and to ensure that each learner is on the right path. In the case of an inappropriate/unacceptable proposal this step needs to be repeated.

**PROCESSING OF INFORMATION/DATA**

Once the data/information has been collected, each learner is required to process the findings. This involves the careful analysis and interpretation of the information/data/sources.

In the case where quantitative data has been collected, results can be presented graphically from which trends observed must be discussed and commented on in relation to the hypothesis/focus question and information discussed and presented in the literature review.

In the case where qualitative data has been collected, information and source material must be carefully analysed and commented on in relation to the focus question and information discussed and presented in the literature review.

**CONCLUSION**

The conclusion consists of a summary of the research findings. The learner must reflect on the research task process, i.e. what was learnt, what were the limitations of the research. No new information must be introduced in the conclusion.

**REFERENCING**

Learners are required to submit a comprehensive reference list at the end of their research task. Sources/quotations that have been cited must be correctly listed in the reference list. The reference list must be in alphabetical order and include the following: books, journals, newspaper and magazine articles, websites, interviews, CD ROMs and so forth. The most widely accepted reference technique used at a school level is the Harvard method (see examples below), but schools may use a referencing system of their choice. However, whatever the choice, a single referencing system must be used consistently.

**Books:**
Surname, initials. Date. Title. (underlined or typed in italics - you must be consistent) Edition. (Only if not the first edition) Place of Publication: publisher.

**Newspaper and magazine articles:**
Author of article. Year of Publication. Article title. Title of magazine/newspaper. Volume number (If available), (Issue number) (If available) or date: Page numbers.

**Websites:**
Author. Date or update. Title of item or page. Title of Home page (Online). Available: URL of item. Date Accessed.

**PLAGIARISM**

Plagiarism has increasingly become a problem as a result of the Internet and the ease at which information is available. The ability of learners to download and purchase already completed tasks is widespread. It is important that educators are aware of this. Through careful monitoring of the research process through the submission of a proposal and draft work via a series of checkpoints, the incidents of plagiarism can be reduced.

When quoting or citing, learners should indicate the source in the text and acknowledge it fully in their list of references. For example:
“Johannesburg is a crime ridden city” (Jones).
Smith argues that stem cell research is the way forward for tissue repair (1999). No further referencing detail is expected by the IEB such as foot notes. Further detail that is school specific may be expected of learners.

It is advisable for learners to submit the final electronic version of their task through plagiarism-checking software and staple the plagiarism report to their Research Report as an additional means of protection in this regard.

1. **RESEARCH REPORT/ESSAY CHECKLIST**

<table>
<thead>
<tr>
<th>Sub-Section</th>
<th>What to include</th>
<th>Approximate length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Front Page</td>
<td>Include the title of your research, your full name and school.</td>
<td>1 page</td>
</tr>
<tr>
<td>2. Table of Contents</td>
<td>Include subsections and relevant page numbers e.g. Introduction …………….page 1</td>
<td>1 page</td>
</tr>
<tr>
<td>3. Introduction</td>
<td>This is where you give a brief synopsis of what your research is about, and why you chose the topic. You must state your hypothesis/focus question and aims.</td>
<td>½ -1 page</td>
</tr>
<tr>
<td>4. Review of Literature</td>
<td>This is where you include a summary of known information from secondary sources relating to your particular topic</td>
<td>3-5 pages</td>
</tr>
<tr>
<td>5. Methodology</td>
<td>This is where you clearly describe, step by step, how you conducted your research. You must include a copy of the questionnaire/s used <em>(if used)</em>, you must detail the equipment/apparatus you used <em>(if used)</em> and any other information which relates specifically to the collection of data/information.</td>
<td>½ -2 page</td>
</tr>
<tr>
<td>6. Processing of findings</td>
<td>This is where you write up your research findings or display them graphically in the form of tables, graphs, maps, diagrams etc. You must then analyse and interpret your results and discuss your findings with reference to your research hypothesis/focus question and the literature that you have included in your literature review. Do your results reflect what the literature says - if not – why?</td>
<td>+/- 6 pages</td>
</tr>
<tr>
<td>7. Conclusion</td>
<td>This is where you sum up and round off your project. You must also provide a reflection on what you learnt ie. Point out the limitations of your research. No new information is to be introduced in your conclusion.</td>
<td>½-2 page</td>
</tr>
<tr>
<td>8. Reference list</td>
<td>This is where you detail all the books, journals and internet sites etc. that you have used. The list must be written in Harvard format.</td>
<td>As requested</td>
</tr>
<tr>
<td>9. Appendix</td>
<td>This includes drafts, raw data, transcripts of interviews etc.</td>
<td>As appropriate</td>
</tr>
</tbody>
</table>
**Technical Criteria**

These formatting criteria must be adhered to by all learners. Learners will be penalised if the report does not follow this structure.

- A written report/essay which includes all the subsections outlined in the table above, as well as photographs, pictures, diagrams, graphs, maps etc.

- The research report must be typed:
  - Font: [Arial, Times Roman, or Comic Sans]
  - Size: 12, 1.5 line spacing
  - Headings: can be in size 14 font
  - Numbered pages

- The text must be carefully edited; spelling and grammar must be carefully checked.

- The report/essay must be submitted bound/ in a file/stapled (No flip files).

- All draft work/raw data must be included as an APPENDIX at the back of the report.