

TESTING LANGUAGE VITALITY INSTRUMENTS: FALSIFICATION AND LANGUAGE STATUS EVALUATION

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Article Info	Abstract
<p>Article History Received: September 2024 Revised: October 2024 Published: January 2025</p> <p>Keywords Falsification test; Language vitality; Language status; Philosophy;</p>	<p><i>Different instruments for language vitality are used to determine language status. However, doing so raises problems regarding the correctness of an instrument, especially in terms of differences in instruments among qualitative, quantitative, and mixed methods. This aspect exerts an impact on differences in the svariables of respondent criteria, data collection techniques, and the categorization of all results. Moreover, a few of these instruments cannot necessarily be applied to all languages in Indonesia due to complex conditions. Moreover, this research is novel because it is the first to discuss linguistic theory using a philosophical approach, especially falsification approach. This aims to test validity of language vitality instruments. Furthermore, it attempts to identify instruments that can be applied to languages in Indonesia. The reason is that Indonesia features many local languages, which leads to complex linguistic situations and conditions. This research uses a descriptive qualitative methods. Research techniques use data taken from previous studies and observations. Data analysis uses Popper's falsification theory. The result indicated that language vitality instruments require several new alternative theories to address the complex linguistic conditions in Indonesia. The principle of falsification can add truth value in determining language status, such that it can be accepted for all languages in Indonesia. However, the falsification is still required for minority languages and strengthens the truth value of languages that are extinct. This notion exerts a contribution on the deepening of language policy in Indonesia, such that all languages can undergo language vitality testing according to the characteristics of their languages.</i></p>
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INTRODUCTION

Efforts to preserve local languages in Indonesia are undergoing development in terms of methods for the minimization of language extinction. In this context, this development mainly pertains to the research instruments used for data collection. Different methods produce different results. Given that Indonesia has 718 local languages, it features complex linguistics conditions and different characteristics for each language (National Agency for Language Development and Cultivation, 2019). This intangible wealth needs to be supported through language mapping, vitality study, language conservation, and language revitalization. This notion is in accordance with the Ministry of Education and Culture Regulation Number 42 of 2018 regarding the National Language and Literature Policy. One of the measures for language preservation that continues to undergo regular development compared with others is the study of language vitality to determine the status of a language. This periodic development is based on the existence of differences in instruments for language vitality, such that the search for instruments that suit the complex linguistic situations and conditions in Indonesia continues to this day.

The development of language vitality studies is closely tied to the lack of suitable instruments that can accommodate all local languages in Indonesia. One of the reasons is the differences in language characteristics; therefore, each language needs to be addressed according to its characteristics. The instruments cannot be equated or forced between two languages if their characteristics are different. In other words, various trials are ongoing to determine existing advantages and disadvantages. Moreover, this condition raises problems regarding the correctness of instruments. The reason is that one instrument can be accepted in languages in the western region but not necessarily in languages in the eastern region. In addition, the narrative of truth in vitality studies is a matter of conflict between international and national conventions for the study on language vitality using qualitative methods without quantitative involvement. Meanwhile, the National Agency for Language Development and Cultivation (2022) created a convention for the related examination using quantitative and qualitative or mixed methods.

This fact reflects the reality of different truths when science is faced with a government bureaucracy that employs various criteria of its truth value. From the government perspective, policy has a high truth value if it can be measured. This notion also forms the basis for the cultural development index (Directorate General of Culture, 2018). In fact, differences in instruments can exert an impact on differences in the variables of respondent criteria, data collection techniques, and the categorization of results. Moreover, this instrument cannot necessarily be applied to all local languages in Indonesia. In line with this notion, the current research conducted a falsification test of language vitality instruments used to determine language status. It also attempts to find a solution to the problem of language vitality instruments that can be applied to languages in Indonesia due to its complex linguistic situations and conditions, which differ from those of other countries (Zein, 2020).

In this case, this research is novel, because it is the first of its kind. Several studies that use falsification methods with different data, such as in the field of mathematics (Kholifah et al., 2022), and for understanding information technology (Putra et al., 2023) and inclusiveness (Sarah & Adib, 2023) to review of hoax news for teachers (Oka, 2024). Kholifah et al. (2022) intended to identify the value of pi in mathematics. Students encounter difficulty in the understanding value of pi if they are given a calculation with many digits. This aspect leads to uncertainty in science, such that a complete verification process that uses error and confirmation methods in the falsification approach is required. Conversely, Putra et al. (2023) used the Poppers falsification approach to explain preventive measures for social media users to avoid fake news. The authors mentioned that the truth of information that appears on social media must be proven and tested for certainty to render it objective and to prevent it from exerting a negative impact on their readers. In addition, Sarah and Adib (2023) elaborated on the Poppers falsification methodology in building an inclusive understanding. The results confirmed that the possibility of achieving truth (not certainty of truth) is an idea that greatly avoids the claim of truth from a group. If sustainably applied, it will erode the phenomenon of group exclusivity and establish an inclusive understanding. Oka (2024) outlined the urgency of falsification theory for teachers in their responses to hoax news on social media. From this perspective, Poppers' falsification can be used in responding to news.

Furthermore, this study also has a novelty value in terms of the development of practical program methods by presenting new concepts (Armawi & Raharjo, 2021; Nugroho et al. 2022; Adiputra et al., 2023). From the previous study, only this research uses the falsification method relating to the development of practical program methods. Specifically, Armawi and Raharjo (2021) evaluated the civic literacy socialization process in formation of the ethics of young citizens in Surakarta City. Data analysis used the concepts of program evaluation, socialization, civic literacy, and the ethics of young citizens, which led to a civil literacy model as planning in the learning process. Nugroho et al. (2022) explained the methods in

Pancasila subjects. The authors analyzed data using the concept of experiential learning, which was initiated by Dewey, as the basis for a method for the strengthening of democracy and Pancasila education. As a result, Dewey's thoughts became relevant for encouraging a democratic learning of Pancasila. Lastly, Adiputra et al. (2023) outlined the views of Indonesian secular doctors on genomic engineering. The authors used the critical realism approach with interview and a literature review. They found that secular doctors generally hold positions and attitudes that support the research and implementation of human genomic engineering technology.

Based on these previous studies, no falsification test of Popper's theory has been conducted using data from a language or linguistic research perspective as in the current research. Moreover, no development of practical program methods that present new concepts. However, research on the philosophy of science related to language and linguistics has been conducted by taking the paradigm (Budiono et al., 2024) and critical theory (Budiono & Yanita, 2024) perspectives. In this case, Budiono et al. (2024) discussed the paradigm shift in the field of language revitalization in Indonesia. The shift that occurred was viewed only focus of language objects, which initially targeted endangered languages only, to all languages. This shift is inseparable from the fact that all languages deserve to benefit from language preservation efforts. This idea is in contrast to that of Budiono and Yanita (2024), who criticized the practice of language documentation in Indonesia, which remains under by the shadow of descriptive linguistics. In fact, language documentation is part of interdisciplinary linguistics, whereas descriptive linguistics is classified as monodisciplinary linguistics. Thus, against this background and based on previous research, the current study formulated research questions on the development of the truth value of language vitality instruments, such that it can be applied to all local languages in Indonesia according to their characteristics.

RESEARCH METHOD

Research Design

This research uses descriptive qualitative methods. In other words, it pertains to a problem formulation that guides the through, broad, and in-depth exploration of social situations (Mohajan, 2018). This research is in line with the objective of the current research to test language vitality instruments in depth. Moreover, the reason for selecting the descriptive qualitative method is because the researcher wants to describe the situation specifically, transparently, and in depth (Busetto et al., 2020). The selection of this descriptive qualitative method is also in line with the qualitative form of the current research, which is narrative. According to Murray (2020), narrative research involves, raises, and documents various premises that are understood and reasonable. A story can be examined when its source is in a literature like journals, such that this process is effective for future research practices or theory development. In this manner, research will be detailed and comprehensive.

Data Collection Technique

This research uses data from the field of linguistics with a philosophy of science approach. Data pertain to the vitality of local languages in Indonesia. Winari et al. (2022) mentioned that data collection techniques in the philosophy of science are divided into four methods, namely, the desk research, observation, interview, and observer participation. In this case, the research uses desk research as a data collection technique. Data collection was conducted on language vitality studies that have been published in journals.

Data Analysis

Analysis uses the theory of falsification, which was proposed by Popper (Galili, 2021). Data analysis is connected to the observation of researchers as supporting material. In this case, Popper employed several processes for the falsification test across five aspects: the (1) initial problem, (2) tentative theory, (3) error elimination, (4) advanced problems, and (5) new theory. This falsification process forms the basis of the discussion of the current study. The reason for choosing this method is based on the principle of falsification, which plays an important role in strengthening scientific theories (Riski, 2021). This falsification can be used as evidence to refute other irrelevant theories. Alternatively, this approach, which is from the philosophical perspective, is suitable in testing language vitality instruments. The reason is that the principle of falsification employs criteria that can be justified, refuted, and tested (Harahap et al., 2019).

RESEARCH FINDINGS AND DISCUSSION

The language vitality instruments are tested for falsification using the five abovementioned processes. In this case, the initial problem process is explained by the development of the study of language vitality in language or linguistic research. The tentative theoretical process is explained using language vitality instruments from various perspectives, such that the advantages and disadvantages of qualitative, quantitative, and mixed methods can be explored. In addition, this tentative theory raises new problems from the perspective aspect between the user's point of view. The discussion continues the error elimination process by explaining the addition of supporting evidence in the language vitality instruments. Afterward, discussion still need to emerge in the study of language vitality, which is explained by the problem of language vitality instruments. Finally, the discussion explains the new theory using the theory adapted to its scope. The reason is that no theory exists that can cover all linguistic situations and conditions. Thus, the need for alternative theories with different scopes of coverage are required.

Development of Language Vitality Studies

The study of language vitality features several perspectives. First, the study of language vitality is based on UNESCO, which identified nine indicators as tools for analysis (Lauder, 2019): (1) intergenerational language transmission, (2) absolute number of speakers, (3) proportion of speakers within the total population, (4) trends in existing language domains, (5) responses to new domains and media, (6) materials for language education and literacy, (7) governmental and institutional language attitudes and policies, including official status and use, (8) attitudes of community members toward their language, and (9) amount and quality of documentation. Based on these indicators, the result category from nine indicators consists of five statuses, namely, safe, vulnerable, definitely endangered, severely endangered, critically endangered, and extinct. For each indicator, several general conditions of each category are appropriate to actual linguistic situations and conditions. In other words, the methods used are qualitative only. One of the reasons is that this language vitality formula can be applied to all languages throughout the world, because it is constructed in a very general manner. Table 1 provides an example of the status and corresponding conditions.

Table 1
Language Classification According to Vitality

No	Status	Descriptions
1.	Safe	The language is spoken by all generations; intergenerational transmission is uninterrupted
2.	Vulnerable	Most children speak the language, but it may be restricted to certain domains (e.g., the home)
3.	Definitely	Children no longer learn the language as the mother tongue in the home

No	Status	Descriptions
	endangered	
4.	Severely endangered	The language is spoken by grandparents and older generations; while the parent generation may understand it, they do not speak it to children or among themselves
5.	Critically endangered	The youngest speakers are grandparents and older, and they speak the language partially and infrequently
6.	Extinct	There are no speakers left

Second, SIL International developed a language vitality category called the Expanded Graded Intergenerational Disruption Scale to determine language status (Eberhard et al., 2024). In this case, SIL International categorizes language vitality status into 10 categories, namely, (0) international, (1) national, (2) provincial, (3) wider communication, (4) educational, (5) developing, (6a) vigorous, (6b) threatened, (7) shifting, (8a) moribund, (8b) nearly extinct, (9) dormant, and (10) extinct. Different Besides that, each status of language vitality contains differentiated linguistic situations and conditions. These conditions require researchers to simply match the situations and conditions of a language under study with the existing classification of language vitality status. This process is simpler than that of UNESCO because there is no need to examine the indicators of language vitality. Researchers immediately identify based on the scope of the target language under study. Table 2 provides an overview of the status categorization and corresponding criteria compared with those from UNESCO (Candrasari & Nurmaida, 2018).

Table 2
Classification of Categories of Language Vitality According to the Expanded Graded Intergenerational Disruption Scale

Level	Status	Information	UNESCO Categories
0	International	The language is widely used between nations in trade, knowledge exchange, and international policy.	Safe
1	National	The language is used in education, work, mass media, and government at the national level.	Safe
2	Provincial	The language is used in education, work, mass media, and government within the major administrative subdivisions of a nation.	Safe
3	Wider communication	The language is used in work and mass media without official status to transcend language differences across regions.	Safe
4	Educational	The language is vigorously used with standardization and literature being sustained through a widespread system of institutionally supported education.	Safe
5	Developing	The language is vigorously used with literature in a standardized way from being used by some, although this is not yet widespread or sustainable.	Safe
6a	Vigorous	The language is used for face-to-face communication by all generations, and the situation is sustainable.	Safe
6b	Threatened	The language is used for face-to-face communication across generations, but it is losing users.	Vulnerable
7	Shifting	The child-bearing generation can use the language among themselves, but it is not being transmitted to children.	Definitely endangered
8a	Moribund	The only remaining users of the language are members of the grandparents or older people who have little	Severely endangered

Level	Status	Information	UNESCO Categories
		opportunity to use the language.	
8b	Nearly extinct	The only remaining users of the language are members of the grandparents or older people who have little opportunity to use the language.	Critically endangered
9	Dormant	The language serves as a reminder of heritage identity for an ethnic community, but no one has more than symbolic proficiency.	Extinct
10	Extinct	The language is no longer used, and no one retains a sense of ethnic identity associated with the language.	Extinct

Based on the classification of the categories of language vitality from UNESCO and SIL International, these classifications can be applied to all languages worldwide. This aspect raises problems, because this classification is not necessarily appropriate for the complex linguistic situations and conditions in Indonesia. According to Lauder (2019), these proposed criteria have been tested to date. In fact, the discussion, evaluation, and debate on this issue continue among fellow linguists. Many disagreements still exist regarding the advantages and disadvantages of this proposal. This needs to be considered in depth, especially the criteria for measuring language vitality, which are more specific and appropriate to the linguistic situations and conditions in Indonesia. Researchers should not fall into subjectivity, which overlooks scientific aspects.

Between Qualitative, Quantitative, or Mixed methods

The limitations of the classification of language vitality result in categories from UNESCO (Lauder, 2019) and SIL International (Eberhard et al., 2024), Indonesia is the second most populous country worldwide and needs to create conventions that are adapted to its linguistic situations and conditions. The reason is that the classification of language vitality is like the categories of UNESCO and SIL International is considered very general for the Indonesian context. This condition leads to many language situations in Indonesia, which is based on the intersect between one status and another based on the description. Evidently, this is confusing, because of the complexity of the linguistic situation and conditions in Indonesia, which are not clearly differentiated in the classification of linguistic vitality results categories from UNESCO and SIL International. Moreover, the study of language vitality in Indonesia is included in government regulations as an effort to preserve the language. It is contained within the Ministry of Education and Culture Regulation Number 42 of 2018 concerning the National Language and Literature Policy.

The involvement of the government in the study of language vitality in Indonesia has led to relatively significant developments. The reason is that government involvement is closely related to budget involvement, such that the scientific studies of language vitality must be measured, such that the budget can be accountable to the public. A similar fate is also experienced in the field of culture; thus, the need emerges for instruments that use numerical measurements in their administration. Thus, the qualitative method, which has been the sole method for conducting cultural and language vitality studies, is considered less scientific in Indonesia because it cannot be measured in numerical terms. To overcome this problem, the study added quantitative methods to complement the qualitative methods for use in general cultural and language vitality studies.

For example, in cultural studies, the cultural development index was created (Directorate General of Culture, 2018). This index aims to categorize regions that exhibit positive cultural development. The classification of categories in the cultural development index refers to seven dimensions, namely, (1) cultural economy, (2) education, (3) socio-cultural resilience, (4) cultural heritage, (5) cultural expression, (6) literacy culture, and (7)

gender. This classification prompted the study of vitality and created the language vitality index convention (National Agency for Language Development and Cultivation, 2017). This index aims to determine the status of a language objectively to prevent the re-occurrence of previous problems when language situations and conditions overlap with more than one status. The basis for the classification of the categories of language vitality also underwent development that is adapted to linguistic situations and conditions in Indonesia. However, the classification is based on UNESCO as an international convention. Studies in Indonesia that examine language vitality use 10 indicators by changing the language documentation indicator to a bilingualism and a language contact indicator. Table 3 presents the classification of the categories of language vitality status based on index values.

Table 3
Language Vitality Index Convention

No	Status	Index
1.	Safe	0.81–1.00
2.	Vulnerable	0.61–0.80
3.	Definitely endangered	0.4–10.60
4.	Severely endangered	0.21–0.40
5.	Critically endangered	0.01–0.20
6.	Extinct	0.00

The Problem of Point of View

From the previous section, it can be said that the mixed method as a method considered ideal for examining language vitality in Indonesia. Nevertheless, the study found that problems continue to arise in smaller degrees. This study is inseparable from the consequences of changing the method at the previous process, such that testing this truth must undergo a gradual error elimination to produce new knowledge. This small problem refers to differences in the results and actual linguistic situations and conditions. For example, Agus (2019) explored the vitality of the Limola language, which was classified as definitely endangered. In fact, only 100 (North Luwu Regency Government, 2018) up to 600 speakers (Sassa Village Government, 2021) are left. The number of speakers clearly indicates that the status of the Limola language is at least severely or critically endangered. A unique aspect of this condition is that the results of the vitality study demonstrate that the status results are definitely endangered, such that the results are not in accordance with the linguistic situations and conditions in the field.

The difference between the results and reality using the mixed method is due to the data collection technique, which was a questionnaire directly administered to language speakers. The instruments are in the form of a questionnaire that can later be converted into the language vitality index. If filled in directly by the speaker, then it can result in differences in results and reality if the language speaker has a high language attitude. In this case, the speakers do not want their language to be classified as negative despite the reality. To address this concern, the questionnaire must be asked directly by the researcher to informants to render the responses objective. Nugroho (2020) used this process to resolve the differences between result and reality.

Addition of Supporting Evidence

Furthermore, other problems emerge with the application of this mixed method using only asking a questionnaire in which the researcher fills in the questionnaire by directly asking the language speakers. In other words, speakers lack knowledge about language vitality results before the questionnaire results are processed into a language vitality index. Other scholars mention that this method results in minimal speaker involvement and the lack

of awareness of the speaker of their language condition. These conditions make the addition of alternative supporting evidence possible, which quantitatively strengthens language vitality by mainly involving language speakers to increase their awareness of language situations and conditions. Additional supporting evidence can be produced by making an agreement on language use in the social and family domains. This notion is based on Grummitt (2012) and Lewis and Simons (2016), which can enhance the results of the language status classification in terms of comprehensiveness.

The addition of qualitative supporting evidence was conducted using participatory observation as the data collection technique. In other words, the researcher only becomes a facilitator for language speakers who reach an agreement regarding language use in the social and family domains. Thus, one can infer that the results of this participatory observation are purely derived from language speakers, and the researchers provided no intervention. In this manner, the linguistic situations and conditions can be identified. Language speakers as informants who agree on language use consist of individuals grouped according to sex and age, such as the (1) younger, (2) middle, and (3) older generations. Table 4 provides the details of the language speakers.

Table 4
Criteria of the Language Speakers

No	Age	Sex	Speaker
1.	<20 years	Male	1 speaker
2.		Female	1 speaker
3.	20—59 years	Male	1 speaker
4.		Female	1 speaker
5.	>60 years	Male	1 speaker
6.		Female	1 speaker

The criteria for speakers of this language are limited to six people to facilitate agreement to easily identify the general language. In terms of language use in the social domain, the language speakers are asked to describe the village map in detail. Efforts are made to clearly describe all gathering places to enable the result of the agreement to reflect actual situations and conditions. Afterward, the speakers reached an agreement on the language used in each place; in this manner, the study obtained the number of dominant languages, including those that are least used. Although this method is classified as a qualitative method, in practice it is quantitative because the dominant language use is indicated by numerical values as the basis for linguistic dominance. In this manner, language speakers can no longer deny or reject the results.

In the family domain, the language speakers are presented with writings on the names of each generation in the family environment, such as the young, middle, and old generations. In the younger generation, “*adik*” is written for the smallest child, while “*kakak*” is written for the eldest child. In the middle generation, “*ayah*” is written for father, while “*ibu*” is written for mother. In the older generation, “*kakek*” is written for the male grandparent, while “*nenek*” is written for the female grandparent. Each generation is written on A4-sized paper and sequentially pasted to form a circle, which is intended to be a marker of communication for each generation. The two-way language use is indicated using sticky notes with a different color assigned for each language. In the middle, each paper is passed to obtain a comprehensive communication pattern in the family domain (Figure 2). This process enables researchers and language speakers as informants to understand the research more clearly, such that the awareness of language speakers can be increased.

Problems With the Respondent Criteria for Language Vitality

In addition, supporting evidence for language vitality analysis was applied as a combination of quantitative aspects. The study noted several advantages and disadvantages that could be obtained in the future. The reason is that Indonesia has many local languages. These conditions make the application of mixed methods (quantitative and qualitative) for language vitality different according to the linguistic situations and conditions of the target language. The advantage of using mixed methods in language vitality and supporting evidence is that the results of the language status of the target language become more comprehensive. This scheme differs from those of other language vitality studies that only use qualitative methods. For example, Nugroho (2020) only displays the language vitality index of each language indicator. Qualitative analysis is only based on the calculation of the language vitality index; for this reason, the explanation is limited to the indicators used in the questionnaire items. Evidently, this explanation is considered extremely narrow and fails to describe linguistic situations and conditions.

The existence of these conditions necessitates the addition of supporting activities for subsequent language vitality studies through agreement on language use in the social and family domains, as exemplified by Budiono and Novita (2021). The explanation of the calculation of the language vitality index becomes increasingly abundant due to the addition of supporting evidence. However, the mixed method has its weaknesses. One of the most fundamental weaknesses is that these methods cannot be applied to all local languages in Indonesia. The reason is that problems emerge with the criteria of the respondents for language vitality. In other words, language vitality studies using mixed methods can only be applied to local languages with >1,000 language speakers. Conversely, local languages that have <1,000 speakers cannot undergo the vitality index. This number is based on the 120 speakers who were differentiated by age and sex. Table 5 provides details of the criteria of the respondents for the language vitality index.

Table 5
Criteria of Language Speakers for the Language Vitality Index

No	Age	Sex	Speaker
1.	<20 years	Male	15 speakers
2.		Female	15 speakers
3.	20–39 years	Male	15 speakers
4.		Female	15 speakers
5.	40–59 years	Male	15 speakers
6.		Female	15 speakers
7.	>60 years	Male	15 speakers
8.		Female	15 speakers

Based on the criteria for language speakers in the table, the vitality index using mixed methods requires 120 respondents to the questionnaire. This number is relatively large because an equal differentiation was conducted in terms of age and gender. The respondents need to answer the questionnaires so that they can provide a quantitative language vitality index. However, the linguistic situations and conditions of the local languages in Indonesia are different. The needs of 120 respondents must be met. This has the impact that quantitative methods in calculating the language vitality index cannot be applied in minority languages. Thus, a new problem that emerges is the appropriate way of determining language status that can be applied to all local languages in Indonesia. This new problem arises when language vitality studies are faced with minority languages that clearly have a minimal quantity of speakers and are critically endangered, such as the Wabo language in Yapen Islands Regency

(Tamrin et al., 2024), the Tobati language in Jayapura City (Budiono & Harimansyah, 2023), and the Modo language in West Manggarai Regency (Astuti, 2022), among others.

New Theory and Its Scope

Based on the issues described in the previous section, using only one perspective and one method is insufficient for the study of language vitality in Indonesia due to the complex linguistic situations and conditions of the local languages compared with those of other countries. This complexity indicates that the study of language vitality in Indonesia requires the use of theories that depend on the objectives. In other words, these studies on language vitality need to use different methods across languages while paying attention to linguistic situations and conditions. If the target local language features ideal conditions in terms of respondent criteria and additional supporting evidence, then mixed methods can be applied. However, when this local language exhibits limitations in terms of respondent criteria, then qualitative methods can be applied by reformulating the indicators of language vitality. This notion is in line with the qualitative methods basically recommended by the UNESCO (2003) to make the identification of language vitality based on several indicators easy.

In this case, UNESCO uses qualitative methods, such that its application can be applied to languages throughout the world. However, this scenario renders the identification of the UNESCO of the classification of language vitality indicators less scientific in several countries, including Indonesia. Thus, the need emerges for a new formula that can be adapted to specific linguistic perspectives and scenarios. One of the new formulas was created by creating a language vitality index to measure language status (Lee & Way, 2016). This research inspired the Indonesian government to create a language vitality index that was adapted to the existing linguistic situations and conditions (National Agency for Language Development and Cultivation, 2022). However, this index cannot be applied to all local languages in Indonesia, especially minority ones, so it requires another formula to be able to carry out language vitality.

As a substitute for the quantitative vitality index, the current study recommends vitality studies that use the qualitative methods by UNESCO as an international convention. Narayanan (2019) assessed that the UNESCO tool is broad and sufficiently gradient to enable a language to exhibit comparative strength in certain areas. The qualitative methods used are only intended for minority languages, where the respondent criteria cannot be met to determine the language vitality index. This recommendation has been conducted by the Ministry of Education, Culture, Research, and Technology (2022) in the categorization of the types of revitalization into three forms that are adapted to the research area. A similar model can be applied to the study of language vitality. Moreover, debates on issues, such as determining whether a language is extinct, are ongoing. Scholars propose that extinct languages no longer need to be proven to exist, while others argue otherwise. In this manner, the problem of minority language and proof of extinct languages can be proven using qualitative methods, which differ from mixed methods.

CONCLUSION

Based on the discussion above, it can be concluded that the language vitality instrument still requires several alternative new theories to address the issues of the complex linguistic situation and conditions in Indonesia. The principle of falsification can add truth value to the development of vitality study instruments, which are increasingly focused on the situations and conditions of the language in Indonesia. This aspect differs from the initial studies on language vitality, which were initially very general then adapted to the linguistic situations and conditions in Indonesia and gave rise to its distinct characteristics.

Popper's falsification test process helped the development of language vitality studies to become more specific, which continues today. Although the principle of falsification denies

the universal statement from UNESCO to add new knowledge, the principle of verification in positivism is still needed to answer the existing problems such as issues related to minority languages and proof that language is critically endangered. The reason is that minority languages clearly lack speakers, and extinct languages still require proof. Evidently, the principle of verification in positivism as a material for confirming evidence is another potential model although it does not add new knowledge.

Confirming evidence is important as a basis for language preservation policies in Indonesia. However, confirmation of this evidence does not always favor all local languages. This finding demonstrates that the current study plays a role in sharpening language preservation policies in Indonesia, such that all languages can be vitalized according to their characteristics. Language vitality instruments do not have to be the same for all languages in Indonesia. Instead, the use of appropriate instruments that are in accordance with language characteristics can enrich the development of language vitality. The same is true for language revitalization, which distinguishes interventions and results from languages in Indonesia according to their characteristics.

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