



Investigation of the Cognitive Structure of Biology Students Regarding the Central Dogma of Molecular Biology

The title is written using Times New Roman (TNR) font with size 14. The name of the author and the origin of the institution is written using TNR-10. Authors who number more than 1 person and come from the same institution do not need to write a number (1) in the name. Author email should use institutional email. Posts Received, Accepted, and Online Published are written using TNR-9 and written in italics.

Ismi Rakhmawati^{1*}, Dina Maulina², etc.

¹Biology Education, Faculty of Teacher Training and Education, University of Lampung, Prof. Dr. Soemantri Brojonegoro Street No. 1 Bandar Lampung, Indonesia

²Biology Education, Faculty of Teacher Training and Education, Semarang 5 Malang Street, Indonesia

* *corresponding author*: ismi.rakhmawati@fkip.unila.ac.id

Received: Month date, year

Accepted: Month date, year

Online Published: Month date, year

Abstract: Cognitive Structure of Biology Education Students Regarding the Central Dogma of Molecular Biology. Abstract in English written in TNR-12, single space, 300 words in one paragraph using English words. Abstract consists of purpose, method, and finding.

Keywords: 3 or 5 important, spesific, and representative words or phrase

INTRODUCTION

The Background consists of background, rationale, and or research urgency. References (relevant literature or research), need to be included in this section, in relation to the justification of research urgency, the emergence of research problems, alternative solutions, and the solutions chosen. The way of writing sources in the text needs to clearly indicate the author's name and source citation, which is in the form of the year of publication and the page where the manuscript is located. An example is: research results show that more than 70% of students are unable to recognize authentic problems..... (Rakhmawati, 2010).

The introduction contains the results of preliminary research searches, research that has been carried out by other researchers, and the introduction focuses on differences, novelties, or uniqueness of the research conducted.

The problems and objectives, as well as the usefulness of the research are written narratively in paragraphs, no need to be given special subtitles.

Likewise operational definitions, if deemed necessary, are also written narratively.

The introduction is written in TNR-12 upright, with 1 space. Each paragraph begins with a word that is indented about 1 cm from the left edge of each paragraph.

METHOD

Method is written by using sub-chapters, sub-subheadings. Sub-headings do not need to be notated, but are written in lowercase starting with capital letters, TNR-12 bold, entering into paragraphs. Subchapters are not written numbering. As an example can be seen brisket.

Research Design

The research design is a qualitative approach. Especially for qualitative research, the time and place of research needs to be written down clearly (for quantitative research, it is also necessary). Research targets/subjects (for qualitative research) or sample-population (for quantitative research) need to be explained clearly in this section. It is also necessary to write down the technique of obtaining subjects (qualitative research) and/or the sampling technique (quantitative research).

Population and Sample

It contains the type of research, time and place of research, targets/objectives, research subjects (population and sample), procedures, instruments and data analysis techniques and other matters related to the method of research. The method is operational in nature, does not contain understanding, paragraphs of narrative research steps and does not include general statistical formulas that are commonly used

Research Instrument

Data, Instruments, and Data Collection Techniques. The types of data, how the data is collected, with which instruments the data is collected, and how the technique of collecting it, need to be explained clearly in this section. Data analysis includes how to interpret the data obtained, its relation to the problems and research objectives, which need to be explained clearly.

RESULT AND DISCUSSION

Result of Research Procedure

Procedures need to be described according to the type of research. How the research was conducted and the data obtained needs to be described in this section. For experimental research, the type of design (experimental design) used is as follows.

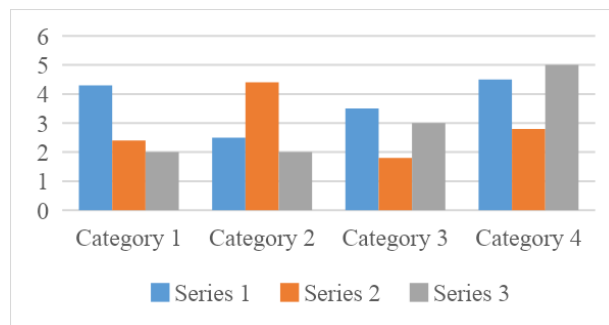
The result of the research is presented in the form of graphs, tables, or descriptive. The table is placed in the middle or at the end of each research

result/obtaining description text. If the width of the table is not enough to be written in half a page, it can be written in a full page. Table titles are centered, only the first word begins with a capital letter. If the table is more than one page then the table header must be repeated. As an example, can be seen in Table 1 below.

Tabel 1. Student Assessment

No.	Assessment Aspect	Score
1		
2		
etc...		
Mea		
n		

The results are in the form of images, or data that is made into images/schemes/graphics/diagrams/etc, the presentation also follows the existing rules; title or image name is placed below the image, placed in the middle, and given a distance of 1 space (at least 12) from the image. As an example, it can be seen in Figure 1 below.



Picture 1. The Comparison of Students' Ability ...

Discussion

The discussion is focused on relating the data and results of the analysis to the problems or research objectives, the broader theoretical context, and the results of other studies based on valid references. Can also the discussion is the answer to the question why found such facts in the data? The discussion is written attached to the data discussed. The discussion is endeavored not to be separated from the data discussed.

Writing references in the body of the article using brackets (....). Suppose there is only one author: example (Putra, 2020); if there are two authors:

example (Putra & Triyanto, 2020). If there are three to five authors, for the first mention all are written: examples (Putra, Chaidir, & Triyanto, 2020) and the next mention is written (Putra et al., 2020). References can also be written with the name outside the brackets, for example Putra & Triyanto (2020). If the referenced statement is a direct quote, then the page must be included: example (Putra & Triyanto, 2020: 8) or if taking the substance of several pages: example (Putra & Triyanto, 2020: 8-12).

The reference type with the word **suggested** is not in the form of direct quotations or does not contain too many direct quotations. However, if there is

a direct quote that is less than 40 words, it must be written in paragraphs (not separated) and **enclosed in quotation marks** ("..."). If a direct quote contains 40 words or more, it must be written in blocks (separate from paragraphs), indented with an indentation of 1.27 **without quotation marks** and followed by the author's name, year, pages in brackets: example (Putra & Triyanto, 2020: 8).

If an abstract statement is taken from several references, all sources are written by listing all references in alphabetical order and using a semicolon (;) to separate sources: example (Putra, 2020; Triyanto, 2020). For reference sources for translations, what is referred to is the name of the original author, the year of the translation and the title of the original book. If there are two references with the same author's name and year, write the year plus letters of the alphabet, for example (Triyanto, 2020a) and Triyanto (2020b).

CONCLUSION

Conclusion can be generalized findings according to research problems, can also be in the form of recommendations for the next step. The research conclusions are adjusted and aligned with the research objectives, **not** the repetition of data results.

GRATITUDE

Acknowledgments are addressed to parties who directly contribute to research, such as sponsors, donors of funds, or resource persons and this is not mandatory.

DAFTAR RUJUKAN

The References **are obligated** to use the **Mendeley** reference management application. Using reference management facilitates reference management and guarantees that everything referred to in written articles is also in reference, and vice versa. Required references used at least 25 titles. The percentage of reference material used is 80% from journal articles, conference proceedings or research results from the last ten (10) years. Writing references using the model system from the American Psychological Association or APA 7th edition.

All citations in the body of the manuscript **must** be hyperlinked to the reference by using the Bookmark feature on the Insert tab in Ms. Word (a complete guide can be seen after the example of writing references and is available on the website on the "Information" menu, select "For Authors"). Furthermore, for each reference in the reference, reference linking **must** also be activated to the article referred to on the site or **URL** of origin, by activating the Hyperlink feature on Ms. Word that is on the Insert tab, so that all references in the references section if clicked will point to their original site on the internet. If the reference source used has a DOI number, then the DOI is used as a hyperlink.

Reference Writing Example:

(Type: Book)

Schunk, D. H. (2012). *Learning theories an educational perspective*. Boston, MA: Pearson Education.

(Type: Book Section)

Sahlberg, P. (2012). The most wanted: Teachers and teacher education in Finland. In L. Darling-Hammond & A. Lieberman (Eds.). *Teacher education around the world: changing policies and practices*. London: Routledge, pp. 22-44.

(Type: Journal Article)

Triyanto, S. A., & Prabowo, C. A. (2020). The Effectiveness of Blended-Problem Based Learning with Lesson Study on Learning Outcomes. *Bioedukasi: Jural Pendidikan Biologi*, 13(1), 42-48.
<https://doi.org/10.20961/bioedukasi-uns.v13i1.37960>

Maulina, D., Rakhmawati, I., & Hernawati, D. (2019). IT Based Learning. *Bioedusiana: Jurnal Pendidikan Biologi*, 4(2), 69-76.
<https://doi.org/10.34289/277880>

(Type: Proceedings)

Agustin, T. S., Surahman, E., & Hernawati, D. (2019). Analysis of Cognitive Outcomes of Educators through the Implementation of Problem Based Learning Models. *Seminar Nasional Biologi, Saintek, Dan Pembelajarannya (SN-Biosper)*, 373-378. Tasikmalaya: Pendidikan Biologi Universitas Siliwangi.

(Type: Statutory legal document)

Permendikbud No. 3 Tahun 2020. *Standar Nasional Pendidikan Tinggi*.

Citation Hyperlinks to References/Bibliography

The way to activate citation bookmarks and hyperlinks to references/bibliography begins by removing the “block marks” of citations in articles compiled with reference management such as [Mendeley](#). Block marks can be seen by placing the cursor on the quote as shown in Figure 3.

Blended-PBL generally can make biology material more flexibly to learn because it is not limited to time and information access (Triyanto et al., 2016)

Figure 3. Mendeley Block sign

A. Removing Mendeley's Block Signs

1. Verify completeness of all citations and references compiled with Mendeley.

2. Open the article file with Ms. Word, then go to the "Reference" tab then select "Export as", then select "Without Mendeley Fields".
3. Save your file where you want.
4. Open the file then make sure it doesn't appear gray as in Figure 1, which means the Mendeley block mark has disappeared.

B. Bookmark and Hyperlink Citations to References

1. Open the article file that has been removed from the Mendeley block mark.
2. Look for the references section, then please one by one from each cited reference make a bookmark.
3. Copy (Ctrl+C) the author name. Example: Triyanto, S. A., Susilo, H., & Rohman, F. (2016). etc., just "Triyanto" is copied (Make sure you understand correctly that the bookmark refers to the reference in question.)
4. Open the "Insert" menu tab on Ms. Word, then select "Bookmark" then paste (Ctrl+V), then click "Add" (Apply this method to all references).
5. After all the bookmarks have been created, block each quote then open the "Insert" tab or right click by selecting "Link".
6. Please select the "Place in This Document" tab then select the bookmark referred to in the reference, then click "Ok" (Apply this method to all quotations).
7. After all hyperlinks are created, please remove all underlines in the text that links are created.