



Alignment criterion to evaluate research

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ABSTRACT. The purpose of the study is to determine whether the alignment criterion can be applied to evaluate research works, whether for qualitative, quantitative or mixed studies. Alignment refers to the extent that the components of the study correspond to each other and is based on research levels, which range from qualitative to quantitative or from basic to applied. This implies ordering research on the basis of hierarchy and exhaustiveness, i.e., that the study should be placed in a class of work, but if it is already classed as one type of study, it cannot be placed in another or aligned, since if the problem is explanatory, the objective cannot be descriptive. For this reason, alignment, as a harmonizing criterion, allows for an objective evaluation of research. The inductive method, as well as observation, documentary, and descriptive techniques, was used. As alignment allows for a visualization of the logical relationship between components, it gives a structure to qualitative, quantitative, mixed, basic, and applied studies. In this context, it is important because it will allow for the proper evaluation of a research study, because if there is no alignment between the components of the study, its results and conclusions cannot be established as valid and they do not exhibit logical coherence, affecting the credibility of the results. In conclusion, if research is evaluated by applying the alignment criterion, it will have coherence, correspondence, and cohesion.

INTRODUCTION

Problem and purpose

There is a variety of classifications of scientific research, from the scope, design, data collection, intervention of the scholar to the type of hypotheses proposed, but how can research work be evaluated without losing objectivity and rigor, eliminating rigidity and permissiveness? The problem ranges from the absence of rigorous training in science, since taxonomic principles are not considered (Hlava, 2022), to the lack of understanding of research methodology, which includes problems, objectives, answers, theoretical framework, designs, results, conclusions, recommendations and references (Supo & Zacarías, 2024). For this reason, when evaluating a thesis, the principles of hierarchy, objectivity, parsimony, completeness, exhaustiveness, exclusion and the criterion of alignment should be considered. A researcher formulates a research problem in interrogative form, but the objective does not match the research problem; the stated objective does not match the answer given, hypothesis or point estimate; the problem does not follow the design, and the results are not interpreted with the stated objective. This is evidence that there is a lack of criteria that allows all the pieces to fit together as in a puzzle and allows the research work to be integrated into a single body of knowledge.

Therefore, the purpose of this work is to establish that the alignment criterion allows for an evaluation of research studies. Thus, studies that develop the concept of alignment will be outlined. Crotty (1998) incorporated a systematic approach, establishing that there must be coherence between elements such as epistemology, theory, methodology, and method, while Kerlinger and Lee (1999) indicated that the design, as a logical process, must be aligned with the conjectures, methods, and analysis, using problems and objectives as guides to ensure the internal validity of the study. Darling-Hammod (2006) highlighted the need for alignment between research questions, designs, and measurement tools so that the results are valid and applicable, and Creswell (2009) noted that for internal validity to be assured, the objectives, questions, theoretical framework, and methods must be integrated. Biggs and Tang (2011) coined the concept of constructive alignment, expressing that methods, goals, and assessments must be aligned so that there is logical consistency between their components, while Yin (2018) emphasized that case designs must be aligned with both the questions and the collected evidence so that conclusions can be supported by the data collected. Densin and Lincoln (2017) noted that alignment is critical in qualitative studies, from interpretation to the methods used.

Literature review

When looking for information regarding the approach to a problem or research objectives, one finds a lot of theoretical information entangled with philosophical approaches and distant appreciation—sometimes humanistic and sometimes technological—and that, in the end, results in the researcher developing

significant doubt. For this reason, it is necessary that either inductive work based on a theoretical approach or a theoretical approach itself. For the initial facts, or in a deductive study that is based on a theory, doctrine, or generalization, each of the components of a scientific study should be perfectly aligned; that is, if the work is exploratory, the problems, objectives, assumptions, discussions, and conclusions should be of a qualitative nature. In the literature, the criterion of alignment as such is not found, due to the fact that they use the concept of congruence and most of the texts used, such as the case of Hernandez et al (2014), Bizquerra et al (2019), Bryman (2016), Cohen et al (2017) do not use this concept. In the case of Biggs and Tang (2011) who mention the concept of constructive alignment, Yin (2018) for case studies and Densin and Lincoln (2017) for aligning exploratory studies, they only take it into account for qualitative work; alignment is sought to serve for any level of research.

Therefore, it is important to incorporate the criterion of alignment because it is common to use assumption terms indiscriminately in the problems, objectives, and research that should take into account the type or level of research being carried out. Therefore, the words used should correspond to these criteria. Here, it is necessary to differentiate the problems and objectives of research from those of teaching–learning (T-L), the process of interactions between teachers and students to acquire and construct knowledge). One is a research problem, and the other is an T-L problem; a research objective is different from an T-L objective. Here lies the first methodological problem: these two central pillars of scientific inquiry in the social scientific domain have dissimilar roots, since one aims to deepen knowledge and/or solve problems and the other aims to learn.

If one begins by formulating a problem with the interrogative adverb how, the researcher is directed to look for the mechanisms of that adverb, not taking into consideration that, if their study carries hypotheses that are constructed by veritable propositions, they must necessarily answer whether they are true or false. The adverb does not lead them to that answer, but instead to the processes that they should use so that the how becomes visible. Added to this is the idea that the researcher can use any verb to state the research objectives. In this sense, the researcher, having a problem that asks how, can pose an objective that usually begins with the verb determine and will always do so; that is, whatever the type of study, they will always use “determine”, regardless of the level, the problem, the objective, the hypothesis, the design, or the research method.

Similarly, both the theoretical framework and the so-called methodology are disconnected from the problems and objectives, since they are not used to elaborate the research discourse. The research background should be of the same research level so that, when the discussion is carried out, the results can be contrasted. On the other hand, theoretical bases are not used in the research process because they are not connected with the problems and objectives of the study, since induction is not distinguished from deduction. This results in all of the works presenting in the development, and an inductive work must be

differentiated from a deductive one. On the other hand, the theoretical bases are not used in the research process because there is no connection with the problems and objectives of the study, since inductive research is not distinguished from deductive research, resulting in all the works presenting the same development. This is observed when the problem is inductive and a student incorporates a deductive antecedent; they also point out that they will develop the hypothetical–deductive method when the formulated problem and objective are of an inductive nature.

When the research presents hypotheses, which should be aligned with the problems and objectives formulated and written by the researcher, there is a disconnect because the difference between an empirical conjecture and a rational one is not distinguished. If the problem is inductive, the objective must be inductive and the hypothesis to be tested or the point estimate to be calculated must also be inductive; similarly, if the hypothesis is deductive, the problem and objective must correspond to that hypothesis. Now, the hypothesis must correspond to a research design, which includes the method, techniques, and measurement instruments. No one doubts that observation and description are used in all studies, but they are not all observational or descriptive studies; all researchers carry out analyses, use logic and dialectics, and make deductions, but not all studies are analytical or experimental studies. It is necessary to differentiate the levels of research from the thought processes that are consubstantial in the investigative inquiry. This gap makes it essential to take into account the criterion of alignment to determine whether research is correctly developed or not, according to the research level.

METHODS

By means of induction (Pellegrino & Glaser, 1980), when studying specific cases, there must be a reference criterion associated with the taxonomic principles that will allow the efficient and effective evaluation of a research work and to ensure that there will be no confusion when classifying them. We started from particular facts, that is, sources of information used in research works, as well as articles published in indexed journals, stating that a study is of a form that has no theoretical or methodological support. This implies that, when evaluating a study, the problems do not correspond to the objectives and the objectives do not match the answers formulated, whether they are conjectures or specific estimates. For this reason, the purpose of this study was to determine how the parts of a thesis are related and to confirm that they must comply with the alignment of each other to maintain internal consistency (Mishra & Alok, 2011). Therefore, primary sources that do not explicitly mention alignment have been studied and therefore the research does not follow an adequate design that indicates that its elements are fully aligned; however, this clarification is required for the development of a scientific work (Hegel, 2004; Weber, 2012; Bachelard, 2000; Popper, 1980;

Foucault, 1970; and Comte, 1942). The inductive method is based on particular sources of information used in research studies. There is confusion here as it may be stated that a study has an objective, but it does not have theoretical or methodological support because there is no criterion such as the alignment criterion to perform the evaluation. As a content analysis of the sources consulted has been carried out, in the absence of a clear definition of alignment, it was decided to use a heuristic design by means of which an algorithm is presented that consolidates the elements that allow the evaluation of a research work.

RESULTS AND DISCUSSION

Alignment

Alignment is a concept linked to various fields of knowledge. One field considers it the degree to which expectations agree with evaluations and are guides for students to learn what they are (Polikoff, 2022). However, there is another perspective that must be taken into account in the research field, as it implies that the problems formulated, the objectives written, the assumptions to be contrasted, the design to be used, and the methods and techniques to be applied must be aligned with the purpose of the study, with the level and line of research acting as support (Mauch & Park, 2003). If the purpose of the study is description, it is evident that the inductive method must be used, which is based on probabilities; however, this does not mean that the study does not use deduction as a process. If the purpose is predictive, then the method to be used is deductive and is based on explanation, but this does not imply that the study does not use induction as a process (Pandey & Pandey, 2015).

It is at this point where there is the biggest Giordano knot (Segall, 2022) in the methodological field. If a problem is inductive, is the research deductive? If an objective is deductive, will the problem be inductive (Bunge, 1985)? This comes from philosophy, and it is beneficial to understand it in the sense that great research confusion comes from the disorder stemming from the apparent conflict between induction and deduction and how the isms that disorder it are produced (Bonner et al., 2021). This represents problems within the philosophical criterion. Another problem is the methodological treatment when the researcher decides to develop a problem and give it an inductive or deductive treatment, where one uses inductive and/or deductive processes within this treatment (Abdukarimova & Zubaydova, 2021).

It turns out that everything starts with the statement of the research topic, which must have four dimensions: a) the line of research, b) the purpose of the study, c) the population, and d) space-time (Supo & Zacarías, 2020). With these four factors, the statement of the study can be constructed, where the line of research is the topic to be studied, made up of the variables (one or more variables), and the thesis candidate must have knowledge of it. The purpose of the study indicates the researcher's analytical intention associated with the level of research.

The population indicates the units to be studied. The space–time factor includes the place where the study is carried out and in what period of time. The statement of the study is important because it will be the title of the research (Supo & Zacarías, 2024).

In this order of ideas, the research statement or title is structured within the lines of research (variables), the purpose of the study (analytical intention), the study population (units of analysis), and the space–time (place and period of the study). With these elements, the research problems are constructed; it is understood that the thesis candidate knows their line of research, is passionate about their topic of study, and seeks to contribute to the body of knowledge they have chosen to investigate.

The research question is very different from the question that is formulated in the area of learning. Both questions are distinct—they are different—because, while research seeks to discover, structure, and improve a certain topic of knowledge, the learning question is aimed at enabling the student to obtain knowledge, skills, and dispositions in order to be taught (Lipowski, 2008; Rosenshine et al., 1996). Equating research problems with T-L problems generates many uncertainties among researchers, because they believe they should be treated in the same way, which is far from reality. Research problems should be interesting and should be transferrable to formulate answers as hypotheses or specific estimates; i.e., research is designed to produce information that cannot be obtained by other means. On the other hand, T-L questions are intended to improve the student's understanding. If one has a problem, the solution of which requires the relationship between two variables A and B, its formulation would be as follows: Will there be a relationship between variable A and variable B? If we pose the question “What is the relationship between variable A and variable B?” or “How is variable A related to variable B?”, the question is directed in another direction. It assumes that there is a relationship between both variables, since the question is oriented to “how” and “which”, not whether there is a link between both variables.

The question “What is the relationship?” addresses whether the link is direct or indirect, while the question “What is the nature of the relationship?” is oriented to whether the link is strong, moderate, or weak. This implies that, in order to answer the questions of which and how, the nexus must first be established. In this sense, the questions “which” and “how” are in the field of point estimation, and for this purpose, the respective correlation coefficient must be read according to the nature of the variables being studied, i.e., whether they are numerical, nominal categorical, or ordinal categorical.

In this context, because alignment will guide the coherence, consistency and cohesion between each of the elements of a study within certain limits, it should be taken as a criterion because it will be flexible within the research work. For this reason, the alignment criterion ensures that all these components work together, allowing adaptability and for the corresponding adjustments to be made

(Yin, 2018; Creswell, 2014; Biggs & Tang, 2011). This implies that internal coherence is guaranteed by improving the clarity and precision of the results reinforcing it, promoting their rigor, repeatability and reproducibility and identifying probable misalignments (Flick, 2018); Creswell, 2014; Biggs & Tang, 2011; Robson, 2011; Tashakkori & Teddlie, 2010; Bourdieu, 1996; and Guba & Lincoln, 1989).

Taxonomy

Taxonomy is vital for alignment because Bloom's taxonomy is often used to write research objectives; however, the objectives are related to the teaching–learning process (T-L) and not for research. Supo has developed a taxonomy (Supo, 2015a) for research objectives (Supo, 2015b) that allows for alignment with the research levels. The investigative levels are used as a reference to formulate problems, write objectives, propose answers, choose designs, apply methods, use techniques, obtain results, obtain discussions, obtain conclusions and make suggestions, because they establish the scope and depth—both qualitatively and quantitatively—of the investigations.

If a research objective is written, it must be aligned to the research problem (Miles, 2017), so the taxonomy of Bloom et al. (1956) is not relevant. Many researchers take the alluded taxonomy as a reference; however, the first level of research is exploratory, and therefore, the researcher must explore and work with categories to decompose them. Instead, the first level of Bloom's taxonomy is to know, which is not a research objective. Table 1 shows a comparison between the levels of research (Supo & Zacarías, 2020) and the categories of Bloom et al.'s (1956) taxonomy.

Table 1. Comparison between Bloom's categories and research levels.

Bloom's Taxonomy	Levels of Research
Assessment	Application
Synthesis	Predictive
Analysis	Explanatory
Application	Relational
Comprehension	Descriptive
Knowledge	Exploratory

It is evident that the nouns proposed by Bloom et al. (1956) are not linked with the levels of research because their nature and purposes are different. Bloom's nouns were developed for the T-L process (Adams, 2015), which enables students to obtain knowledge, while the purpose of the research levels is to discover knowledge and solve problems or improve processes within society. In the third level of Bloom et al.'s taxonomy (1956), application is used for the learner to apply knowledge that has been remembered and understood. Meanwhile, the seventh level, which is the application of research, refers to the improvement of a process or the solution of a dilemma that has gone through exploration, description, relation, explanation, and prediction (Supo & Zacarías, 2024).

Bloom et al.'s (1956) taxonomy was modified by Anderson and Krathwohl (2001), who mainly changed nouns to verbs; synthesis was changed to create (placing it at the top of the categories), and evaluation was changed to assessment. When comparing Bloom's modified taxonomy with the levels of investigation again, we observed the indicated point (Table 2).

Table 2. Comparison of Anderson and Krathwohl's (2001) modified Bloom's taxonomy and research levels.

Modified Bloom's Taxonomy	Levels of Research
Create	Application
Assess	Predictive
Analyze	Explanatory
Apply	Relational
Grasp	Descriptive
Remember	Exploratory

Note. Anderson & Krathwohl's Taxonomy, after Bloom.

When the category of apply, modified by Anderson and Krathwohl (2001), is analyzed, it is observed that it does not relate to the relational level of research, while apply in research levels, which is at the third level, is at the top of the hierarchy. This provides evidence that Bloom's categories should only be used in the T-L process and not in research, even after having been modified (Chandio et al., 2017). The alignment of the title of the research with the general problem allows us to establish the type of research that is being developed and the level of research that is going to be performed, and it allows us to identify the variable or variables to be studied. The research objectives should be added to this, which have other purposes with respect to the categories used by Bloom et al. (1956) in their taxonomy, according to Table 3. The studies that are usually cited for these cases, such as those by Hernández et al. (2014), cited 161,650 times between 2014 and 2024; Bisquerra et al. (2019), cited 8,542 times between 2019 and 2024; Cohen et al. (2017), cited 96,160 times between 2017 and 2024; and Bryman (2016), cited 89,326 times between 2016 and 2024, use the verbs proposed by Bloom et al. (1956) or the modified taxonomy of Anderson and Krathwohl (2001) and do not make this differentiation.

Table 3. Comparison of research objectives and teaching–learning objectives.

Modified Bloom's Taxonomy		Levels of Research	
Objectives	Categories	Levels	Objectives
Create	Creation	Application	Apply
Assess	Assessment	Prediction	Predict
Analyze	Analysis	Explanation	Explain
Apply	Application	Relationship	Relate
Grasp	Comprehension	Description	Describe
Remember	Memory	Exploration	Explore

It is evident that the objectives of the T-L process are different from those of research. The recall category is not linked to the exploratory level, and therefore, Bloom's taxonomy and the modified Anderson and Krathwol's taxonomy are very different from the research one with respect to the objectives. One objective of T-L is to recall, which involves memorizing and then evoking information, and another objective is to conduct research that leads to the exploration of the phenomena under investigation (Krathwohl, 2002). It should be understood that problems and research objectives are closely linked (Tafur & Izaguirre, 2015), and for this reason, they should be aligned.

Title, purpose, and research levels

In this order of ideas, aligning the title, problems, and objectives, i.e., they all have the same purpose in the inquiries to be carried out, results in the proposal of the hypotheses or specific research estimates. If the research purpose is exploratory or qualitative (Flick, 2015), the categorical assumptions that must be aligned with the identification, interpretation, construction, or diagnosis, which represent the four sublevels of this process, will be raised. Identification studies are linked to phenomenology; interpretation studies are linked to hermeneutics; construction studies are linked to constructivism; and diagnostic research is associated with heuristics.

If the title, the problem, and the research objective are framed at the descriptive level (Cubo et al. 2019), which is the first step of quantitative studies, the sublevels will be description, point estimation, and verification. The descriptive sublevel is linked to the objectives of describe and characterize, if only descriptive statistics will be used with the corresponding statistics. The estimative sublevel is attached to the objective estimate and can be the prevalence or incidence, for which a confidence interval and minimum and maximum values have to be considered. The verifying sublevel is associated with the objective verify, for which the contraction of a hypothesis that carries a single analytical variable is performed (2017).

The relational level (Arbaiza, 2014) links two analytical variables that have the same rank and position, but one is called an associated variable and the other is called a supervisor. This distinction is made because many assign names to the variables in relational studies that correspond to explanatory studies. In a relational study, three factors are sought: a) whether there is a relationship between the two variables; b) whether the relationship is direct or indirect; and c) how strong the relationship is. The first factor is determined using the p-value; the second factor is read in the sign of the correlation coefficient found; and the third factor is read in the value of the correlation coefficient. At the relational level, there are also three sublevels: comparative, relational, and measurement. The comparative level makes it possible to compare two groups, two communities, or two samples by applying specific statistics according to the nature of the variables under study.

At the explanatory level (Cubo et al., 2019; Supo, 2017), the independent and dependent variables appear (Arbaiza, 2014). Because this is the step of causality, it also has three sublevels: evidence, demonstration, and verification. The first sublevel is observational and non-experimental and is ignored due to the fact that most research tends to be relational, obviating observational explanatory works. In the transition from the relational level to the explanatory level, there is a gap. This is because, in the area of social knowledge, few explanatory studies are designed, and almost none of them are quasi-experimental and/or experimental studies because they are longitudinal studies. They require intervention and a considerable investment of both time and resources.

The sublevels of the explanatory study are accompanied by three verbs that follow these gradations within causal investigations: evidence (observational), demonstration, and verification. Each one has a specific treatment that requires using specific tests, depending on the nature of the variables and the behavior of the data. It must be taken into consideration that explanatory studies seek causality and can have two or more analytical variables. This is why it is essential to have a vast understanding of the subject, since the method used is deductive. To demonstrate that it is an observational study, randomized designs are used; to demonstrate that it is experimental, block designs are used; and to verify that it is also experimental, factorial designs are used.

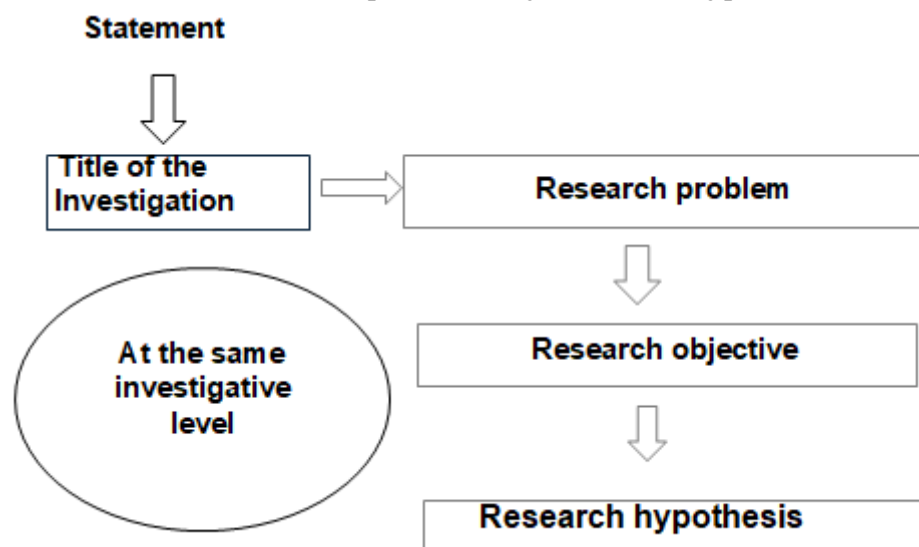
At the predictive level (Supo, 2017), there are predictor variables and the variables to be predicted. There are also three sublevels present, which are the predictive level itself, the prognostic level, and the prevention level. The verb that accompanies prediction studies is predict, which provides the calculation of the probability that an event will occur, and the tools of linear regression can be used. For the second sublevel, the verb forecast is used, which works based on time; this means that it can be established when a phenomenon occurs, and the survival analysis tool can be used. The verb for the third sublevel is foresee or prevent, which is used to prevent any risky situations, and the tool that can be applied is Cox regression.

For the application level (Supo J., 2017), there are also three sublevels: supervision, control, and calibration. They use tools to verify a hypothesis or perform a point estimate. The variables used are exogenous and endogenous variables. The verb that accompanies supervision is supervise, and this allows the limits of control in the intervention (point estimation) to be established; therefore, the tool used monitors using averages and graphs. The verb used for control is control, which allows the efficiency and effectiveness of a certain process to be evaluated (hypothesis testing), for which the process capacity study tool is used. Finally, for the calibration sublevel, the verb calibrate is used, with the purpose of modifying the intensity of the intervention; therefore, the tools of repeatability and reproducibility (point estimation) are used. The most cited texts, Hernández et al. (2014), Bisquerra et al. (2019), Cohen et al. (2017), and Bryman (2016), do

not develop either the problems or the research objectives exhaustively, so they are confusing to thesis students or the researchers.

The hypotheses formulated must be aligned with the research title, the problem, and the objective that was set. If this does not happen, then there is a methodological failure that will show work without orientation and without a compass. If the study is at a descriptive level, then its problem, objective, and hypothesis must be univariate—a single analytical variable—and, therefore, the statistics used must correspond to this situation. If the study is relational, then the problem, the objective, and the hypothesis must have two analytical variables and must use the elements corresponding to that level of research, according to Figure 1.

Figure 1. Link statement, title, problem, objective, and hypothesis.



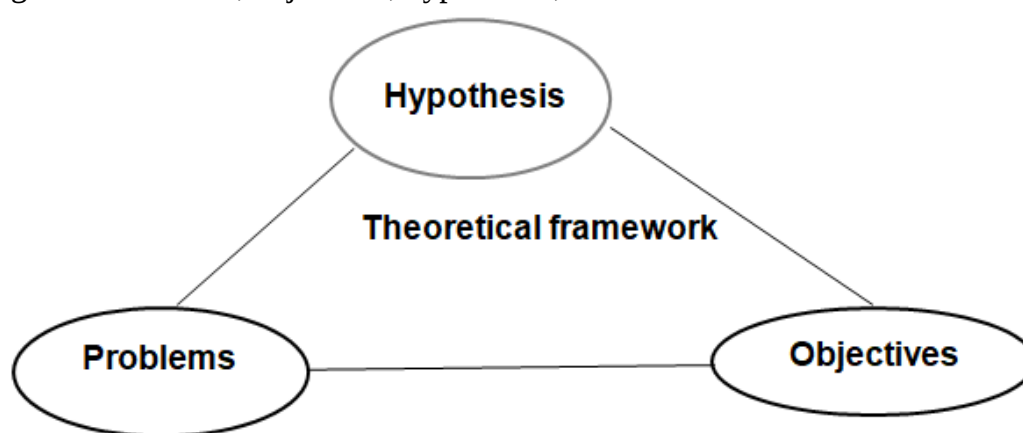
Then, alignment means that the statement of the study, the title of the research, the problem, the objective, and the respective hypothesis or point estimate must be at the same investigative level. Without alignment, there is no good research process because it will not be possible to understand what the scholar is looking for regarding the topic or problem being investigated. In this case, descriptive–correlational studies appear (Arbaiza, 2014; Hernández et al. 2014) or descriptive–correlational–explanatory research is developed that only confuses both the researcher and the reader of the research.

Alignment, which is based on the level of research and the corresponding line, will allow the most appropriate design to be selected, and it will be possible to establish whether the study has hypotheses or not, whether the estimate will be calculated, whether the respective point will be estimated, and whether it is necessary to study the concepts that are partially defined or not defined in depth. If one has an exploratory, descriptive, or relational study, the study should feature an observational, non-experimental, cross-sectional design where the inductive method is applied. If the study is explanatory, predictive, or applicative, the design will have observational (specific case of the explanatory level of evidence), quasi-experimental, experimental, longitudinal, or analytical

characteristics, where the deductive method is applied. Undoubtedly, these singularities are not absolute, but they are a guide for the researcher.

If the scholar has defined the line of research and a theoretical framework in accordance with the type of study, it will allow them to develop their investigative work. Everyone is familiar with the theoretical environment that is organized by the preceding studies, the theoretical foundations, and the definition of concepts. Therefore, the theoretical framework allows for the development of the research problem, objectives, and hypotheses, along with the justification and respective limitations, and it must be aligned. If the study is inductive, the theoretical framework must reflect that assessment, according to Figure 2.

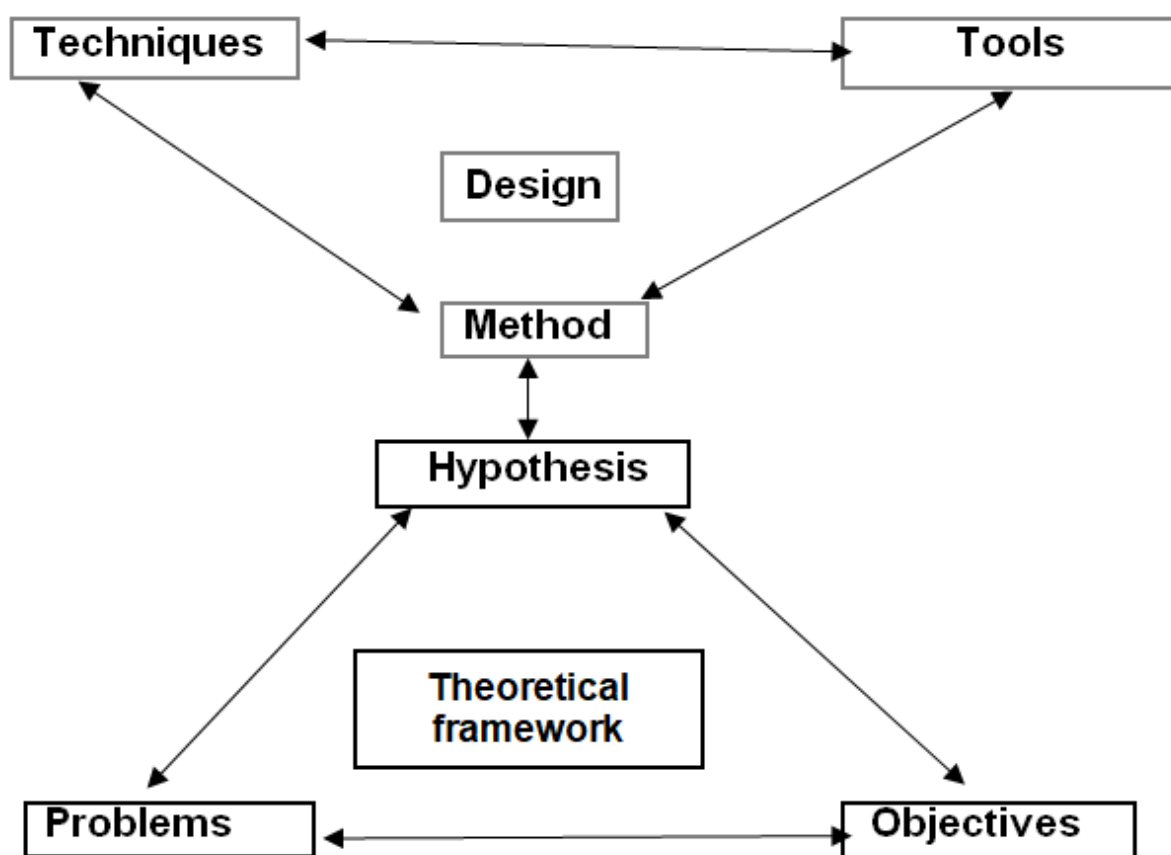
Figure 2. Problems, objectives, hypotheses, and theoretical framework.



But if the study starts from theory, then the deductive method must be used, and this applies to explanatory, predictive, applicative and technological works. Without a rigorous theory, supported by an experiment and consistent, it would be difficult to perform deductive research; each of the parts must have a logical coherence, internal consistency and connection between each of its elements.

This is connected to the research design, which is made up of the method, techniques, and research instruments. Therefore, the problems, objectives, and hypotheses must be aligned with the design, depending on what the researcher is looking for. If the study is within qualitative, descriptive, and relational studies, then the research design must use the inductive method, because these works start from the facts and then give them an interpretation based on the cases, interviews, document reviews, and descriptions made, taking a specific theory as a reference. If the studies are explanatory, predictive, or applicative, they must use the deductive method, which seeks to explain the phenomena using a theory according to Figure 3.

Figure 3. Link between the theoretical framework and design.



In this order of ideas, the link between the theoretical framework and the design is essential to carry out good research. A theoretical framework guided by an expert in the topic investigated and a design guided by an expert in methodology will allow for the preparation of the project first, and then of the final report of the thesis (Hoadley, 2004). Alignment is a criterion that must be taken into consideration for the preparation, development, and presentation of a thesis, regardless of the level of research.

In this context, for proper alignment to take place, that is, for the structure of the study to have logical relationships between the ideas that are presented, it must avoid contradictions or coherence (Van Dijk, 1997). The methods must also be in accordance or consistent with the type of research (Yin, 2018), with a linguistic connection between sentences, avoiding the absence of connectors or cohesion (Halliday & Hasan, 1976). This will allow connections between all the elements of the study (correspondence). That is, alignment implies correspondence, but not all correspondence implies alignment.

CONCLUSIONS

Firstly, the criterion of the alignment of all the components of a study allows the theme and methodology to correctly fulfill their function; this means that, when

evaluating a research work and assuming the alignment criterion for this purpose, a thesis student will be adequately guided in enhancing their study. Alignment is a specific and structured criterion of correspondence that focuses on the logical and functional integration of the elements of a scientific study. The alignment criterion is relevant and necessary because it will improve the quality of scientific research, as it will give a study coherence, consistency, and cohesion, making it clearer and more valid, rigorous, and useful.

Secondly, if a research work is aligned, that is, the problems, objectives, hypotheses, specific estimates, discussions, conclusions, and recommendations correspond to the same level of research, then there will be internal consistency. This implies that a study will have all of its components in accordance with the investigative level; that is, there will be harmony in each of its parts. Likewise, within alignment, coherence will allow for the existence of a logical relationship between ideas to guarantee the arguments, making them understandable and avoiding contradictions. Consistency allows for uniformity of procedures, analysis, and data throughout the study, ensuring validity and reliability and avoiding variations in methods and techniques, since it establishes clear protocols and rules for the study. Finally, connection avoids the production of sentences, phrases, and paragraphs that are not within the context of the research by using appropriate pronouns and connectors, which will give fluidity to the text.

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