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Theoretical Prerequisites for the Study of Male and Female Discourse in the Context of Masculine Cultural Pragmatics

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Abstract. Gender linguistics is an essential part of gender discourse. The main reason is the fact that people understand and create the world through the language they speak. In this context, "masculinity" and "femininity" are formed and developed differently due to languages and cultures. Studying languages from the perspective of gender linguistics is essential for understanding the peculiarities of cultures and intercultural relations. Within the framework of cross-cultural pragmatics, we analysed the discourse of men and women at the theoretical level and studied the causes of gender differentiation in language. To study gender differentiation in language, we analysed male and female discourse within the framework of intercultural pragmatics at the theoretical level of the cognitive paradigm and pragmatic semiology. The article deals with the practical value of addressing from the point of view of the cultural code, that is, the semiotic expression of national cultural norms. The cognitive-discursive analysis is carried out based on gender representations. The author uses the type of discourse, which is reflected at the level of topics, communicative methods and tactics, and national concepts, to demonstrate the conditionality of the functioning of gender representations. The language society uses for men and women varies from society to society and culture to culture. The fact that the dominant ideology in society is determined mainly by men makes women passive and condemns them to live in a language defined by men. The article is based on studies from a feminist perspective on language and gender relations. It shows that women are more prone to inflectional sentences because of the sense of insecurity attributed to them.

Keywords: discourse; cognitive paradigm; intercultural pragmatics; feminism; gender; culture.

INTRODUCTION

We tried to study the causes of gender differentiation in language by analysing the discourse of men and women within the framework of intercultural pragmatics. To explore the grounds of gender differentiation in the language, male and female discourse within the framework of intercultural pragmatics is analysed at the theoretical level of the cognitive paradigm and pragmatic semiology. The practical value of the address is examined from the point of view of the cultural code, that is, the semiotic expression of national and cultural norms. Since the research was interdisciplinary, it was conducted in the context of the cognitive-discursive method. Gender is seen as inextricably linked to communication, which

strongly impacts how gender concepts are actualised and expressed linguistically.

We proceed from several basic working principles that determine the direction of linguistic research. Discourse is a dynamic and flexible space of texts reflecting cultural values. Discourses exist as a system of active and relaxed readers. On the one hand, natural languages, and the other, the cultural environment determines discourses' content and social values. Discourses are a product of time and space, they are generated by public opinion and mass consciousness, but at the same time, the formed discourses, in turn, affect public consciousness and play an essential role in its formation. The manifestation of social consciousness is manifested primarily in language norms and gender culture. From the point of view of intercultural pragmatics, the cultural and

cognitive essence of the norms being studied is determined by comparing linguistic means.

Culture means a system of material and moral values. Since the main focus of the study is on male and female stereotypes in the perception of the surrounding world, it is mainly about moral values. Material culture values are also perceived as moral values since knowledge about them is encoded in a semiotic system. It is presented as a fact of mass comprehension of their creation, existence and values. Intercultural communication implies "mutual understanding of cultures", not just tolerant, favourable communication. All language units are evaluated only in terms of the communicative effect. The concept of a cultural code presupposes the uniqueness of evaluative trends. There are two stages of cognition in this field. The first stage is associated with the expression of facts not reflected in other languages. They provide information about the uniqueness of the ethnic experience and habitat. The second stage is connected with the specific ethnic specifics of the universal human experience. Finally, "masculinity" and "femininity" are displayed differently in the world's languages.

In a broad sense, pragmatics is a branch of semiotics and focuses on the relationship between a person and a sign. When this idea is taken as a basis, the organic connection of discourse with practical problems is manifested. Language means are never independent. They are implemented only in a specific national-cultural, historical and social environment. The main task of language tools in any speech situation is to ensure the adequacy of meaning. The value of phraseology and discourse as an integral system of phraseological units can be measured only by one criterion. Since our research is intercultural in its communicative effect, the practical value of discourse is studied from the point of view of the cultural code. That is, the semiotic expression of national and cultural norms becomes the focus of attention.

METHOD AND MATERIALS

Socially and culturally constructed gender differences and linguistic peculiarities are one of the most exciting problems of modern society. In recent years, an increase in interdisciplinary research on gender relations in various fields of science has attracted attention. The formation of objects and concepts in our consciousness and

everything we receive from the outside is achieved through language. Using two research methods, the historical-comparative method and descriptive method, in this article, the reason for the emergence of gender linguistics is being studied as the language a phenomenon that forms and is influenced by patriarchal culture.

Our understanding of the world is possible through culture and language. That is, if there were no language, there would be no mind. Thanks to the culture and intelligence we acquire through language, each person exists as a reflection of the prevailing worldview. Each stage of cultural development is connected and realised by language. Language is not a tool for describing the known but for discovering the unknown. The true power of language lies in its constructiveness.

Numerous studies in this area confirm that gender discrimination in languages somehow exists. Historically, women have suffered the most from this discrimination. They were isolated from society by men and the patriarchal system and forced to realise themselves within the framework of family life. Men mostly controlled the fields of thought, art, politics and science, and the "male word" was valued in society.

Gender is the construction of social differences between boys and girls, men and women. Language is the most essential tool in this construction process, which plays a crucial role in our relations with society and forms our thoughts. Patriarchal culture, isolating women from all spheres of society, has developed its language. In a language created by men, women cannot express themselves as they are. As a result, women are forced to speak and live in this language created by the patriarchal system. This compulsion is not rational but irrational. Because according to Wittgenstein, language traps us in the rules we think about ourselves. These rules are patterns of behaviour that we are taught in childhood and are reflected in society for the rest of our lives. Language makes us products of a patriarchal society, not independent-minded individuals [3, p. 645-647].

Language defines the boundaries of thought through socially determined words. According to Heidegger, who said: "Language is the house of existence" language creates its existence through us, and we make our existence through it, passing it from generation to generation [6, p. 254]. That is why Foucault says that man always remains in

the dimensions of discourse. Because he thinks with the memory given to him by speech. As a result, people of any age cannot say something new. Since innovation in language is impossible, and language is a product of social memory, people cannot create new expressions. They belong to an order that repeats within the same limits [9, p. 120].

Gender culture is formed and developed in consciousness through language. Jean Piaget believed that language helps a child add meaning from the outside world to his ability to think abstractly; he feels as much as language allows. The child transitions from abstract to concrete thinking at twelve or thirteen. After this period, the child begins identifying ideas with society's values and socialising. A child mingled through language becomes a part and a product of his environment [11, p. 140]. Thus, persons acquiring culture through language, on the contrary, play an essential role in preserving patriarchal culture and strengthening the place of gender inequality in society.

Our thoughts, formed in the language we study, are not independent of the society with which we speak the same vocabulary. Since language cannot be separated from the political ideologies with which it coexists, language cannot be considered separately from the dominant political ideology and the prevailing gender culture of the society that speaks it. Therefore, the use of language always has a political and ideological content. The language used by individuals is a reflection of its social meanings. The meaning lies not in what the person who says this means but in the equivalent of discourse in society. Society and language give people a system of thinking. We can learn the worldview and culture of a nation by studying the forms and meanings in the structure of the language it uses.

According to Saussure, language is not in a person but in a person in a language. Language is a product that an individual passively assimilates from the outside. This product contains an unchanging historical background and heritage. Over time, language increases this heritage and strengthens the place of the existing heritage in society. Therefore, the changes that will occur in the community meet language resistance. Mixed with social life, language resists the stagnation of society to preserve the existing [12, p. 119].

For this reason, the language is connected with the past and tradition. A person is also faithful to

traditions and resists changes. This attachment to the past hinders a person's freedom of choice. Thus, the thought formed in people through language develops as a product of a society closed to change, bearing all the historical traces of language. From this point of view, gender reconstruction in the culture of any community is challenging. Proponents of feminist linguistics and deconstructivism raise the question of language reconstruction.

The people who created the language and culture achieved their advantages in society with the help of the language they made, defined their experience as the norm and built all social institutions and practices to protect it. They listen to each other, praise each other's words with this order they have created, and women remain outside the culture. As women continue to acculturate this way, men reproduce language and culture by changing dynamics and dominating society. This historical process ensures that men have a pen and a word, continue to be "speakers" in the community and, ultimately, ensure that the world remains men's property [8, p. 109].

Another reason the world is seen as the domain of men is that people with language and culture have naturally made names for themselves throughout history. It is men who give names to all existing objects and events taking place in our consciousness. This designation indicates that the world is viewed as a human possession. More precisely, men are positioned as the owners of the world. Because the name gives people a sense of ownership of the object they call.

RESULTS AND DISCUSSION

While gender refers to the physical and biological characteristics that make a person male or female, gender is used to respond to culturally and socially defined gender roles. From this point of view, gender is a social construction of biological differences, the development of gender – appropriate behaviour of women and men. It can be said that this difference is related to social value judgments and gender role expectations. Men and women undergo different socialisation processes, acquire other behaviours reflected in their language, and differentiate their languages.

Sexism in language is not always explicit. These expressions are so ingrained in everyday conversation that they are used without realising that they are sexist. Inequality is a characteristic

structural feature of language. In addition, if it is known that some expressions are sexist, and they are aware of this situation, it is taken for granted by society, or the fact that they are sexist does not cause problems for those who use these expressions. Some expressions and sayings are preferred because they are sexist. In this regard, women begin to hear men's words from the moment of their birth. The fact that other women are the speakers does not change the situation.

Since language and culture are fields created by men, the speaker is a man, even if the speaker's gender is female. All the stories we hear are men's stories, men's lives and experiences. A woman carries the whole of society. Therefore, wherever men see women in society, wherever they position themselves, women also see themselves there because he looks at the world through the eyes of men. Women are trying to exist in this language, in which no words, expressions, or boundaries are associated with themselves. In this sense, language is a discriminatory tool that teaches women their place in society. Because language defines men and men's speech as the norm, those with power can keep language under control, considering the connection between language and thought. Both genders can create new meanings and expressions. But women do not have the opportunity to add these new meanings to society.

It is convenient for men to talk about general topics in large companies. They try to show their knowledge and skills in their speech because speaking on their behalf means achieving a goal in a hierarchical order, achieving a higher position or maintaining it. Women prefer to talk about personal matters more at home, in small groups. For them, communication is a means of building and maintaining relationships.

R. Lakoff, who was the first to address the problem of women and language seriously, argues that women's powerlessness and subordinate position in society is reflected both in the language they should speak, and in the language they are talked about. According to her, a woman expected to behave like a lady prevents her from clearly and powerfully expressing her feelings and thoughts, communicating essential issues of the male world. Emphasising the standard features of the female language and its differences from the male language, she states that the female language is quite polite ("please", "... it

would be very nice to me") and expressed in an apologetic tone [10, p. 45].

R. Lakoff, who examined in detail the differences between the female language and the male, formed in the context of various gender-conditioned socialisation processes, made observations about the peculiarities of the female vocabulary. Lakoff, who discussed in detail the differences between the female language and the male, formed in the context of various gender-conditioned socialisation processes, made the following observations about the characteristics of the female language: lexical additions, related issues, ascending melody in the language, narrative sentences, the use of empty adjectives, obvious highlighting of coloured words, intensifiers, the use of correct grammar, the use of subtle forms, avoidance of profanity, percussive speech [10, p. 75]. Studies in gender and language relations have revealed that women use swear words and obscene expressions less often than men or do not use them more often but more often use polite terms, relative words, encouraging words and behavioural adjectives (Table 1).

Table 1 – Features of male and female language (according to R. Lakoff)

Male language	Female language
Greater use of non-standard language forms (dialects, simplified, hidden prestige styles)	Greater use of standard language forms, correct grammar and frequency of use of stress, amplifiers, accentuated speech
Monologue	Dialogue
	Interrogative forms are constructed to obtain confirmation (turning a statement into a question, for example, "Isn't he?"), listening and indirect expressions (the presence of words and phrases that soften the power of saying something)
Dominating the conversation and using direct commands	Using empathic language and less humour
More jokes and humour	Frequency of use of vague adjectives ("so beautiful", "so cute"), avoidance of profanity

So, according to Table 1, R. Lakoff defines female language as "the language of weakness" and says that female language reflects female subordination to men because gender is a set of values. The language in which people are born and develop carries these meanings. Language makes its meaning constant over time. Since these meanings belong to the person who created the language, all social institutions work for people's benefit. Therefore, according to Lakoff, the language of women is the language of weakness. Language is unsuitable for expressing women's experiences and is incompatible with the participation of women. The main reason a woman is thus excluded from the language is that when a woman speaks, she changes all the balances of the order established by a man. When you take something from the tongue, it disappears over time. Just as something is represented in language, it will exist in reality.

D. Tannen stated that men and women use language differently. She then seems to be trying to explain the "gap between a man and a woman" by claiming that a conversation between a man and a woman is "cross-cultural communication". She stated that misunderstandings and conflicts arise because representatives of both sexes use language differently. Tannen evaluates the question "Why are the languages of women and men different?" more in the context of socialisation and states that the reasons for this are the socialisation process. She claims that in socialisation, boys and girls are taught when and where to show respect for each other and appropriate behaviour. According to her, this process begins in early childhood and is enhanced by some games. Boys prefer to play outside with older peers (and they have a leader and a "win" at their head), and girls like to play in smaller groups of peers. Boys focus more on fights and fights, and girls focus more on home games.

Consequently, these two sexes' language and language functions differ significantly. According to Tannen, men and women use language for different purposes. A researcher dealing with male and female languages emphasises their language differences [13, p. 125] (Table 2).

The differences between male and female languages are manifested at different phonetic, morphological, lexical and syntactic levels in other languages. When someone wants to explore social structures and social statuses in the context of men and women, it is often enough to look

at expressions in language. When studying a language that expresses women and men in society, it is noted that words, grammar or speech areas are categorised. In any society, many expressions are used against women, humiliating them in front of men and showing that they are inferior to men. For example, there are many examples of such expressions in the Azerbaijani language: "be a man" (adam kişi olar), "don't talk like a woman" (arvad kimi danışma), "male word" (kişi sözü), etc.

Table 2 – Differences between male and female languages (according to D. Tannen)

Woman	Man
Before making a decision, they want to discuss it with others, ask and share their opinion.	Men get tired of consulting and like to make decisions on their own.
To talk about a problem is to want to be understood	To talk about a problem is to ask for its solution
They want to share their feelings.	They like to give advice.
They use language to strengthen relationships and increase intimacy.	Language is a means of displaying status and power.
They see the world as an environment of equal relations.	They see the world as hierarchical.
Friendship and sharing are essential.	
In a world where relationships matter, building intimacy is essential.	Strength is important.
She speaks to express her feelings.	In a world where power and status matter, it is important to be independent.
The world is a world of compromises and cooperation	It says to give and receive information.
They express more positive emotions.	The world is a world of competition and conflict.
They make suggestions.	They show more aggression.

Language is codified, on the one hand, by the physiological and psychological characteristics of

the individual and, on the other - by the influence of socioeconomic (belonging to a particular group and class) factors. People reflect the norms of sexual behaviour in their mental picture of the world in their language. Most languages have no "female" or purely "male" language. The biology and physiology of men and women are being formed, which contain absolute differences in speech styles and their learned behaviour. In many societies, men's speech is considered the primary language because it is more formal, and women's speech is marked as a "different" language because it differs by adding informal changes.

The sources of different reflections on gender differences in languages are as follows:

1. Gender indicators at the phonetic level of a language are mainly gender differences arising from the biological and physiological origin of men and women and affecting the entire language system through the formation of male-female speech styles. They manifest themselves in taboo words and descriptive expressions forbidden to be pronounced by women, in the need to replace them with new terms, in differences in voice characteristics, unique accents and different intonations.
2. Grammatical categories that include gender characteristics in the language system are linguistic patterns based on the dialectical perception of the world by society, including the bipolar worldview.
3. Including gender indicators of the linguistic level of the language in their semantic connotations shows that the linguistic dimension is level with a higher gender indicator.

Ethnographic data clearly shows a ban on pronouncing certain words used by men for women in many ancient and modern peoples. Research shows that women in many countries have developed their language styles. Various religious and cultural factors and historical development processes determine differences in male and female languages among some peoples. For example, in Japan, men's and women's literature, based on different writing systems and other languages, was formed in the court environment in the XIX century. Medieval Japanese men used Chinese characters to create scientific words in commerce and religion. At the same time, court ladies wrote their literature using the Japanese hira-kanu alphabet (since it was inappropriate

for women to know hieroglyphs). Despite a significant display of education and talent, women's literature was also considered a meaningless profession, unworthy of men because women were not equal to men. Although men and women write the same way in modern Japan, remnants of ancient traditions in the spoken language still have distinctive features [14, p. 20-21].

Psychological and social factors also contribute to gender differences in language. For example, when Azerbaijanis traditionally talk about their spouse or another person's life partner, they do not mean her directly, but indirectly, for example, "mother of children" (uşaqların anası), "mistress of the house" (evin xanımı). In general, it is considered unacceptable in society to speak directly about a woman who is a wife and to represent her as she is. Women also use expressions such as "master of the house" (evin kişisi) and "father of children" (uşaqların atası) when talking about their husbands. Traditionally formed gender roles in society create conditions for different words and phrases to appear. These statements show that family, home and children limit a woman's space. In this space, she is not a judge either. The owner of this place is the "owner of the house". Since a woman is isolated from social life, she is also in a subordinate position in the domestic family space. This is a sociocultural norm. Therefore, a man tries to protect his traditional social status by indirectly representing his wife. Today, under the influence of modernism in Azerbaijan, many traditions have lost their relevance but have retained their existence in the language. These gender codes present in the language prevent the potential oblivion of traditions.

The juxtaposition of male and female variants at the vocal level of the language is probably the oldest type of language differentiation. This differentiation is formed based on the biological characteristics of men and women. Over time it is symbolised by society and continues as a social indicator. Another reason for this difference between male and female languages is their biological features. Hormones are the main factor influencing the formation of sexual characteristics and behaviour in the nervous system structures formed at the initial stages of individual development [2, p. 201]. Women have higher levels of the hormone estradiol than men, which causes differences in behaviour and makes women more excited when talking. Women show this situation with the help of linguistic means bearing different emotional colouring [5, p. 20]. Alt-

though the phonemic composition of male and female languages seems to be the same, these differences are due to some biological and sociological factors. The presence of intonation differences in male and female languages in most languages indicates that intonation requires further study as a gender indicator. The fact that a woman has a different biological characteristic not only affects the historical development of humanity but also shows the sociocultural status and role of women in society in the historical development of humanity. Biological factors shaped the social hierarchy between men and women and the roles and behaviours people attributed to gender. This formation process directly influenced their use of the language.

As part of phonetics, intonation is one of the most common ways of expressing gender in a language. It is known that intonation has a gender-defining feature. In all world languages, the decisive difference between male and female speech is due to the difference in sound. In general, more diverse intonation patterns are associated with female speech. R. Lakoff argues that women have a higher vocal range than men and use higher tones [10, p. 56].

The first area where women are represented in the language is the family. The first duty of a woman is always motherhood. He's been preparing for this all his life. Society always expects this from him. Language teaches a woman to depend on her family. The only way for a woman to exist in the patriarchy is to obey and be faithful to her family, father and husband. A woman is never seen as an independent person from her family. The most well-intentioned place for a woman in the language is to appear naive, fragile, and needing protection in a discourse where she is valued and unable to provide for herself. This is one of the biggest obstacles to women being perceived as independent. A woman will always need others and her family to live because it is produced in a language and does not create a language. Language, which carries the accumulation of all history, teaches men to see women in the same way as it teaches women to live from childhood.

Patriarchal ideologies define women's existence with such concepts as secrecy, silence, and spontaneity. They limit them to a translanguistic, more precisely, a preverbal field, establishing them as the opposite of publicity. Since men in society determine norms and language, what belongs to women always remains outside the bar and lan-

guage. It seems private and worthless. The language also contains expressions that belittle feminine characteristics, experience, and femininity. Women's physical attributes, the female gender, are always used as a pejorative element in language. Jargon is the best example of this. It is used as a factor of strength and diminution. Because men create all languages, language is the most effective way to exclude women from norms, society and culture to maintain their power. Therefore, they ignored the presence of women in the language. A language that cannot express a woman's experience directly undermines a woman's existence. Men's expressions correspond to women's bodies and experiences, not to a mind forced to use a man's language, but to a mind that reflects human existence.

The concept of "mansplaining" used in recent years means that men constantly correct women, men give instructive explanations to women as if they understand the topic better, regardless of what is being discussed, and women are often interrupted. One of the most essential reasons speeches are political is that what matters is not how women speak but how women speak. The representation of women in the language is the representation of women in society. Men know how to use their advantage in cultural production to keep women where they want. They do this by the way they represent women in language.

Men and women who live differently in the language also perform differently in public. While a woman always uses the masculine vocabulary, men are despised and do not use the feminine word. While it is normal for a man to be more direct and demanding when speaking in public, a woman using the same expressions is considered authoritarian, aggressive and violent. The places men talk about the most are where they can respect their masculinity, influence society, strengthen their position and receive approval and appreciation. Conversely, women speak more to share, share their experiences and make connections [13, p. 65-68]. While men tend to talk more and even louder, strengthening their positions, women demonstrate the opposite. Men speak mostly in monologues and women in dialogues.

Regardless of gender, most people read men's texts and live in a man's world. Men, on the other hand, avoid watching or reading stories about women's experiences. Therefore, women's compositions are for each other. Women are often

minor characters in men's works. We can observe the same thing in the cinema. The 2017 film *Dialogue* by Hana Anderson and Matt Daniels compares male and female speech proportions in Oscar-winning films for best film between 1991 and 2016. Excluding the two films, this ratio is almost a third [1]. If we look at the idea that women talk a lot in society, the irony is that such a result arises.

Moreover, according to Dale Spendar, the notion that women talk too much is because talking is considered a man's job. There is no difference in the conversation time of women compared to men. However, women are deemed verbose when speaking because they do things they shouldn't do [13, p. 61].

Although some social dialectologists agree that women are aware of their societal position and reflect this in their standard speech models, American linguist Robin Lakoff argues the opposite. According to her, women use language that strengthens their secondary status. She argues that the secondary social group of women in American society is reflected in the use of language [10, p. 44].

In the context of language use, studies conducted to determine the influence of the gender factor on language behaviour also revealed differences between male and female speech. In this context, we were looking for an answer to who speaks more, men or women. Holmes refuted this "myth of language". According to Holmes, men talk more than women. It's men who claim that women talk too much. They claim that women talk a lot to protect their position [7, p. 196-197]. There are many sayings and anecdotes that women talk too much. But when men and women are in the same environment, men speak more. Deborah James and Janice Drakic, who researched this topic, interviewed men and women in 63 different contexts and found that women talk more than men in only two. Studies have shown that men are more dominant in speech [13, p. 44].

According to Lakoff, while women use beautiful, terrible, excellent and other adjectives, men use more short adjectives (for example, good or bad) (Lakoff 2009, 34). This question attracted the attention of some researchers, and they conducted research based on computer compilation. Based on a computer compilation, Barchevskaya and Agata Lakoff developed a topic for studying adjectives attributed to women and men. They

aimed to determine whether gender adjectives were present in the relevant study. In their analysis, they came to different results. This study found that some adjectives attributed to women and some adjectives attributed to men are used by men [4, p. 16].

CONCLUSIONS

We proceed from several basic working principles that determine the direction of linguistic research. Discourse is a dynamic and flexible space of texts reflecting cultural values. Discourses exist as a system of active and relaxed readers. On the one hand, natural languages, and the other, the cultural environment determines discourses' content and social values. Discourses are a product of time and space, they are generated by public opinion and mass consciousness, but at the same time, the formed discourses, in turn, affect public consciousness and play an essential role in its formation. The manifestation of social consciousness is manifested primarily in language norms and gender culture. From the point of view of intercultural pragmatics, the cultural and cognitive essence of the norms being studied is determined by comparing linguistic means. Considering the primary characteristics of discourse, it is determined that women's discourse reflects a unique picture of the world, peculiar primarily to women, and is a sign of socio-historical and cultural transformations that cause a change in gender roles.

Some studies show that the female language is different from the male. It turned out that the reason for this is the position of women in society, economic power, temperament and other characteristics. The language society uses for men and women varies from society to society and culture to culture. The difference between male and female language can result from predominantly male perception. The fact that the dominant ideology in society is determined mainly by men makes women passive and condemns them to live in a language defined by men. Studies from a feminist perspective on language and gender relations show that women are more prone to inflectional sentences because of the sense of insecurity attributed to them. Their softer and less offensive speech continues the social roles expected of them. The idea that women speak more than men is an exaggerated statement made by men to silence women that men constantly harass women with language and are

concerned with creating a female image corresponding to the patriarchal structure.

Culture means a system of material and moral values. Since the main focus of the study is on male and female stereotypes in the perception of the surrounding world, it is mainly about moral values. Material culture values are also perceived as moral values since knowledge about them is encoded in a semiotic system. It is presented as a fact of mass comprehension of their creation, existence and values. Intercultural communication implies "mutual understanding of cultures", not just tolerant, favourable communication. All lan-

guage units are evaluated only in terms of the communicative effect. The concept of a cultural code presupposes the uniqueness of evaluative trends. There are two stages of cognition in this field. The first stage is associated with the expression of facts not reflected in other languages. They provide information about the uniqueness of the ethnic experience and habitat. The second stage is connected with the specific ethnic specifics of the universal human experience. Finally, "masculinity" and "femininity" are displayed differently in the world's languages.

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Methodological Aspect of Motivation in the Formation of Communicative Competency in Reading Specialty Literature

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Abstract. The article is devoted to the problem of foreign language from the standpoint of psychology, pedagogy and teaching methods. This problem will be mainly considered in forming communicative competency in reading specialty literature. It should be regarded that motivation is also a method of learning and the object of education. For the learning process, the motivation is the students' orientation to various aspects of learning activity. Therefore, a complex of different impulses creates different types of motivation for students' learning activities. The complex notions should include needs, motives, goals, interests and emotions. Each teacher should apply such a general pedagogical method, called "the method of reasoned encouragement". It is based on the ability of the teacher to notice not only the significant success of the student but also the minor one.

Interest in learning is brought up through the content of educational material, increasing educational activities within the framework of problem-based learning, and actual practical tasks corresponding to communicative needs. In the article, several aspects of motivation, as well as through the development of the motivational sphere of the student's personality and its components, were determined and set, such as motives, goals, and emotions.

Keywords: competence; heuristic; detalization; anticipation; delineated; hierarchy; objectives; sensory-perceptual; perception.

INTRODUCTION

The recognition of teaching the Russian language as a foreign language as the priority of the communicative-activity approach in the learning process elucidates the factors contributing to enhancing students' educational and cognitive activity, thereby identifying the space for optimizing the learning process. One of these factors is motivation. The problem of reason in learning can be considered from psychology, pedagogy and teaching methodology.

The article elaborates on the methodological aspect of the motivation of the learning process, which consists of specifying the teaching methods implemented in the learning process, which leads to the development of different types of speech activity. Notably, this problem will be considered regarding forming communicative expertise in reading specialty literature based on the psychological theory of action developed by A. Leontyev [5]. It believes that motivation is

both the training mechanism and an object of the education process.

Motivation is a system of impulses (motivators), including needs, motives, goals, interests, and emotions. One can talk about developing the learning process, namely about "choosing and implementing the best learning option for these conditions," only if you consider the constituents of motivation.

It is noticed that the essential element of motivation in the activity of psychologists are the needs, which are an internal condition, a stimulus of action, a harmful condition, and the need for something. Biological needs, genetic inclinations, and social relations can create necessities. Obtaining expertise in communication by reading specialty literature in a foreign (Russian) language can be required by the following needs: a) extended perception of reality based on scientific data; b) a communicative necessity.

This, in turn, means specialists in diverse fields of knowledge need to communicate with their colleagues through written communication. For those who master the basics of science, communication is essential to acquire public knowledge in this field of science, and it presupposes obtaining it via reading textbooks.

Communicative expertise in reading is developed by describing the content of communicative competency relevant to various groups of students. The description given in the training materials being both as a goal and as a learning content brings the learning process closer to the process of honest communication, i. e. it allows us to model it by the principle of communication. A distinctive quality of the learning process with a communicative-activity approach is that it considers the communicative needs available at the given moment and the upcoming one. This is due to the psychological pattern that manifests itself in the rapid satisfaction of students with their needs, provided that the activity of students is characterized by adaptability. A rise in requirements based on new motives and interests is observed when students are inclined to creative activity.

For students who still lack a steadfast system of needs for reading specialty literature (for example, among schoolchildren students), it is essential to conjure situations during training that makes them constantly refer to the relevant literature for clarifying other educational issues which are not directly related to the study of the Russian language.

Specific needs boost the emergence of activities. By Leontyev's concept [5], there is a need for a motive, namely an object that meets one or another need and which, in one form or another connected to the subjects and directs its activities. The motive's primary functions are motivation, activity direction, and sense creation. Moreover, motives can't be perceived. For the educational process, the motives of learning have a specific significance. Thus, the chosen explanations reflect the student's propensity for various aspects of educational activity. The reasons for scholarly activity are classified into cognitive, social and achievement motives.

Cognitive motives are characterized by the inclination of the student to work with the research object. There are a wide range of mental explanations (the desire to master new knowledge), educational and cognitive (the desire to master the

methods of obtaining knowledge) and self-educational ones (independent upgrading of ways to acquire new knowledge).

It is a significant factor for the teaching methodology that broad cognitive motives can be formed relatively quickly. In contrast, the reasons for independent education are improved through lifelong professional activity. Developing general cognitive explanations contributes to applying textual material in creating communicative expertise.

The material mentioned above meets the following requirements:

- the relevancy of the characteristics of the simulated educational text (micro text, sentences) to the features of the communicative units which one can come across while reading the relevant literature as a part of the professional or educational activity;
- the availability of new information (on subject matter or country-specific) for the student in the educational texts for the formation of communicative skills;
- the development of educational and cognitive motives needs to demonstrate to the student at the stage of explaining the material existing ways of obtaining knowledge.

For instance, it can be achieved through heuristic conversations, and the assimilation of these methods can be fulfilled when one completes various tasks which require applying techniques for analysis, comparison, and generalization of information extracted from several texts.

Among these motives of achievement, one can distinguish the reasons for creative and non-creative achievement. The creative achievement motives manifest in the desire to achieve creative success in science (typical for adult students already specialized in specific fields).

The above-mentioned second group of motives can be demonstrated in the pursuit of high academic performance, in setting the target to pass tests and exams successfully, in the careful completion of homework, etc. (they are inherent, as a rule, to all categories of students). It is significant to apply such methodological techniques, the basis of which are creative tasks, as well as methods of problem-based learning.

Thus, the creative tasks include exercises aimed at developing the ability to use the methods of understanding a scientific text: methods of logical

processing of a text (dividing it into semantic parts and determining logical relationships between them: defining the logical sequence of information, the order of separating the thought into the constituents; understanding the logical connections of the described phenomena, the relationship of facts) and techniques that contribute to the formation of the mechanism of antics (the building of various questions differentiating by difficulty of the semantic content of the text; construction of the question - assumptions about the further content of the incomplete text; test to finalize the unfinished text). To form and develop motives for non-creative achievement, methodological techniques allow students to carry out educational activities correctly based on a complete and generalized reference system. When teaching the lesson on reading specialty literature, such references are the linguistic and lexical-grammatical manifestations of specific semantic units of a scientific text.

Therefore, the semantic part "definition of an object or phenomenon" in all genres of scientific literature has the following most frequent and widely spread manifestations: what is called what; what is which; what is meant by what; what kind of. The semantic part "conclusion, generalization" is usually introduced as follows: therefore; we can conclude that...; subsequently (from what has been said, from this, based on law) it follows that...; means...; in this way...; thus.

METHODS

It is also required that the instructions for the tasks on the best way to complete them and keys for self-testing are given to realize the motives of achievement. This can be explained in the following way: the reference basis for actions in the process of acquiring communicative expertise in reading can be obtained when mastering not only the lexical and grammatical means which identify the semantic parts of the studied communicative units but also the rules for the functioning of terms in specific lexical and grammatical constructions. Moreover, it is necessary to consider the sequence of actions while reading.

Below is an example of instructions that implements the indicated approach to developing a reference basis for action.

The task in the class is:

1. Read the text silently. Determine what scientific concept it refers to. Read out loud the definition of this concept.
2. Please explain what benchmark words helped you in completing the task. If you find it challenging to complete this task, reread the explanation of the lesson.

Developing social motives assists in overcoming the difficulties of learning. These motives can be classified into broad social norms (for example, an explanation of duty, responsibility, a desire to be well-prepared for a chosen profession) and narrow social ones (for example, a willingness to hold a specific place in society, gain authority, approval, and master a prestigious work or to prove oneself).

Psychologists note that it is more complicated to develop social motives than cognitive ones since this process is mainly associated with a system of extracurricular activities and not precisely with the organization of educational activities in the classroom.

All the listed motives are not required to be efficient in providing an adequate flow of educational activity. Sometimes, one strong acting motive is sufficient.

Therefore, the nature of the educational activity is determined by its motives. The nature of individual learning activities depends on the goal, which determines the direction of the student's movement on the final and intermediate results of achieving needs. The author B. Bepalov notes that "...the aim of any action undertaken by a person is always understood by him/her, i.e. it is correlated with the external and internal objective reasons that motivate one's choice, and also it is expressed in symbolic or verbal form. Each educational action, therefore, must be correlated with both general and future professional or academic activities" [2, p. 24].

RESULTS AND DISCUSSION

Appropriate reflection on the hierarchy of goals in forming communicative competence is an obligatory methodological characteristic of the learning process. Thus, the intermediate goal considered aspect is mastering various communicative units. To achieve it, in its turn, it is essential to master the units of training that character-

ize the different stages of forming communicative expertise. Considering the educational activity's aim is necessary because, simultaneously, students activate their voluntary attention, which is significant in obtaining new knowledge.

From a psychological point of view, training should include developing goal-setting skills, including goal-formation and aim-achieving skills. Methodological skills that form the goal-setting ability are used at the explanation stage. To accomplish this, the teacher first demonstrates how to set an intermediate goal. Then, its significance in achieving the ultimate goal is also shown. Afterwards, it is explained how the intermediate goals are chosen and their importance and sequence are determined. At later stages, the goal setting is justified by students themselves, and the methodological techniques related to the implementation are applied at all stages of educational and cognitive activity.

These techniques allow students to determine the achievable goal for each of them by their values, abilities, the time one has at his/her disposal, and so on. To overcome difficulties on the way to achieving the goal, undertaking the tasks is required to determine the target of the reading set by the communicative task. The initial organizational activity is the instructions for assignments and techniques to develop adequate self-evaluation of students.

Since the goal-orienters of human actions primarily arises in joint educational activities, group and collective forms of work play an important role in forming communicative competency. For instance, one can draft a joint report for a scientific conference or a business game using the literature studied on a specific topic.

Therefore, the main methodological methods for the development of goal-setting skills are the methods of problem-based learning based on jointly-individual and jointly-interacting creative activities of students.

The interest manifests and expresses such activity motivations as needs, motives, and goals. Interest is a person's conscious orientation toward satisfying an unmet need. From a methodological point of view, it is significant that interest can be managed. In the learning process, cognitive interest has particular importance. It provides a high level of educational and mental activity for students.

To develop persistent cognitive interests, which are based on a person's needs for new

knowledge and impressions, it is recommended to introduce independent creative individual tasks with research elements as early as possible, to use frequently additional specialty literature with new scientific facts, discoveries and achievements, or new regional geographic information which can boost students' interest.

Cognitive interest emerges when different problematic methods for introducing new linguistic material are used. For example, it can be witnessed during the process of heuristic conversation.

"Cognitive interest is a vital learning motive for the successful learning process" [3]. Psychologists point out various levels of interest formation in learning, starting from a broad educational interest (for example, the interests of an adult who studies at a university) to transformative interest (the inclination to improve one's academic, cognitive or labour activity). The planning educational interest lies in the desire to set goals and realize them, the productive educational interest displays in completing tasks, and the process-substantive one is determined by the content of the educational subject, the process of its assimilation. Academic and cognitive interests are manifested in the results and learning process, as well as in the learning methods. Thus, one of the duties of a teacher is to determine the level of formation of each student's cognitive interests to adequately clarify the task of developing a new level of interest. It seems expedient from the methodological point of view that, according to psychologists, interest in the quality of manifestation of a motive is closely related to skills as a necessary condition for carrying out activities. As a result, some acquired reasons emerge only when the appropriate skills are obtained. An essential requirement for developing communicative competence in reading literature is the formed sensory-perceptual base, which is common to all types of speech activity in all areas of communication. The effectiveness of cognitive motives is closely related to the emotional-volitional regulation of learning. The most significant component of motivation is emotions. In educational activities with increased mental stress on students, the teacher should be able to affect students' emotional states positively.

Here are several conditions that affect the emotional state of students.

1. Optimal pedagogical communication between students and the teacher helps to relieve emotional stress and the emergence of operational

tension. The teacher's ability to positively influence students' emotions contributes to the formation of the correct self-esteem of students. The management of control has significant importance. Power does not have a special place or time, which allows students to relieve psychological stress. Non-verbal control techniques should be used more frequently: reading aloud only those parts of the text relevant to students' communicative needs (for example, defining a scientific concept). This approach does not complicate the formation of reading mechanisms. To assess the building of skills and reading skills, the following indicators are sufficient: communication took place; communication did not take place; communication took place with an infringement (for example, the logical connections in the text were not correctly interpreted by the reader). For ongoing monitoring undertaken during the performance of tasks, it is sufficient to note whether it is implemented correctly or incorrectly.

2. The content and character of the educational material and the educational process;
3. Attitude of a wide range of people to the subject of study;
4. The character of individual needs, developing and transforming during activities.

"Theories of motivation in education have increasingly expanded and differentiated over time" [6]. To keep the positive emotional state of students, the use of various visual aids and the ability of the teacher to positively change the flow of the situations emerging in the lesson are also significant. The training materials should provide joke samples that relate to the studied topic. However, it should be provided that they do not violate the laws of the genre under study.

CONCLUSIONS

Therefore, a complex of various motivators (needs, motives, goals, interests, emotions) creates different types of motivation for students' educational activities: external and internal. For the effectiveness of the implementation of activities, the internal reason is especially significant, which has two motivational orientations: the process of educational training and its results.

External motivation has two orientations: on assessment and on avoiding tensions. For adult students, the motivational orientation toward

assessment implies not so much a "mark" in the learning process as an assessment of the student by the teacher and teammates as individuals. Here, one should consider the teaching methods that will form an adequate self-esteem of students.

Comparison of students' work results based on various indicators (reading speed, adequacy of the extracted information to the communicative task, the completeness and depth of understanding of the text). For this purpose, studies should be provided with keys, and some normative indicators should be given in the instructions for the task, for example, the average reading speed for a specific type of reading and the training stage. Moreover, following the assignment sequence is essential, allowing students to determine the degree of mastering new material, make their own decisions about the next assignment, etc. Similar guidance is given in the instructions. Gaining adequate self-esteem can also be facilitated by applying some elements of programmed instruction, for example, various texts, including using specific educational techniques (multiple-choice tests, tests for grouping words by a particular attribute, etc.).

Each teacher should also have a general pedagogical technique, which can conditionally be called a "method of reasoned encouragement". It lies in the ability of the teacher to notice not only the significant success of the student but also the minor one.

A motivational orientation toward the desire to avoid problems allows one to apply methodological techniques that would ensure the implementation of educational activities by a complete and generalized reference system and enable students to quickly and accurately extract information from the text relevant to the set target.

To sum up, it is significant to recognize a system of methodological techniques that would consider the level of motivation available to students and contribute to forming a new level of reason as a motivationally valuable for implementing a communicative-active approach to the learning process. The principles that meet problem-based learning requirements based on group and collective forms of work are of specific significance. The basis of these methodological techniques consists of exercises and tasks that form reading mechanisms and a reference basis for action.

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The Study on Dialogic Discourse

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Abstract. The article discusses the features and approaches to dialogic speech analysis. Through the analysis of dialogic discourse, new opportunities arise for studying human existence. Since the second half of the XX century, interest in interpersonal communication, dialogic discourse, and conversation analysis has significantly increased. The growing importance of communication in society is noted in modern humanities. Therefore, dialogue as an "ideal type" of communication and issues related to its characteristics are of particular importance in contemporary linguistics. Due to the study of dialogic discourse, new opportunities arise for studying man, his role in society, and social communication. The realisation of dialogues characterises the characteristics of thinking. Communication problems are multifaceted and express people's culture and thoughts. The issue of defining the conceptual and semantic meaning of dialogue as a basic concept of dialogue discourse is evident and necessary.

Keywords: dialogic speech; dialogic discourse; dialogue; conversation analysis; communication; implicitness.

INTRODUCTION

The study of dialogic discourse emerged through sociology. It is also an important research object for anthropology, psychology, communication theory, cognitive sciences, and other fields. There are both psychological and linguistic aspects of dialogic discourse. While linguistics reveals the system of means of expression of language in lessons, psychology examines the process of derivation and formation of speech. Because of it, the analysis of dialogical discourse can significantly help scholars to investigate research problems related to other humanities. Dialogic discourse analysis is one of the main systematic approaches for studying interpersonal interaction. Dialogue analysis goes beyond linguistics. In recent times, the dialogic discourse has been the leading research object of psycholinguistics and social psychology in a complex way.

In this article, we referred to the research of certain linguists to give an idea of the work done on dialogue in recent years. These scientific considerations strengthen our understanding of dialogic interaction in the speech process.

Studies show that interest in dialogic speech began in the 40 and 50 of the last century. The

basics of dialogue theory can be found in the works of scientists such as L. Yakubinski, L. Sherba, V. Vinogradov, and M. Bakhtin in Russian linguistics.

In linguistic studies, dialogue as the primary research object of dialogical discourse is given particular importance based on its complexity and multifacetedness. Researchers dealing with living dialects often recognise the need for a "theory" of dialogue and monologue.

In several linguistic studies published in the XXI century, Emanuel Schegloff, Harvey Sachs and Gayle Jefferson are mentioned mainly while discussing the analysis of dialogic discourse. "Conversational Analysis method was brought to linguistics by three people: Emanuel Schegloff, Harvey Sachs and Gayle Jefferson" [16]. This method was later developed as it relates to everyday social behaviour. Forty years later, conversation analysis has become the dominant approach to studying human social interaction in sociology, linguistics, and communication studies. The most recent international conference on conversation analysis (2010) gathered more than 600 participants. The number of publications in this field is more than 5000, increasing. Shortly speaking, the area of

conversation analysis in the XXI century represents a rich and vibrant international community of scholars working in diverse languages, educational institutions, and mundane contexts" [16, p. 1].

The Dutch linguist T. van Dijk, who conducts serious research in text linguistics, discourse analysis and critical discourse analysis and has an exceptional role in the formation of discourse theory in modern linguistics, emphasises in his scientific opinions that the study of dialogic discourse is increasingly becoming multimodal. Therefore, the act of communication is investigated by various methods [19, p. 10]. Dialogical discourse evaluation includes investigating what knowledge the speakers can express to the listeners and studying how the existing social norms in the language affect the speech process. For example, Van Dijk notes that in the process of speech, mothers know more about their children than strangers. Therefore they can easily decipher details that other interlocutors cannot understand and express [19, p. 9].

In his scientific opinions, V. Bulanov concludes that it is essential for people to use the concept of "dialogical" discourse as the only possible universal type of intercultural communication [4, p. 8].

METHODS

The research aims to present approaches to the study of dialogic discourse with a complex (cognitive, social, pragmatic) approach. To deeply study various aspects of dialogical discourse, local and foreign linguistic literatures of the modern time were investigated, and materials were collected. Different research methods are used to study dialogic discourse by shedding new light on them.

The main methods for solving the tasks were the linguistic observation and description method, the generalisation and comparison method, the sociolinguistic analysis based on the correlation method of language and social phenomena, and the contextual and linguistic analysis method. After collecting the data, the information related to the topic was classified and written using analytical methods. The main methods used were the distributive analysis method and contextual methods. However, distributive analysis was used to describe linguistic units, and

contextual was used to describe pragmatic meaning. Linguistic research data were analysed through summarisation and interpretation.

RESULTS AND DISCUSSION

In our globalised world's ideological and political landscape, violent means have played a significant role in implementing this or that ideology. Still, today's reality has necessitated the use of civilised ways. We probably wouldn't be wrong if we said that dialogue is the most important of the civilised tools we have mentioned. Through discussion, people inform the other party about their opinions and positions in a civilised way. Dialogue allows people to convey their values and ideas to the other party freely.

One of the reasons why dialogues are so crucial in linguistic research is that the study of dialogic discourse creates ample opportunities for us to understand the role of speech and communication in everyday life. Dialogue is a significant part of our daily life.

Dialogue belongs to discourse. In other words, it is one of the types of speech and monologic discourse. As a rule, there are two participants in the dialogue. This includes genres such as domestic conversation, interviews, and debates. Both social and communicative situations influence the texts formed during dialogic discourse [18]. This has been shared knowledge by both parties. Through this knowledge, the participants can use implicit meaning, a significant factor in dialogue. N. Roy notes that talk is all that is said. It reveals the unsaid and the unspeakable" [14].

Widely used in different contexts and interpretations, the term "dialogue" stands out for its ambiguity. Therefore, dialogue is considered a method of artistic modelling, communication and interpersonal communication, a necessary condition of "real" mutual relations and spiritual connection, and the ethical basis of human life. As a result, the problem of defining the conceptual-semantic meaning of dialogue as the central concept of dialogic discourse is evident and necessary.

Human speech activity is a multifaceted phenomenon. This diversity is not only manifested in countless separate languages and dialects. This diversity exists in any given

language, dialect, or even the dialect of a particular individual.

Considering the language depending on the communication conditions is also the primary research issue of modern linguistics. The richness of dialogic discourse primarily results from different communication conditions and social groupings (territorial, national, state, professional, etc.).

Egyptian thinker Muhammad Khalifa Hassan in his book "Culture and Methodology of Dialogue", mentions the goals of dialogue as follows [8, p. 6–7]:

- a) Provide mutual communication;
- b) Helping representatives of different religions and beliefs to find a common language with each other;
- c) To ensure the coexistence of humanity;
- d) To take a united front against theories such as the clash and struggle of civilisations;
- e) Create conditions for religious moderation;
- f) Strive for the process of interfaith and interfaith rapprochement;
- g) Editing ideas about religions;
- h) Expand religious and cultural activities;
- i) To identify the common aspects of humanity
- j) Creating opportunities for cohabitation;
- k) To develop the religious lifestyle of people.

"Dialogue" is a Greek word in a literary work written as a conversation between two people [3, p. 616]. A.Akhundov interprets "dialogue" as a judgment, a conversation between two people [2, p. 79]. Coming from the Greek word, it is the sequence of replacing replicas with each other (in a broad sense, it means the expression of replicas-answers with actions, gestures, etc.). There are two opinions about this term in dictionaries of foreign words: 1) dialogue or a conversation between two or more people, the primary form of speech organisation in dramatic works; 2) literary work, speech form [13, p. 120].

While examining the issues of forms and genres of speech, F. Shiryev approaches dialogue as the primary form of interpersonal communication. He notes that dialogue is "a type of communicative activity in which the joint goal of the partners is to understand one partner's reasoning and the other partner's understanding of that reasoning. It is characteristic for dialogue that interlocutors change the roles of speaker and listener" [15, p. 111].

O. Akhmanova's dictionary describes the dialogue as follows: Dialogue is a form of speech. Every utterance is directed towards the interlocutor. Its relative brevity, laconicity characterises the dialogue and provides a syntactic structure" [1, p. 132].

Authors D. Rosenthal, and M. Telenkova's dictionary of linguistic terms defines several features of dialogue characterised as a form of speech in which two or more people exchange direct expressions. These include the brevity of statements (especially in the form of questions and answers), the extensive use of non-speech tools (facial expressions, gestures), the significant role of intonation, the extensive use of incomplete sentences, statements that are not prepared in advance, the predominance of simple sentences over book speech, etc. [13, p. 64].

The author T. Matveeva, in his "Dictionary of Linguistic Terms", interprets dialogue as the process and product of direct oral speech activity of each expression of two or more persons addressed to the interlocutors. He also notes that discourse is applied since conversation is related to a communication situation. However, not only the problem but also the general experience of the interlocutors, as well as their gestures, facial expressions, intonation, etc., play an essential role in the formation of dialogue [10, p. 88].

During our dialogic studies, we also encountered the term "polylogue" [10]. In this regard, it should be noted that modern scientists often associate the concept of "polylogue" with the idea of "dialogue". It is correct to talk about polylogue only as a non-standard form of dialogue with the coexistence of dialogues. Specific characteristics make polylogue the most problematic form of dialogue [4, p. 5]. It is known that the word polylogue is derived from the Greek word "polys" – many, and logos means a conversation between several people. Many researchers have also touched upon the issue of polylogue when characterising speech forms. Therefore, F. Shiryev, in his work "Speech Culture and Rhetoric of the Azerbaijani Language", referring to the concept of polylogue, states that there is no fundamental difference in the use of the terms "dialogue" and "polylogue" in terms of the productivity of communication. In terms of content, it is partially compatible with the phrase "dialogue". Relation to the situation, self-emergence and non-linearity are maximally

reflected in the content-meaning structure of the polylogue [15, p. 111].

Nowadays, the use of dialogue to realise most of the goals of the world's socio-political and cultural activities has increased significantly. Dialogue is a means of understanding between states, nations and cultures to ensure coexistence in a world full of problems that threaten the security of people in the political, military, socio-economic, religious and cultural fields. In higher educational institutions of many developed countries of the West, dialogue is studied as a field of science and a discussion topic in auditoriums.

Paul ten Have characterises the dialogic discourse as a research object that can be studied for centuries, but only in the early 1960s gained serious and continuous attention of scientific research, refers to negotiations (our dialogues in context) as a form of socialisation for the sole purpose of people talking to each other, or as an interactive conversational activity regardless of intent. The scientist notes that "dialogical analysis" can be used with broader and more limited meanings. As a general term, it can refer to any study of people speaking together, "verbal communication" or "language use". But in a limited sense, "dialogical analysis" refers to the particular traditional analytic work begun by his collaborators, including the late Harvey Sachs, Emanuel Schegloff, and Gale Jefferson [11, p. 5].

The problem of dialogue and its communicative units is studied in many areas of linguistics, including pragmatic and cognitive linguistics. Different definitions of "dialogue" can be found in linguistics. In the studies of most linguists, dialogue is considered a form of active, communicative interaction between two or more people, the result of which is understood as the creation of a memorable speech. Dialogic discourse is defined as a speech act, a text connecting the events and additional pragmatic, cultural and other factors [12, p. 68].

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In one of her works on dialogic analysis, Rebecca Clift notes that dialogical studies mark the first half-century of its existence as a field of research, continuing since Harvey Sacks' first lecture on conversation. Currently, attention is being paid to analysing dialogic discourse in other languages. The study of dialogic discourse by "language in context" links it to semantics and pragmatics. The fact that dialogic discourse focuses on establishing and recognising human activity makes it relevant beyond these areas. Therefore, research related to dialogic discourse has been published in several prestigious journals, including "Language in Society", "Journal of Pragmatics", "Discourse and Society", "Discourse Studies", and "Text and Conversation". In addition, two major international conferences are based on the study of dialogic discourse. The International Conference on Conversation Analysis, held once every four years, and the International Pragmatics Association Conference held once every two years, bring together experts conducting necessary research in this field [5].

CONCLUSIONS

Dialogic discourse analysis has developed over recent years as the primary method for studying language in the communication process in society.

Dialogue has become the primary tool of people in understanding, forming the heritage of thought, and achieving scientific achievements. The exchange acts as a means of teaching some sciences, a method of gathering knowledge and information. Therefore, essential steps should be taken to create a dialogue culture in training programs and pedagogical activity methods.

In addition, dialogue is also a means of communication between people and has played an essential role in the contact of one civilisation with other civilisations for many years.

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Modern Cognitive Approach to Learning Translation

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Abstract. In the lingo-cultural environment, the language landscape of the world is a means of expression of cultural stereotypes, symbols and standards that shape society. The national mentality is one of the main aspects of language thinking. Therefore, studying the transmission of national-cultural characteristics of the original text in the translation process plays a crucial role in intercultural communication.

The breadth of theoretical concepts and research methods characterises modern translation studies. Especially in recent years, there has been an increasing interest in translation. Traditional translation has long been influenced by structural linguistics. In modern times, new perspectives on translation creativity have emerged. Cognitive approaches, in particular, have gained popularity among researchers in recent years.

The development of translation studies demonstrates that translation, like any form of transfer, can never be flawless. Consequently, no translation can be the same as the original. This indicates that the translator should be concerned with interpreting the source text and its creation in the translated language.

Translators should not limit themselves to just familiarising themselves with the vocabulary of the target language but should also study the ethnocultural and psycholinguistic aspects of language carriers. In doing so, they will encounter fewer problems and avoid embarrassing situations. Usually, gross errors appear in machine translation, mainly when translating personal names as common nouns rather than anthroponyms.

Keywords: translation; cognitive; translator; vocabulary; interpretation.

INTRODUCTION

The first information regarding the history of the translation dates back to the 3rd millennium BC. References to translation are found in ancient inscriptions, such as the Aswan inscriptions, which come down to the present day, indicating that the princes of Elephantine on the Nile River Island of the Egyptians were also translators. "In that border area where Nubians and Egyptians lived side by side, bilingualism, which formed the basis of translation activity, was developing. The people of the copper mines of Sinai, where the Egyptians and the Semites lived, had interpreters. Translators participated in military campaigns and embarked on journeys alongside trade caravans" [1].

Modern researchers believe that the first translated works were religious books. It was Tyndale who created the principles of translating the Bi-

ble into English. However, Tyndale's contemporaries found adequate errors and inconsistencies in his translations. Thomas More wrote seven incriminating articles against Tyndale. They noted that Tyndale had unjustifiably changed some ecclesiastical terms. For instance, he replaced the word "church" with "congregation", "priest" with "senior", and "charity" with "love" [2, p. 23].

In the lingo-cultural environment, the language landscape of the world is a means of expression of cultural stereotypes, symbols and standards that shape society. The national mentality is one of the main aspects of language thinking. Therefore, studying the transmission of national-cultural characteristics of the original text in the translation process plays a crucial role in intercultural communication. Each text embodies the environment in which it was formed and the culture to which it belongs. The text reflects the characteristic aspects of the development of civi-

lisation. The cultural content of a text is shaped through linguistic units. "During the representation of a text belonging to another culture, the translator provides various enlightening and complementary linguistic and cultural interpretations. In the modern era, interlinguistic and intercultural relations are important systems of thought. In recent times, linguistic, conceptual analysis, the description of categories in cognitive linguistics, and the interpretation of texts have created interest in studying the relationship between establishing and delineating translation in linguistics" [3, p. 29].

The symbolic thinking of different nations is reflected in various genres of literary style. In the translation process, those metaphors should be replaced with equally symbolic expressions so that the reader, representing another culture, understands them. Therefore, the translator takes on the role of a cross-cultural balancer. The translator's selection of appropriate expressions and their accurate approach to words reflect their cognitive and linguistic knowledge, communicative competence, and ability to use language capabilities. The translator brings out his ideas in this process. Literary translation requires special skills from the performer, as they must be well acquainted with both cultures and languages and accurately and precisely use the language's capabilities to the maximum extent possible. Sometimes, the translator can become a carrier of the same culture as the original author, creating a unique translation perspective. The recipient adjusts the content of the translated text to their national consciousness and culture. The recipient can also belong to the same culture as the translator.

The difficulty of the translation process lies in accurately perceiving the means of expression in the original text and aligning them with the cultural-intellectual level of the translated language.

Interpretation is possible in any translation. In this regard, the product of any activity reflects the personal views of its creator, and in this sense, subjectivity plays a dominant role in the translation process. The translator's subjectivity is inevitable in conveying a different cultural and linguistic field that the reader does not adequately perceive and understand. This is because the translator performs a "transformer" function by transferring original text elements.

Regarding interlingual translation, T. A. Van Dake states, "Translation is not simply an operation of

converting one surface form into another, but rather the interrelation of text samples through the situation" [4, p. 180].

The breadth of theoretical concepts and research methods characterises modern translation studies. Especially in recent years, there has been an increasing interest in translation. Traditional translation has long been influenced by structural linguistics. In modern times, new perspectives on translation creativity have emerged. Cognitive approaches, in particular, have gained popularity among researchers in recent years.

It should also be noted that in linguistics (in German- and French-language sources), the term "transtology" is used along with translation studies [5].

The development of translation as an academic discipline is associated with the name of J. Holmes. He established a school of thought with his article "The Name and Nature of Translation" [6]. In the 1980 and subsequent periods, anyone engaged in translation studies had to refer to Holmes. In the modern era, translation studies have gained wider prominence in Western countries, mainly English-speaking countries.

In 1980, S. Bassnett introduced the term "Translation Studies" and acknowledged her inspiration from Holmes. She comprehensively researched the history and contemporary problems of translation theory. Her works are so remarkable that they remain relevant today [7].

K. Pishkar, referring to B. Zhang, states that translation, especially the translation aimed at conveying cultural values, plays a significant role in communication between different cultures. As translation studies scholars (such as Bassnett and Lefevere) have noted, translation is the study of mutual cultural influence [8].

Since 1980, translation studies have been developing and spreading in countries worldwide, encompassing various academic fields. Translation studies, which started to grow in 1980, have spread throughout all nations and contain multiple fields of science.

The development of translation studies demonstrates that translation, like any form of transfer, can never be flawless. Consequently, no translation can be the same as the original. This indicates that the translator should be concerned with interpreting the source text and its creation in the translated language.

The first works in the field of translation include works with religious content: the translation of the "Bible" and the "Koran". The pioneers of translation theory were the translators themselves. They shared methods and approaches to the problem based on their understanding of the original text to expand their experience.

The International Association for Translation and Intercultural Studies have achieved significant success in translation.

Contemporary translation studies are characterised by the diversity of theoretical approaches and the breadth of research methods. As a result of the growing interest in the phenomenon of translation, new directions and schools have emerged. Translation is increasingly recognised as a process based on human communication and understanding.

The contemporary situation of translation is based on Western translation practices. There is a sharp divide between the Western and Russian approaches to translation. In 1960, works dedicated to translation studies by scholars (N. L. Galejeva, I. E. Klyukanova, A. N. Kryukova, A. G. Minchenkova, N.M. Nesterova, V.I. Khairullina) were relatively scarce in terms of linguistic analysis. Western translation studies, on the other hand, tend to focus more on intercultural aspects. M. Snell-Hornby's concept of integration [9], D. Seleskovitch [10] and E. A. Gutt's relevant theory [11] etc.

In the early 80 of the last centuries, researchers attempted to discover what happens in the translator's mind while creating a new text based on the source in the translation process. During this period, they witnessed advancements in both psychology and cognitive science. Researchers explored the mental aspects of transmitting the external text to the translator's mind. Scholars aimed to explain the retention and activation of knowledge during translation within the framework of perceptual processes.

Scientific works use the concept of virtual translation [6, 12, 13], and it is noted that the image of a potential translation text is created almost instantly in the cognitive process. Thus, the translator tries to create the idea of the original text and the text to be made simultaneously.

Another group of researchers calls translation a "virtual process", and another group (R. Bell, E. Gutt, J. Dansett) uses the concept of "semantic representation". They claim the existence of a

mental model of the translation process. Under semantic representation, a mental representation attributed to language units is meant based on their linguistic features [2, p. 25].

From an aesthetic standpoint, the translator must be prosperous and accomplished to fulfil their significant mission. Their work can either resonate with or deviate from the original. This is where the translator's burden is heavy. Because he conveys any cultural example to another nation, at this time, allowing distortion can lead to misconceptions. In this regard, the translator bears great responsibility when translating from one language to another. The translator must convey and preserve the beauty and precision of the target language. They must possess a rich vocabulary and be able to recall it instantly.

The problems arising in translation and their causes are also revealed based on comparisons.

One of the problems of translation is related to the transfer of terms. In this case, the conversion method is often used. Conversion is one of the ways of morphological term creation.

The words "*switch*," "*takeoff*," and "*fallout*" have passed into English from Russian through the process of conversion. This method is not typical for the Russian language. It is used only in the English term generator.

As for the problems of translating scientific and technical terms, this happens even to the most experienced translators. Many translators use excellent dictionaries. However, sometimes the searched term may not be found in those dictionaries. In this case, choosing the most suitable analogue is necessary since the equivalent of that term is not found. One wrong choice is considered a flaw even for the most perfect translation.

In addition to terms, international words can also cause translation problems. Because global comments are sometimes subjected to semantic expansion or contraction in the language they enter, sometimes not all those meanings are reflected in dictionaries. As a result, a problematic situation arises for the translator who receives the text in the discourse process.

For example, in English, Sputnik means "spacecraft", and in Russian, the word Sputnik means both "companion", "spouse", and "satellite". When translating the movie "Telephone Girl" from Russian to Azerbaijani, the word Sputnik

was incorrectly translated as "satellite" instead of "spouse".

In translation studies, the translation norm is a set of requirements for the quality of translation [14, p. 120].

The analysis of various works shows that, historically, as well as in modern and Western translation studies, there is still no common criterion defining "translation errors". Most authors consider errors as unjustified deviations from the normative requirements of equivalence.

RESULTS AND DISCUSSION

"Emily Dickinson wrote all her poems in free verse, and they were translated into Spanish, Turkish, and French in the same form, that is, preserving the originality. However, Heydar Orujov and Aisha Nabi translated Dickinson's poems into our language with syllable weight" [15, p. 11].

"Qolf" (golf), "voleybol" (volleyball), "kater" (caterer), "konteyner" (container), "dollar", "keks" (cake), "tunel" (tunnel), etc. The transfer of English language realia into Azerbaijani is the result of the translation of English literature into this language. Such words of English origin greatly enrich the vocabulary of our language and are genuine realia used in the Azerbaijani language. Most of them retain their spelling and phonetic composition, and although some of them differ in spelling, they are close to the words of our language in phonetic design [16, p. 7].

When analysing translation creativity from different aspects, particular aspects of the translator's personality should also focus. The interpreter should act as a conduit, a direct communication channel between the parties. He is obliged to translate literally from one language to another [17, p. 78].

"Experts studying the behaviour of translators note that professional translators tend to focus more on the translation process, leading to increased attentiveness. On the other hand, non-professional translators allocate less attention to translation, which is attributed to their limited experience and underdeveloped cognitive abilities. Therefore, we also observe the significant importance of cognitive abilities in the translation process" [18, p. 41].

Translation problems manifest themselves during simultaneous translation in oral discourse. For example, sentence constituents are arranged according to specific rules based on the grammatical norms of the Azerbaijani language, where the predicate comes at the end, and the subject precedes it. This slows down the comprehension of the text during translation into English or vice versa. From this point of view, a special competence is required from the recipient of the text in the cognitive process. Because in traditional translation, if a complex text is translated, the process goes parallel, so the translator needs to be both accurate and agile in receiving and conveying the meaning during simultaneous translation. Additionally, acquired expertise also plays a significant role here.

According to European translation guidelines, the translator can request the interlocutor to repeat or paraphrase their thoughts during oral discourse.

R. Jones has defined the following "Golden Rules" for simultaneous translators [19, p. 37]:

1. Remember that you are in communication
2. Make the best use of technical resources
3. The command that they hear both the speaker and their voice clearly
4. Never attempt to interpret something they cannot hear or don't understand acoustically
5. Maximise their concentration
6. Pay attention to problematic words without interrupting your thought
7. Actively develop conversational analytical listening and monitoring of the performance of your product
8. Use short, simple sentences as much as possible
9. Be proficient in grammar
10. Let each of your sentences have a meaning
11. Always finish your sentences.

During the discourse, the focus is also on investigating the translator's comprehension, which includes their mental representations, stance, actions and behaviours formed based on knowledge.

During the translation process, the translator not only conveys the information but sometimes may also ask questions to the other party upon the request of the communicator. This leads to an exchange of ideas, where each discourse partici-

pant carries certain information. When that information is transmitted to the other party, it elicits specific reactions. A similar situation occurs in the case of another communication participant.

However, since the translator is familiar with the language and culture of both parties, he can know the reactions in advance. Therefore, the translator sometimes adjusts the situation during the discourse by using certain facial expressions or slightly changing the text. Thus, the translator acts as an intermediary between the two parties in the communication process and, as a participant in trilateral communication, is the main link in the chain of inter-linguistics transmission. However, some researchers argue that although the translator plays a crucial problem-solving role in interlinguistic touch, they should not be seen as dynamic, creative, and active participants in intercultural and interlinguistic communication. In the second half of the 20th century, the ideas about the translator's "transparency" were confirmed and remained invisible.

While defining the translator's personality, the author [20, p. 51] characterises him as an "inter-cultural mediator, creator, practical psychologist, organiser, researcher, adapter, proofreader" and explains the mentioned functions.

In translation, all three participants of communication - the communicators and the translator - are components of the interaction process. The author [21, p. 12] metaphorically notes that translation is the communicative dance of the triad. His interactional research on translation in discourse has been highly regarded as an admirable work and an example for the next generation.

In modern times, according to the researchers, the more originality in the translated text, the less the translator share. In this case, the translator is considered a professional in his work.

Such metaphorical comparisons belong to N. Gogol. He referred to the translator as a "transparent glass": "The translator made himself invisible. He turned into such a transparent glass that it was like there was no glass" [22].

In most Russian works, the translator is characterised as a carrier of an elite speech culture. Nevertheless, the select type is such an ideal model of speech culture that it is impossible to embody it from a practical point of view.

The author's personality in translation work should not be felt as much as possible. But, of course, not all translations are of high quality. On the contrary, quite a few are found. Such successful and unsuccessful translations reflect the personality of the author. A translator cannot hide behind his pen.

In translation creativity, the author's personality should not be excessively felt. But, of course, not all translations are of high quality. On the contrary, quite a few are found. Such successful and unsuccessful translations reflect the personality of the author. In other words, the translator cannot hide behind his pen.

In the lexical units used in translation works, sometimes the meaning and concept do not match. For example, in Russian, the word *стол* means "table" and has other meanings such as *мясной стол* - "meat dishes", *паспортный стол* "passport department", *справочный стол* "interrogation room", etc. There are even figurative expressions such as *стол кривой* 'there is no salt on the table', "the salt has been forgotten" [23, p. 269]. In English, the word "table" has no such meaning. For instance, there are no interpretations like the *meat table*, *Passport Office*, *information desk*, or *curve table*.

In the Azerbaijani language, the word *stol* -table has figurative meanings other than table. For example, it can be used to convey the meaning of "to hold a banquet", "to organise a feast", "to arrange a good table", or "to set a good table":

[Sakina to Rustam]: You, yourself, say I will open a table, slaughter a sheep, and soak rice [24, p. 155].

Azerbaijani is "a specific function or department within an organisation engaged in a particular task". Expressions like "address-table", "registration table", or "Complaints desk" are commonly used. Of course, an inexperienced translator who does not know the lingo-culturalism of the people, metaphorical expressions in the language will have difficulty understanding the discourse and make gross mistakes in his creativity. As we mentioned before, the translator cannot hide behind his pen. Usually, such errors in oral translation do not attract much attention. The translator can quickly retaliate. This requires cognitive skills. Since the interpretation is live, the interpreter becomes a participant in the social situation, and he must understand everything being said, coordinate interactions, and even control

the course of the problem. In this regard, oral translation has its difficulties.

One problem that often arises in translation is not finding the right word. In this case, sometimes dictionaries alone are not enough. According to D. Nigmatova, any dictionary does not fully cover the language's lexicon. It lags behind it [25, p. 75].

Translators should not limit themselves to just familiarising themselves with the vocabulary of the target language but should also study the ethnocultural and psycholinguistic aspects of language carriers. In doing so, they will encounter fewer problems and avoid embarrassing situations. Usually, gross errors appear in machine translation, mainly when translating personal names as common nouns rather than anthroponyms.

One problem in translation is the violation of originality in the translations received through the second language and not from the source language. Sometimes, when the first translator unintentionally deviates from the essence, the second translator, based on him, repeats the same mistake. In this case, the cognitive processes reflected in the consciousness of the first translator's mistakes are perpetuated by the second translator, leading to the distortion of multicultural values or concepts in the original text.

When several individuals translate the exact text, it is clear who is closer to the original or who finds the equivalent of the expressions in the text more correctly and expresses the meaning precisely:

*Белеет парус одинокой
В тумане моря голубом!..
Что ищет он в стране далекой?
Что кинул он в краю родном?.. [26].*

*Translation: The white sail is lonely
In the fog of the sea with a dove!..
What is he looking for in a distant country?
What did it leave behind in its native land?*

M. Lermontov's poem was translated into Azerbaijani by four poets. If we look at the first lines, we'll see that each one takes a different approach:

1) *Mavi dumanlıqda, tutqun sularda
Ağarır dənizdə tənha bir yelkən
Nə arar o qərrib uzaq diyarda
Niyə ayrılmışdır öz vətəninədən?
Translation: In the blue haze, in the murky waters
A lonely sail in the white sea*

*What is that stranger looking for in a distant land?
Why did he leave his homeland (M. Rahim,
1948 [4]).*

2) *Mavi dənizdəki dumanlıqlarda
Bir yelkən ağarır, bir qərrib yelkən
Nədir aradığı uzaq diyarda?
Niyə didərgindir öz ölkəsindən? (H. Arif, 1977) [4].
Translation: In the nebulae in the blue sea
A sail turns white, a strange sail
What is he looking for in a distant land?
Why is he exiled from his country?*

3) *Ağarır bir tənha yelkən
Dənizin mavi çənində!
Nə axtarır uzaq eldə?
Nə itirib vətəninə? (Eyvaz Borchali, 1988) [4]
Translation: A lonely sail turns white
In the blue tank of the sea!
What does it seek in a distant land?
What did it lose in its homeland?*

4) *Göy dənizin dumanında
Tənha bir yelkən ağarır!
Yad eldən o nə ummada?
Nədən atmış öz diyarın? (M.N. Garayev, 1991) [6].
Translation: In the blue mist of the sky's sea,
A solitary sail grows white!
What does it hope for in a foreign land?
Why did it abandon its homeland?*

CONCLUSIONS

Due to the high level of poeticism and language skills required in translating poetic texts, not everyone can demonstrate proficiency in this field. Since the translator of a poetic text requires both high poeticism and language skills, not everyone can show talent in this field.

Just as a writer has an individual style, a translator also has particular characteristics. At the same time, the translator must know the customs of the other party, accurately capture the intended meaning of the text, be skilled in finding the equivalent of phraseological combinations and proverbs, understand the essence of the concepts in the source language, select the match of the word correctly, and not distort when giving the equivalent of syntactic figures and sentence models. If we say that the translator is an intercultural, interlinguistic mediator and bridge, in my opinion, we would not be wrong.

In addition, in the modern research paradigm, translation is viewed as a communicative activity, and, as noted by researchers, it is integrated into the social context and becomes a part of it. In this regard, translation is traditionally characterised by the following convergent aspects in most modern studies: cultural (focusing on the dependence of translation activity on values, traditions and ideologies prevailing in society), sociological (description of translation communication participants, primarily translators, as well as their group cooperation) and cognitive (for example, see: considering mental processes related to translation, including translation decision-making) [27].

Whether translation should be literal or the translator should take a creative approach has always sparked debate in the history of translation. The dichotomy of text and meaning, literal or independent, has long been controversial. The new cognitive approach to the translation process serves to help you understand the various mechanisms and algorithms to achieve a quality result.

In free translation, the focus is primarily on the overall content of the text, and attempting to adhere to specific words or the literal meaning of a word is considered unnecessary. No attempt is made to find equivalence in free translation. At this time, deviations from the original are also noticeable. It takes a more liberal approach to the original text or sentences.

The formation of the translator as a creative personality and the ability to produce quality work in his work is always considered essential from a theoretical point of view.

Like other academic disciplines, translation studies is experiencing a somewhat turbulent period in the modern era. Similar to other fields, different perspectives and directions emerge within translation studies. This gives rise to several issues. The means and methods of text analysis for the translation of texts of different genres and different communicative statuses, the correct understanding of the semantic content of the source text, and the study of meaning are not always clear-cut.

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Typology of the Category of Case in Beowulf, The Book of Dede Korkut, The Song of the Nibelungs and The Tale of Igor's Campaign

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Abstract. The paper aims to explore the typology of the category of case in the epics Beowulf, The Book of Dede Korkut, The Song of The Nibelungs and The Tale of Igor's Campaign. It draws certain universal features and their nature based on the contrastive study of all the mentioned epic texts. The contrastive analysis reveals similarities in how various morphological units express the case category in these texts, suggesting that they have a deep root rather than an occasional nature. On the other hand, the results of such typological studies provide essential arguments to researchers in psychology, cultural studies, history, sociology, and other disciplines within this context.

Our research topic is related to studying the typological features of case categories in ancient epics of diverse, unrelated, and geographically dispersed language speakers. In this context, it connects us to the unity of human nature and directs us towards the unity of biological and cognitive organisation.

In ancient epics, identifying typological characteristics by case category means increasing the volume of language universals in this context. In ancient epics, the type of cases, and their development directions, are almost similar.

Keywords: case; category; turcology; Dede Korkut; Nibelungs; Igor Tale; Beowulf.

INTRODUCTION

In the 21st century, typological research in linguistics has accelerated and acquired new content. It is a new era due to typological investigations, which were carried out with significant interest in the mid-20th century, and have yielded high scientific results. Summarising them, deriving universally applicable scientific conclusions stood as a necessity in the science of linguistics. The point was that the linguistics researches in this field were consistent with several conclusions reached by other humanities disciplines. Especially anthropology, cultural studies, history, sociology and other related fields were on the verge of coming to such a scientific conclusion that the languages proposed since the 19th century originated from the exact origin and were even carriers of a proto-language. Typological research conducted in linguistics has identified specific shared characteristics in language carriers' minds. In this regard, the study findings in relevant scientific fields closely align with the results of typological investigations. Many exciting conclusions reached by various scientific fields

regarding the mentioned issues coincided with the outcomes of typological research.

Consequently, a new phase began in which these scientific findings were further deepened, and their philosophy was studied. This process was accelerated by the end of the 20th century, but in the 21st century, it was compatible with the requirements of the time. For example, the results of the archetype identification problem in folklore typology revealed some universal aspects. The obtained results complemented each other with language universals. Also, the archaeological and historical research in this direction provided valuable materials for addressing the same problem. In this context, the 21st century can be considered a new era in the context of typological studies of languages and the generalisation of its results.

In the modern era, in various scientific fields, including linguistics, investigating the idea of language universals across all language levels becomes necessary in global problems. While typological research has not been conducted for all languages, it primarily focuses on widely used languages such as Indo-European and several

others. Therefore, there are challenges in accelerating these investigations and consolidating the general findings obtained. In this regard, 21st-century linguistics is part of the need to deepen typological research and concretise the diverse ideas about language universals. The language universals do not simply confirm the similarities between different structured languages; they ask numerous questions about the existence of that similarity, penetrating its archetype, genesis, and the problems encountered while searching for answers leading to the advancement of a new hypothesis. This is related to the idea of genetic unity of the human beginnings. In this regard, linguistics refers to ancient epics belonging to various cultures. It requires their study in the typological context of language levels because ancient epics are precious sources from the linguistic point of view that provide material for identifying older language features and sometimes archetypes. During the comparative analysis of those monuments, language university students shed light on some obscure aspects, and thoughts and ideas are evaluated according to the logical consequences of those facts. Subsequently, the findings of relevant scientific research in the respective fields are compared, and the resulting conclusions gain scientific value. XXI century linguistics also acquires new content as the philosophy of linguistics and similar results of other sciences become delineated based on similar outcomes. The science of history is in close contact with linguistics in this respect; studying the formation of ethnos outside of their language can lead to wrong results. The historical periodisation of the development of humanity also conditions the historical development period of its language. Therefore, linguistics and history intersect at the same point in this context. If archaeological facts - archetypes - from the very early periods of history are found, it will significantly help to confirm the concept of a single language and a genetic concept of a unified human - the concept of a proto-language or proto-ethnicity. Therefore, typological studies are the starting point for deeper investigations.

As mentioned earlier, typological studies can be conducted at all language levels. Revealing the typological similarity of factors such as the harmony of vowel and consonant sounds in ancient epics, their functional features in the epic language, and linguistic-poetic features in the literary language are facts that provide consistent evidence for the evolution of poetic techniques.

Most importantly, it highlights that the ancient people did not use speech sounds only as a nominative sign but also suggests the typology of their reinterpretation in the communication process, as mentioned above. This point seems to indicate that human development goes through similar stages. Therefore, typological phonetics is a more reliable source in this context.

The typological investigation of epics distinguishes itself with its specific features concerning the grammatical level of language (morphology and syntax). Similarities in the development history of morphological categories in different system languages and typological features in category definition principles reveal several universal aspects. The typology of syntactic parallelism and the parallel functions in communication provide valuable evidence for language universals. Through typological research, it has been established that in the folklore and religious artefacts of different nations, the identification of syntactic parallel units performing similar functions confirms the roots of language universals in the ancient periods. Linguistic typology exists across languages. Its roots delve into deeper layers of language from a historical perspective.

In the 21st century, linguistic typology progresses from confirming universals in several languages to recognising the overall universality of all languages, as we have previously noted. Its result is essential in evaluating many theories and hypotheses about the early stages of human development in modern times. The identification of typological characteristics of the languages of the epics is to enter the history of the language from the time the epics were written. At that stage, identifying traces of archetypes guides the discovery of the essence of language universals. This is their linguistic and universal significance.

Since the 70s of the last centuries, linguists in America and Europe have researched language typology, uncovering new facts. Linguists such as C. Greenberg, C. Osgood, and D. Dennett, drawing from the results of their investigations into language universals, have written that behind the infinite and remarkable diversity of world languages, there are common characteristics that apply to all of them. Despite all the immense differences, languages seem to be created according to a pattern. While only some shared features are explicitly described, linguists are aware that languages possess broader universality in many cases and use them to tell new languages. How-

ever, this does not complete the range of application of language universals [4, p. 31].

Regarding the similar features between languages, R. Jakobson wrote that analysing similarities and differences in the history of related or neighbouring languages provides essential information for comparative historical linguistics. Consequently, the myth of the variability and stability of language loses its firm position [6, p. 104].

In this regard, R. Jakobson states that human language is fundamentally one and that individual languages are simply variations of this unified psychological mechanism. In his article, he mentions the methods used to study language universals, stating that the genetic process addresses relatedness, the areal approach focuses on linguistic proximity, and the typological method deals with isomorphism. Unlike consanguinity and affinity, isomorphism is not necessarily associated with a temporal or spatial factor. Isomorphism can combine different situations of the same language or two different languages (both simultaneous and distant in time) that may be both neighbouring and foreign languages, as well as linguistically related and of different origins [6, p. 98].

Apparently, according to this opinion of R. Jakobson's perspective, studying the similarities between linguistically unrelated languages using the isomorphic method yields its effectiveness. This method allows for combining and correlating languages with different origins, whether related or unrelated. C. Hockett also presents exciting ideas in this field. He wrote that, despite their great diversity, the phonological systems of the world have more in common than is strictly "necessary". In other words, the degree of similarity among them is higher than required by the distinctive features of language and the human race's known cultural and biological characteristics. Although diversity can be imagined to be somewhat more significant than what we currently conceive, a high level of similarity remains a mystery [5, p. 75]. Thus, searching for the causes of the universal similarity story in the world's languages led those studies in a new direction. Consequently, various scientific perspectives have investigated the reasons behind language universals. N. Mechkovskaya explains the reasoning behind language universals as follows: "If the same or similar phenomena in different languages cannot be explained by relatedness or

territorial reasons, its most general and profound explanation remains: The observed similarities of languages are related to the basic nature of human unity. This similarity is called typological similarity. The typological universality of languages is connected to the biological and cognitive makeup of *Homo sapiens* as a species. The general biological roots (*Homo* genus) and overall development of humanity, which 100–75 thousand years ago, prompted the divergence of modern *Homo sapiens* from the *Homo* genus and determined deep similarities in the subsequent socio-economic lives of various groups. This general biological and psychophysiological foundation of language universality was manifested in a range of dependencies between human communicative and intellectual needs and capacities, and the structure of their language" [7, p. 28].

Our research topic is related to studying the typological features of case categories in ancient epics of diverse, unrelated, and geographically dispersed language speakers. In this context, it connects us to the unity of human nature and directs us towards the unity of biological and cognitive organisation. As N. Mechkovskaya mentioned, the general physical and psychophysiological basis of the mentioned similarities is associated with a person's communicative and intellectual needs and capabilities [7].

It can be concluded that languages converge at a certain point in the context of linguistic universals, and by nature, this phenomenon is attributed to common biological and psychophysiological characteristics. Approaching the problem in this context allows us to delve into the philosophy of universality found in ancient epics. Language, in general, is universal, and the observed similarities in its structure are manifestations of this universality. Sometimes in theoretical linguistics, such questions are encountered regarding the implications of changing our approach to language universals in the context we have explained. Of course, the development of linguistic science and the comprehensive advancement of knowledge about language universals will answer this question. Therefore, observed universal characteristics in ancient epics find a logical explanation based on the abovementioned perspectives. That is, we will give a typological analysis of the case category based on "Beowulf", "Book of Dede Korkut", "Nibelungenlied", and "The Tale of Igor". In this particular aspect, there are numerous spectrums of morphological universality. Among them, we specifically aim to fo-

cus on the case category to explore its universality in the context of various systematised languages and different cultures. This is because the type of case has an ancient history, and many universal signs are found within it. There are instances where the development history of the case category in the mentioned epics coincides. This fact allows us to further complete the theories about language universals in a certain way to penetrate their vitality.

On the other hand, the analysis of the logic of the case category in different systematic languages becomes possible. As mentioned earlier, this problem carries not only linguistic implications but also a psychophysiological issue related to the nature of people. The structuring of thoughts through linguistic structures is a phenomenon derived from the universal function of language. In this context, the case category manifests the linguistic structuring of human activities in their respective directions. Moreover, it cannot be a coincidence that the carriers of these epics, belonging to different language communities, employ similar models when creating a picture of the world. The other aspect of the matter is that the case category follows a similar development trajectory in these works; the gained and lost features exhibit similarities within the context of morphological development in the language. This fact confirms the logical affirmation that the concept of a unified human and a unified language, which was put forward in the form of hypotheses and, to some extent, assumptions, is becoming a reality. The conducted analyses and the presented facts further confirm that the study of language universals and the theories above are more plausible in providing a scientific explanation for this problem. These research directions offer valuable insights into linguistics, psychology, sociology, anthropology, cultural studies, and other related disciplines, offering consistent facts.

METHODS

While studying the typology of the case category in the mentioned epics, contrastive-typological, comparative-historical and descriptive methods were used. Descriptive and comparative-historical methods were applied while collecting facts related to the case category of epics. As a result of the application of this method, the developmental level and overall perspective of the case category in the languages of epics have been determined, followed by the creation of a con-

trastive typological picture. In other words, once the comprehensive view of the investigated object was established and all its signs were identified, those facts were subjected to the filter of contrastive typology. This method has confirmed its crucial and decisive role in revealing the typological similarities of ancient epics.

The case category is a paradigm with its system. However, the formation of that system is related to people's need for communication. It is traditionally connected with common language principles that form universals. When we refer to a universal language, we consider the natural language used by humanity as a communication tool. The epics "Beowulf", "The Book of Dede Korkut", "Nibelungenlied", and "The Tale of Igor" exhibit excellent morphological systems. During the period when the epics appeared, a change took place in the morphological system of the ancient Germanic languages, resulting in the transformation of the morphological structure of words from a "root - base forming suffix (word-forming)-modifying suffix" composition to a two-morpheme system called "root-forming". In this process, the root-forming combines with the inflectional morphemes, becomes an independent morpheme, or merges with the root itself. This process in the morphological composition of words transforms the lexical meaning carrier into a grammatical meaning indicator.

RESULTS AND DISCUSSION

According to the research by A. Demirchizade, the proto-Azerbaijani language, which includes the morphology of "The Book of Dede Korkut" epics, has not undergone severe changes. He writes about this: "Especially in the early stages of formation in the international language, various tribal language elements were still actively utilised in Azerbaijani, and there was a particular struggle among them which lasted for a long time; sometimes, grammatical features specific to one tribe's language prevailed, while synonymous grammatical features belonging to another tribe's language either disappeared completely or underwent a more precise content reduction to become a constituent part of the grammatical structure of the international language, thus leading to consolidation and improvement of the grammatical structure of the international language. Thus, during the past thousand years, the grammatical structure of our language has been improved, and it has become a national lan-

guage" [2, p. 42]. If we take into account that A. Demirchizade shows that "The Book of Dede Korkut" epics emerged after the 8–9th centuries ("The Book of Dede Korkut" epics lived and created in this way before the 12th century and after the 8–9th centuries in the Caucasus, more precisely, in Azerbaijan, it was skillfully built and connected by the "dedas"- bards - minstrels and spread among villages [2, p. 7]. In this period, "morphological stabilisation in the Proto-Azerbaijani language began in early times and went rapidly". A. Shukurlu has shown that the case category of ancient Turkish written monuments has not undergone significant changes compared to our modern era [10, p. 101]. According to some parameters, the morphological development of the case category in ancient Germanic languages is in harmony with the mentioned epics. For instance, we can analyse the ancient Germanic languages, in which there were three types of cases, consisting of the nominative (именительный), possessive (родительный), dative (дательный), accusative (винительный), ablative, locative (местный), instrumental (инструментальный), and vocative (звательный) cases [1]. It should be noted that in ancient Turkic written works, as well as in Proto-Azerbaijani, the instrumental case was also present. The case category in ancient epics represents a complete system with universal aspects. The development of this category in the context of epics represents the development of the categorial system within the overall morphological system. The structural characteristics of this system are also universal, starting with the nominative case and continuing in the sequence above. The case category has a linguistic phenomenon based on a specific system model. Its universal model is shown in the mentioned monuments. Some examples from ancient Germanic epics will clarify us:

"Nahat" (night)

1. Und wär ihm da Siegfried zu Hilfe nicht gekommen,
So hätte sie Leben Gunthern wohl benommen.
Er **nahte** sich verstohlen und rührte seine Hand;
Gunther seine Künste mit großen Sorgen befand [12, p. 466].

Nom.: Naht
Act.: naht
Pos.: naht
Dat.: nahat [8, p. 288].

The zero morpheme expresses the nominative, accusative and possessive cases in the given example. That is, they are formally the same as the nominative case. Another example is the word **Wolf**:

"wîgend weccean, ac se wonna hrefn
"fûs ofer fægum, fela reordian,
"earne secgan, hû him ât æte speów,
"þenden he wið **wulf** wâl reáfode".
Swâ se secg hwata secgende wäs [12, p. 3025].

Nom. wolf
Act. wolf
Pos. wolfē
Loc. Wolfu [8, p. 260].

In this example, the nominative case is similar to the accusative and possessive issues. However, when it comes to specific nouns, there is an increase in formal differences across points:

gomo; sume (kiši, insan).

beado-weorces: hwîlum on beorh äthwearf,
sinc-fät sôhte; he þät sôna onfand,
þät häfde **gumena** sum goldes gefandod
heáh-gestreóna. Hord-weard onbâd
earfoðlice, ôð þät æfen cwom; [14, p. 2300].

Nom. gomo gomen
Act. gomon gomien
Pos. gomen gomin
Dat. gomen gomin [8, p. 257].

In the given example, the nominative and active cases have the same formal aspect, while the possessive and dative issues are the same. Sometimes, if the nominative and the accusative case are formally the same, that is, if the sphere is a morpheme, the possessive and the dative claim have relative differences.

"sêo"

wâl-reów wîga ât Wealhþeón,
and þâ gyddode gûðe gefýsed,
Beówulf maðelode, bearn Ecgþeówes:
"Ic þät hogode, þâ ic on holm gestâh,
"sæ-bât gesät mid mînra secga gedriht [14, p. 630].

Nom. sêo
Act. sêo
Pos. sêwes
Dat. sêwe [8, p. 254].

However, it can be observed that the nominative, accusative and possessive cases are morphemes in the case of the noun "geva":

Nom. geva
Act. geva
Pos. geva
Dat. gevu [8, p. 254].

In the case of pronouns, we see a relatively different picture. For instance, the pronoun "Der" has its form characteristics in all cases:

Der-(o)

Auf einen neuen Schildrand, mächtig und breit,
Den trug an seiner Linken **der** Siegelinde Kind:
Das Feuer sprang vom Stahle als ob es wehte der Wind [14, p. 470].
Des starken Spießes Schneide den ganzen Schild durchdrang,
Dass **das** Feuer lohend aus den Ringen sprang.
Von dem Schuss strauchelten die kraftvollen Degen:
War nicht die Tarnkappe, sie wären beide tot erlegen [14, p. 471].

*Siegfried dem kühnen vom Munde brach **das** Blut.
Bald hatt er sich ermannet: da nahm **der** Degen gut
Den Speiß, den sie geschossen ihm hatte durch den Rand:
Den warf ihr bald zurücke **des** starken Siegfriedes Hand [14,
p. 472].*

*Nom. der
Act. den
Pos. des
Obj. demu
Loc. din [8, p. 260].*

Observations show that the formal stabilisation of the cases of the noun in the epics "Beowulf" and "Song of the Nibelungs" has not been completed; however, the position of case-bound morphemes is fixed and constitutes a definite part of the case paradigm.

In ancient Germanic languages, including monuments, the directional case takes over the function of the locative case. Such substitution is also manifested in "The Book of Dede Korkut" sagas.

In the epic "Kitabi-Dədə Qorqud", "the case category of nouns and its formal indicators do not exhibit significant differences compared to our contemporary literary language. This work's case system of nouns is relatively stable compared to ancient Germanic epics and has morphologically defined formal indicators. According to Demirchizade, the case forms of nouns in the "The Book of Dede Korkut" epics have remained relatively unchanged until our present time [2, p. 67]. However, the interchangeability of cases in the "Book" is present, although not as active as in the ancient Turkish monuments.

In ancient Germanic languages, there were four cases: nominative, possessive, dative, and accusative. However, the Upper German and Old Saxon languages also had a locative case, and the Gothic language had a vocative case. The logic of this difference is explained by the connection of the mentioned cases to the Indo-European root [2]. Additionally, the presence of three genders in them (masculine, feminine and neuter) acquires the differential case-quantity feature of nouns belonging to different genders.

Four cases are recorded in "The Igor Tale" saga. This includes nominative, possessive, accusative, and locative cases. Epos has a system of soft and complex issues. In the case of a hard case, dative and locative cases are similar according to their formal indicators (**Дат. и местн.** -п // -ы -и). Мәсәләп: по бтлт, Вльзт, ко Гзт, дружинт, къ дружинт, на Каялт (2х), въ Каялт, мглт, Немизт (2х), по ногатт, порезант, нартцт (2х), въ... ртцт, къ ртцт, стдинт, ужинт; etc. This sign

also manifests itself in soft cases (дат.-местн. **къ... Богородици** въ гридницт). Another issue is related to the combination of possessive, dative and locative cases in the hard case [8]. These features resonate with the case of the Indo-European style, especially the case of the ancient Germanic epics. However, the interchangeability and merging of issues signify the developmental universality within the case system of emerging languages.

As evident from the facts, the mentioned epics undergo complete development in the case category, with the semantic stabilisation of cases indicating the morphological advancement of the case category. In this context, an important aspect is also related to the fact that the flexion of the possessive case implies the plural form. This feature does not exist in the morphology of "The Book of Dede Korkut".

In the morphology of ancient monuments, the instrumental case has been preserved at different levels. For instance: "Kitab - Book" has a lexicalised version of the instrumental case suffix. A. Demirchizade spoke about the lexicalised version of the morpheme that once existed as a suffix of the instrumental case and noted its morphosemantic features, and in this regard, he listed the lexemes of **guzin, yazin, dunin** [2, p. 62].

Author A. Shukurov writes that the instrumental case has been developed extensively in ancient Turkish written monuments, but its morphological indicators have not yet lost their functionality. It can be considered that their weakening began in the VII-VIII centuries. He has indicated the following meanings of the instrumental case in ancient texts [10, p. 101]:

1. It indicates the instrument through which an action, state, or movement is performed;
2. It indicates relationships of togetherness;
3. It suggests the manner of an action, state, or movement;
4. It shows the location of an action, state, or movement.

In "The Book", the mentioned facts exist not as a suffix of the instrumental case but as the derivational suffix in a transformed form. "Sixteen years have passed since then. They didn't know whether Beyriagin was dead or alive. One day the girl's brother Deli Garjar came to Bayindir Khan's court. Your feet are tired, it seems. "May the noble Khan live long! If the Beyrek were alive, it

would have been sixteen years since. If a brave man brought the news of his survival, I would give him gold and silver. To the one who brings the news of his death, I would give my sister' he said" [10, p. 58].

In the epic "Beowulf", the instrumental case is given as a form of the dative case. From this, it can be concluded that during the time of the creation of the epics, the instrumental case had started to weaken in its functional role. However, this situation was also expressed by causative constructions in ancient Germanic monuments. This is a sign that the concept of instrumentality was widespread in the morphological system of these languages until the mentioned monuments and could barely penetrate the case system of those languages. Likely, the emergence of parallel forms of expression (both grammatical and lexical) for instrumentality and the active use of alternative expression forms have suppressed the functional use of the instrumental case [11].

The evocation is vividly preserved in "The Tale of Igor" saga. This case differs in Indo-European languages according to the level of preservation. Especially in the XI-XII centuries, there were specific forms of the vocative case in Slavic languages. It is precisely from that period that the spirit of invocation has penetrated the essence of the vocative subject in this epic:

1. Почнем же, **братие**, повѣсть сию отъ старого Владимира до нынѣшняго Игоря, иже истягну умь крѣпостию своею и поостри сердца своего мужествомъ, наплѣнився ратнаго духа, наведе своя храбрыя плѣкы на землю Половѣцькую за землю Руськую [13].

2. Тогда Игорь възрѣ на свѣтлое солнце и видѣ от него тьмою вся своя воя прикрыты. И рече Игорь къ дружинѣ своей: "**Братие и дружино!** Луце жь бы потяту быти, неже полонену быти, а всядемъ, братие, на свои брѣзья комони, да позримъ синего Дону!" Спала князю умь похоти, и жалость ему знамение заступи искусити Дону Великаго. "Хощу бо, - рече, - копие приломити конецъ поля Половецкаго съ вами, русици, хощу главу свою приложити, а любо испити шеломомъ Дону" [13].

3. **Великий княже Всеволоде!** Не мыслию ти прелетѣти издалеча, отня злата стола поблности? Ты бо можеша Волгу веслы раскропити, а Донѣ шелома выльяти. Аже бы ты былъ, то была бы чага по ногатѣ, а кощей по

резанѣ. Ты бо можеша посуху живыми ше-реширы стрѣляти - удалыми сыны Глѣбовы [13].

In the given examples, "братие" (brothers), "Братие и дружино!" (Brothers and comrades!), "Великий княже Всеволоде!" (Great Prince Vsevolod!) the noun is in the vocative case; The people addressed by the creator of the epos are the Russian princes, warriors and grand prince Vesevolod, who fought against the Polovtsians. According to the general context of the saga, all warriors are called, which sounds very logical in the spirit of the epic. In other words, the epic creator addresses the "Defenders of the Homeland" through the vocative case, effectively enhancing the emotional and impactful sphere. We can observe this in the following examples. The other examples also may be included:

1. Донец рече: "Княже **Игорю!** Не мало ти величия, а Кончаку нелюбия, а Руской земли веселиа!" **Игорь рече:** "О, Донче! Не мало ти величия, лелѣявшу князя на влѣнахъ, стлавшу ему зелѣну траву на своихъ сребреныхъ брезѣхъ, одѣвавшу его теплыми мѣглами подѣ сѣнию зелену древу. Стрежаше его гоголемъ на воде, чайцами на струяхъ, чрънядыми на ветрѣхъ". Не тако ли, рече, рѣка Стugna; худу струю имѣя, пожръши чужи ручьи и стругы рострена к усту, уношу князю Ростислава завори днѣ при темне березѣ. Плачется мати Ростиславля по уноши князи Ростиславѣ. Уныша цвѣты жалобою, и древо с тугою къ земли прѣклонилося (Слово о полку Игореве).

2. Уже бо, братие, не веселая година вѣстала, уже пустыни силу прикрыла. Вѣстала Обида в силахъ Даждь-Божа внука, вступила дѣвою на землю Трояню, вѣсплескала лебедиными крылы на синѣм море у Дону: плещучи, убуди жирня времена. Усобица княземъ на поганья погыбе, рекоста бо братъ брату: "Се мое, а то мое же". И начяша князи про малое "се великое" млѣвити, а сами на себѣ крамолу ковати, а погании съ всѣхъ странъ прихощаху съ побѣдами на землю Рускую [13].

3. **Ярославе и вси внуце Всеславли!** Уже понизите стязи свои, вонзите свои мечи верезени - уже бо выскочисте изъ дѣдней славѣ. Вы бо своими крамолами начясте наводити поганья на землю Рускую, на жизнь Всеславлю: которою бо бѣше насилие отъ земли Половецкыи! [13].

The placement of words in the vocative case in the text is likely related to the style of the epic during that period. On the other hand, the fact that the battle with the Polovtsians became critical, and their defeat impressed the creator of the epic, prompting them to call everyone to fight. There is a general harmony between the overall spirit of the epic and the use of the vocative case to Russia's defeat against the Polovtsians. The epic creator skillfully presents this situation so that the reader is instantly captivated by its impact.

In the "Book of Dede Korkut" epics, there is no distinct vocative case for nouns; its semantics coincides with the concept of direct address. That is to say, it does not have a specific morphological sign, and there is a semantic association with "Book":

*Oğul, oğul, ay oğul! Ortacığım oğul!
Qarşu yatan qara tağım yüksəgi oğul!
Qaraş uluca gözlərim aydını oğul!
Sam yelləri əsmədin. Qazan, qulağım çınlar.
Sərimsaq otun yemədin, Qazan içüm göynər.
Sarı ilan soqmadan ağca tənüm qalqar- şışər.
Qurumuşca köksümdə südüm oynar.
Yalın uzca oğul görünməz, bağrım yanar.
Yalın uzca oğul xəbərin, Qazan, degil mağa
Deməz olursan, yana-göynə qarğaram, Qazan, sağa! [15,
p. 72].*

*[Translation: Son, son, oh my son! My middle son!
The son of the black mountain lying ahead, son!
The brightness of my black, mighty eyes, oh, son!
The cold winds are blowing. Kazan, my ears ring.
You didn't eat the garlic grass, Kazan, it is boiling within me.
The yellow snake will swell up without stinging.
When it dries up, my milk flows in my stomach.
In the desolate wilderness, my son is unseen, and my heart
burns
Oh, lonely son, bring me news, Kazan, not otherwise
If you don't say it, I will burn and boil, Kazan, for you!].*

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In general, the vocative case has not existed in the system of case categories in Turkish languages, but the address performed that function. In Azerbaijani classical literature, there have been elements of the vocative case in the composition of words borrowed from Arabic and Persian languages.

CONCLUSIONS

Examining the case category for the epics we have involved in the research has general theoretical significance. The recent development of typological studies and the generalisation of the obtained results in theoretical linguistics has brought forth the progress of that process. It encompasses the language universals, and the language universals of the epics transcend the limits of linguistics, cover more fields of science, psychology, sociology, cultural studies, etc., and acquire a universal essence. In ancient epics, identifying typological characteristics by case category means increasing the volume of language universals in this context. In ancient epics, the type of cases, and their development directions, are almost similar. The history of the development of the case category is close to each other in the epics involved in the study. While ancient Germanic and Slavic epics exhibited different variants of case categories, in "The Book of Dede Korkut" epics and Turkish languages, there was a kind of case. However, there is no difference between the mentioned epics according to their general development principles. The analysis of noun cases in ancient epics shows that the noun case category can be considered a universal language.

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Використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств

The Use of Digital Technologies in The Development of Marketing Strategies for Agricultural Enterprises

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Анотація. Актуальність дослідження використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств полягає у зростаючому значенні цифрової трансформації в аграрному секторі. Метою статті є вивчення та аналіз використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств. Гіпотеза дослідження: використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств сприяє підвищенню ефективності маркетингових дій, покращенню комунікації зі споживачами та збільшенню конкурентоспроможності галузі.

Ця стаття розглядає сучасні цифрові технології, які можуть бути застосовані при розробці маркетингових стратегій сільськогосподарських підприємств. Автор наводить приклади використання платформ соціальних медіа для залучення споживачів, показу продукції, взаємодії з клієнтами та побудови бренду. Також описується використання цифрових каналів, таких як електронна пошта, контент-маркетинг, реклама на сайтах та пошуковий маркетинг, для привернення нових клієнтів та покращення продажів. Аналітика даних та IoT-технології розглядаються як засоби для збору та аналізу інформації про ринок та споживачів, що допомагає підприємствам удосконалювати свої маркетингові стратегії. Крім того, автор виділяє використання віртуальної та доповненої реальності для презентації продукції та процесів виробництва з метою привернення уваги та створення позитивного іміджу бренду.

У статті детально розглядаються переваги цифрових технологій у сільському господарстві, такі як залучення більшої аудиторії, збільшення свідомості про бренд, підвищення ефективності реклами, аналіз даних для удосконалення стратегій, взаємодія зі споживачами. Однак, автор також звертає увагу на деякі недоліки, такі як залежність від технологій, конкуренція та перенасиченість, проблеми з довірою, вимоги до кадрів, витрати. Використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств є важливим напрямом. Вони допомагають сільськогосподарським підприємствам залучати більше клієнтів, поліпшувати аналітику та управління даними. Однак, необхідно враховувати виклики, пов'язані з доступністю інфраструктури, довірою споживачів та необхідністю кваліфікованого персоналу. Подолання цих викликів може сприяти успішному впровадженню цифрових маркетингових стратегій у сільському господарстві.

Ключові слова: цифрова трансформація; маркетингова стратегія; сільськогосподарське підприємство; цифрові інструменти; комунікація зі споживачами; соціальні медіа.

Abstract. The relevance of studying the use of digital technologies in developing marketing strategies for agricultural enterprises lies in the growing importance of digital transformation in the farming sector. The article aims to study and analyse the use of digital technologies in developing marketing strategies for agricultural enterprises. The research hypothesis is that using digital technologies in developing marketing strategies for agricultural enterprises contributes to increasing the efficiency of marketing activities, improving communication with consumers and increasing the industry's competitiveness.

This article examines modern digital technologies that can be used to develop marketing strategies for agricultural enterprises. The author provides examples of how social media platforms can attract consumers, showcase products, interact with customers and build a brand. It also describes using digital channels, such as email, content marketing, website advertising and search engine marketing, to attract new customers and improve sales. Data analytics and IoT technologies are considered tools for collecting and analysing market and customer information, which helps businesses improve their marketing strategies. In addition, the author highlights the use of virtual and augmented reality to present products and production processes to attract attention and create a positive brand image.

The article discusses in detail the advantages of digital technologies in agriculture, such as attracting a larger audience, increasing brand awareness, improving the effectiveness of advertising, analysing data to improve strategies, and interacting with consumers. However, the author highlights disadvantages, such as technological dependence, competition and oversaturation, trust issues, human resource requirements, and costs. The use of digital technologies in developing marketing strategies for agricultural enterprises is an important area. They help agricultural enterprises attract more customers and improve analytics and data management. However, challenges related to infrastructure availability, consumer confidence, and the need for skilled staff must be considered. Overcoming these challenges can contribute to successfully implementing digital marketing strategies in agriculture.

Keywords: digital transformation; marketing strategy; agricultural enterprise; digital tools; communication with consumers; social media.

ВСТУП

Актуальність дослідження використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств полягає у зростаючому значенні цифрової трансформації в аграрному секторі. Сьогодні цифрові технології змінюють традиційні підходи до маркетингу в сільському господарстві. Вони дозволяють підприємствам ефектніше взаємодіяти зі споживачами, підвищувати свою видимість на ринку і покращувати ефективність маркетингових кампаній.

Актуальність обраної теми можна пояснити декількома аспектами. По-перше, за допомогою цифрових інструментів можна зібрати значну кількість даних про споживачів, ринкові тенденції, конкурентів та інше – це дозволяє глибше розуміти потреби та вимоги споживачів і підлаштовувати маркетингові стратегії під них. По-друге, цифрові технології

надають багато інструментів для взаємодії зі споживачами, таких як соціальні медіа, електронна пошта, месенджери тощо – це дозволяє підприємствам ефективно спілкуватися зі своєю цільовою аудиторією, отримувати зворотний зв'язок та надавати підтримку. По-третє, використання цифрових технологій дозволяє сільськогосподарським підприємствам підвищити свою конкурентоспроможність на ринку; вони можуть створювати інтернет-магазини, використовувати електронну комерцію, розвивати цифрові маркетингові стратегії, що допомагають досягти нових клієнтів та ринків. По-четверте, цифрові інструменти можуть бути більш економічними порівняно з традиційними каналами маркетингу. Однак, для успішного використання цифрових технологій в маркетингу сільськогосподарських підприємств необхідно мати не лише технологічні знання, але й розуміння особливостей

цільової аудиторії, ринку та інших факторів, що впливають на успіх маркетингових стратегій.

Проблемам використання цифрових технологій при розробці маркетингових стратегій присвячувались доробки таких вчених як Л. Бившева, О. Кондратенко [1], Ю. Вакулєнко, А. Олійник, В. Чернега [2], О. Власенко [3], М. Газуда [4], Д. Дорошкевич [5], Т. Ільченко [6], К. Мазур [7], О. Романенко [8] тощо. Дослідження впливу цифрових технологій на розробку маркетингових стратегій сільськогосподарських підприємств є актуальним, в цій області ще залишаються багато питань і потребується додаткова наукова робота.

Метою статті є вивчення та аналіз використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств.

Завдання: 1) аналіз сучасних цифрових технологій, які можуть бути застосовані в сільському господарстві, зокрема в маркетингових стратегіях; 2) вивчення використання цифрових технологій сільськогосподарськими підприємствами для підвищення ефективності маркетингу, залучення клієнтів та підтримки зв'язку з ними; 3) аналіз впливу цифрових технологій на покращення комунікації між сільськогосподарськими підприємствами та споживачами; 4) вивчення можливостей цифрових технологій для аналізу даних про ринок, конкурентів та споживачів, що дозволяє сільськогосподарським підприємствам визначати ефективні маркетингові стратегії; 5) оцінка переваг та недоліків використання цифрових технологій у маркетингу сільськогосподарських підприємств.

Гіпотеза дослідження: використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств сприяє підвищенню ефективності маркетингових дій, покращенню комунікації зі споживачами та збільшенню конкурентоспроможності галузі.

РЕЗУЛЬТАТИ ДОСЛІДЖЕННЯ

Маркетингова діяльність в аграрному секторі є необхідною для ефективної реалізації сільськогосподарської продукції та задоволення потреб населення в продуктах харчування, а також забезпечення переробних підприємств

необхідною сировиною. Однак, агромаркетинг має свої особливості, пов'язані з унікальними аспектами сільськогосподарського сектора, такими як різноманітність продукції та учасників ринку, велика кількість організаційних форм господарювання та проблеми з кадровим забезпеченням [1, с. 118]. Розуміння і використання цих особливостей дозволяє сільськогосподарським підприємствам ефективно працювати на ринку та досягати успіху в конкурентному середовищі.

Маркетингова стратегія аграрного підприємства охоплює комплекс дій та прийняття рішень на ринку, спрямованих на реалізацію основної стратегії підприємства. Практика показує, що маркетинг відіграє важливу роль у перспективному розвитку аграрних підприємств. Тому розробка маркетингової стратегії є процесом створення та практичного втілення загальної програми дій підприємства. Головна мета такої стратегії полягає у ефективному використанні ресурсів для досягнення цільового ринку [2, с. 89]. Основні цілі формування маркетингової стратегії для сільськогосподарського підприємства включають: залучення більшої кількості клієнтів та збільшення обсягу замовлень з метою підвищення рівня продажів сільськогосподарської продукції; пропонування товарів або продукції з привабливішими пропозиціями для цільової аудиторії сільськогосподарського сектору; забезпечення зростання прибутку сільськогосподарського підприємства шляхом ефективного маркетингу та оптимізації витрат; охоплення своєю продукцією, товарами або послугами якомога ширшого сегменту ринку сільськогосподарських продуктів; досягнення лідерської позиції в обраному сегменті ринку сільськогосподарської продукції шляхом надання конкурентної переваги та встановлення сильної репутації [6]. Отже, основні цілі маркетингової стратегії для сільськогосподарського підприємства полягають у залученні клієнтів, зростанні продажів, забезпеченні прибутковості, розширенні ринкової присутності та досягненні лідерської позиції у сільськогосподарському секторі.

Маркетинг допомагає в ефективному використанні ресурсів та досягненні цільового ринку. Розробка і втілення маркетингової стратегії є важливим етапом для успішного розвитку сільськогосподарських підприємств. В сучасних умовах розвитку цифрової економіки маркетингова стратегія сільськогосподарських

підприємств отримує нові аспекти та можливості для перспективного розширення. Дослідження підтверджують, що цифровий маркетинг є однією з форм маркетингової діяльності, яка використовує цифрові канали та методи для адресної взаємодії з цільовими сегментами ринку як у віртуальному, так і реальному середовищах [4, с. 53]. Він представляє собою комплексний маркетинговий підхід, що

відповідає сучасним умовам функціонування економічних систем.

Сільське господарство впливає на життя мільйонів людей і цифрові технології можуть відіграти важливу роль у покращенні маркетингових стратегій в цій галузі. Виділимо деякі сучасні цифрові технології, які можуть бути застосовані в сільському господарстві (таблиця).

Таблиця 1 – Сучасні цифрові технології, які можуть бути застосовані при розробці маркетингових стратегій сільськогосподарських підприємств

№	Технологія	Сутність	Роль в сільському господарстві
1	Соціальні медіа	Платформи та додатки, які дозволяють користувачам обмінюватися контентом, спілкуватися та взаємодіяти	Сільськогосподарські підприємства можуть використовувати соціальні медіа для підвищення своєї видимості, залучення клієнтів, сприяння комунікації зі споживачами та відстеження трендів на ринку
2	Інтернет-маркетинг	Набір стратегій та інструментів для просування товарів та послуг в Інтернеті	Сільськогосподарські підприємства можуть використовувати інтернет-маркетинг для створення веб-сайту з описом своїх продуктів, проведення цільової реклами на пошукових системах та соціальних мережах, електронної комерції та електронних розсилок для залучення та утримання клієнтів
3	Аналітика даних	Процес збору, аналізу та використання даних для прийняття управлінських рішень	Аналітика даних допомагає сільськогосподарським підприємствам розуміти споживачів, прогнозувати попит, визначати оптимальні ціни та розробляти ефективні маркетингові стратегії. Наприклад, аналіз даних про попередні продажі може допомогти визначити оптимальний час для виходу на ринок з новими продуктами
4	Інтернет речей (IoT)	Мережа фізичних об'єктів, які мають вбудовані сенсори, програмне забезпечення та здатність обмінюватися даними	У сільському господарстві IoT може бути використано для моніторингу урожаю, стану ґрунту та рослин, контролю розподілу води, температури та вологості використовуючи датчики. Ці дані можуть бути використані для управління виробничими процесами, виявлення проблем та оптимізації виробництва
5	Віртуальна та доповнена реальність	Віртуальна реальність (VR) – це технологія, що створює іммерсивне середовище, а доповнена реальність (AR) додає віртуальні об'єкти до реального світу	Сільськогосподарські підприємства можуть використовувати VR та AR для демонстрації своїх продуктів та процесів в реалістичних умовах, навчання співробітників, створення інтерактивних віртуальних екскурсій для клієнтів та розробки нових інноваційних рішень. Наприклад, фермери можуть використовувати VR для вивчення нових методів обробки ґрунту, а клієнти – для віртуального огляду фермерських угідь перед покупкою

Розглянемо їх детальніше.

1. Платформи соціальних медіа, такі як *Facebook*, *Instagram*, *Twitter* та *YouTube*, надають сільськогосподарським підприємствам можливість залучати споживачів, показувати свою продукцію, взаємодіяти зі споживачами та будувати бренд. Соціальні медіа також дозволяють показувати екологічні та сталі практики сільського господарства, що може бути привабливим для споживачів. До прикладу, *Farmer's Fridge* – стартап з продажу свіжих салатів та здорових страв використовує *Facebook* та *Twitter* для спілкування зі своїми клієнтами та розповіді про свої виробничі практики; вони активно публікують фотографії своїх страв, розповідають про походження інгредієнтів та проводять промоакції. Інший прикладом є *Stonyfield Farm* – компанія, що спеціалізується на органічних молочних продуктах, використовує *Twitter* та *YouTube* для взаємодії зі своїми клієнтами; вони діляться корисними порадами щодо здорового харчування, розповідають про свої сталі та екологічні практики, а також проводять онлайн-конкурси та розіграші. Ці приклади показують, як сільськогосподарські підприємства використовують соціальні медіа для показу своїх продуктів, взаємодії зі споживачами та побудови бренду. Кожне з цих підприємств активно спілкується зі своїми аудиторіями та надає цінну інформацію, що допомагає підвищити свідомість про їхні продукти та цінності.

2. Цифрові канали, такі як електронна пошта, контент-маркетинг, реклама на сайтах та пошуковий маркетинг, надають сільськогосподарським підприємствам можливість залучати нових клієнтів, розширювати свій ринок та покращувати свої продажі. Наприклад, розсилка новинних бюлетенів або надання корисного контенту на веб-сайті можуть допомогти залучати й утримувати клієнтів. До прикладу, компанія *Dole*, яка займається вирощуванням та розповсюдженням фруктів та овочів, використовує електронну пошту для розсилки новинних листів та спеціальних пропозицій своїм клієнтам. Вони також активно використовують контент-маркетинг на своєму веб-сайті, надаючи рецепти та корисну інформацію про свою продукцію. *Tractor Supply Company*, що спеціалізується на продажу сільськогосподарського обладнання та зоотоварів, активно використовує електронну пошту та рекламу на своєму веб-сайті для залучення клієнтів. Вони розсилають інформаційні

листи з акціями, розповідають про новинки та пропонують персоналізовані рекомендації клієнтам. Ці приклади показують, як сільськогосподарські підприємства використовують цифрові канали для залучення клієнтів та покращення продажів. Кожне з цих підприємств використовує ефективні маркетингові стратегії, щоб привернути увагу цільової аудиторії та підтримувати взаємодію з клієнтами.

3. Збір і аналіз даних може допомогти сільськогосподарським підприємствам зрозуміти своїх клієнтів, їхні уподобання, попит та інші фактори, що впливають на ринок. Застосування аналітики даних дозволяє підприємствам удосконалювати свої маркетингові стратегії, налаштовувати свою пропозицію під потреби споживачів та забезпечувати ефективнішу рекламу. До прикладу, компанія *John Deere*, виробник сільськогосподарської техніки, використовує дані сільськогосподарських господарств для аналізу ринку та визначення потреб клієнтів. Вони збирають дані про врожайність, розподіл витрат, географічні дані та інші параметри для розробки інноваційних рішень та пропозицій для фермерів. Компанія *Indigo Agriculture* використовує аналітику даних для прогнозування попиту на сільськогосподарські культури та розробки відповідних ринкових стратегій. Вони аналізують дані про ціни на ринку, кліматичні умови, врожайність та інші фактори для визначення найбільш вигідних напрямків розвитку. Ці приклади показують, як сільськогосподарські підприємства використовують збір і аналіз даних для розуміння ринку та споживачів, а також для вдосконалення своїх маркетингових стратегій. Аналітика даних допомагає їм приймати обґрунтовані рішення та забезпечувати більш ефективну комунікацію зі своєю аудиторією.

4. Використання сенсорів та IoT-технологій може допомогти виробникам сільськогосподарської продукції збирати дані про рослини, тварин та ґрунт. Ці дані можуть використовуватись для оптимізації вирощування культур, контролю за врожайністю, прогнозування погодних умов та забезпечення стабільності виробництва. Використання IoT також дозволяє створити «розумні ферми», де автоматизовані системи контролюють і керують процесами виробництва. До прикладу, *CropX* використовує сенсори та IoT-технології для моніторингу вологості ґрунту, рівня рослинних поживних речовин та температури на фермах. Ці дані

допомагають фермерам оптимізувати полив та внесення добрив, що призводить до більш ефективного вирощування культур. *FarmBot* використовує сенсори, камери та програмне забезпечення для планування та виконання різних завдань на фермі, включаючи точну сівбу та полив рослин. Це дозволяє фермерам автоматизувати процеси та ефективно керувати своїм виробництвом.

5. Використання віртуальної та доповненої реальності може допомогти сільськогосподарським підприємствам презентувати свою продукцію та процеси виробництва у захопливий спосіб. Це може бути корисним для

привернення уваги споживачів, особливо молоді аудиторії, та створення позитивного іміджу бренду. До прикладу, *Bayer Digital Farming* використовує доповнену реальність для навчання та демонстрації сільськогосподарських рішень своїм клієнтам. Вони створюють віртуальні сценарії, де фермери можуть побачити, які проблеми можуть виникнути на полі та як застосовувати продукти компанії для їх вирішення.

Використання цифрових технологій у маркетингу сільськогосподарських підприємств має свої переваги та недоліки (рисунок).

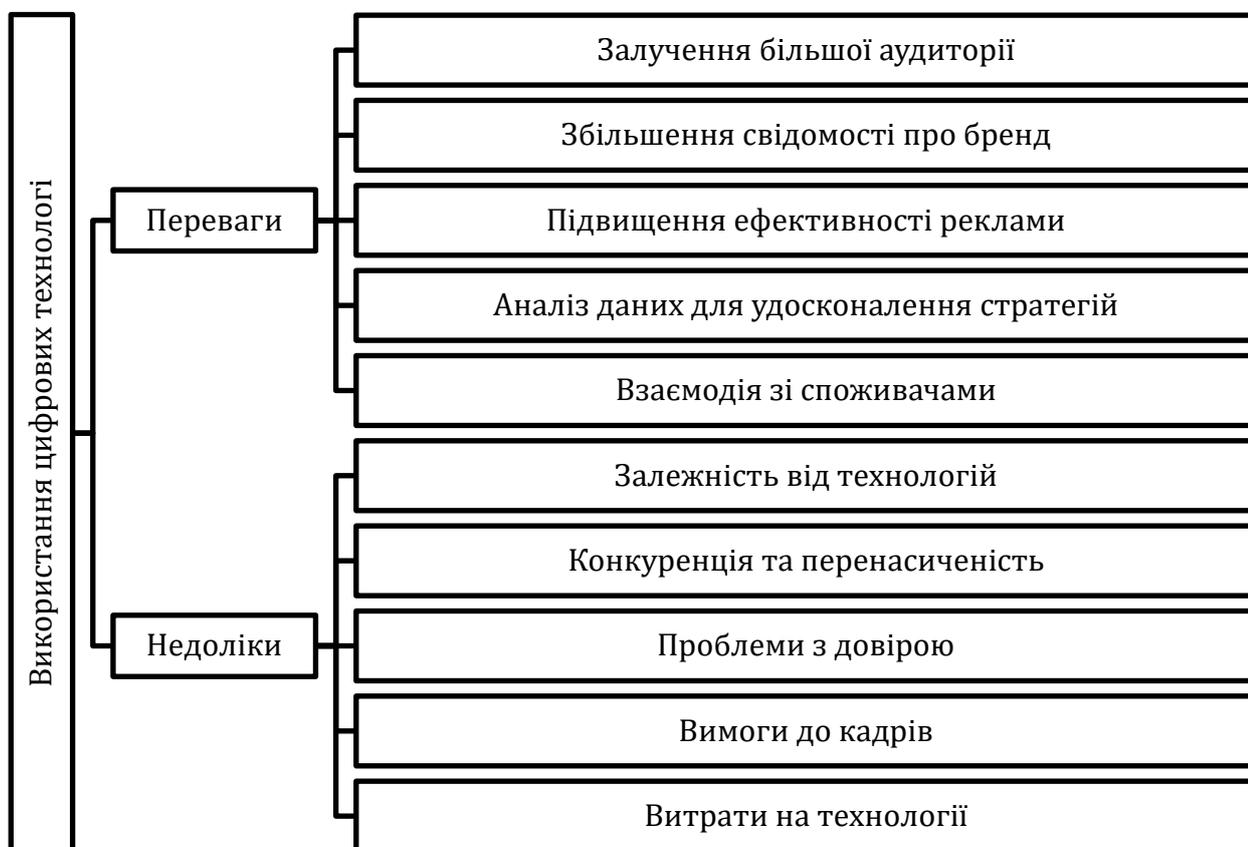


Рисунок 1 – Переваги та недоліки використання цифрових технологій у маркетингу сільськогосподарських підприємств

Розглянемо їх детальніше. *Переваги*:

1. Цифрові технології дозволяють сільськогосподарським підприємствам досягати більш широкої аудиторії через соціальні медіа, електронну пошту, веб-сайти та інші канали. Це дає можливість залучати нових клієнтів та розширювати ринок.
2. Цифрові канали дозволяють підприємствам показувати свою продукцію, взаємодіяти зі

споживачами та будувати позитивний імідж бренду. Вони можуть ефективно презентувати свою унікальність, якість продукції та цінності, що привертає споживачів.

3. Цифрові технології дозволяють точніше налаштувати та спрямовувати рекламні кампанії на відповідну цільову аудиторію. Це дозволяє знизити витрати на рекламу та забезпечити більшу ефективність маркетингових зусиль.

4. Збір і аналіз даних дозволяє сільськогосподарським підприємствам отримувати цінну інформацію про своїх клієнтів, ринок та конкурентні умови. Це допомагає удосконалити маркетингові стратегії, налаштувати пропозицію під потреби споживачів та забезпечувати більш ефективну рекламу.

5. Цифрові технології надають можливість сільськогосподарським підприємствам активно спілкуватися зі своїми клієнтами, отримувати зворотній зв'язок, відповідати на запитання та вирішувати проблеми. Це допомагає підтримувати довіру та лояльність споживачів.

Недоліки:

1. Використання цифрових технологій вимагає наявності належної інфраструктури, доступу до Інтернету та комп'ютерних навичок. Сільські райони можуть мати обмежений доступ до цифрових технологій, що ускладнює їх використання.

2. Цифровий маркетинг в сільському господарстві стає все більш популярним, що призводить до зростання конкуренції. Завдяки доступності цифрових каналів, споживачі отримують велику кількість інформації, що може призвести до перенасиченості та зменшення ефективності рекламних зусиль.

3. У сільському господарстві довіра відіграє важливу роль. Використання цифрових технологій може створювати певні сумніви щодо якості продукції або екологічних практик.

4. Використання цифрових технологій потребує наявності кваліфікованого персоналу, знайомого з цифровими маркетинговими інструментами. Це може бути викликом для сільськогосподарських підприємств, особливо в менших масштабах, які мають обмежений доступ до таких ресурсів.

5. Впровадження та підтримка цифрових технологій можуть бути високовартісними для сільськогосподарських підприємств. Вони повинні бути готові інвестувати в обладнання, програмне забезпечення та навчання персоналу.

Загалом, хоча використання цифрових технологій у маркетингу сільськогосподарських підприємств має багато переваг, воно також пов'язано з викликами та обмеженнями, які потрібно враховувати при плануванні та реалізації маркетингових стратегій.

ВИСНОВКИ

Таким чином, цифрові технології мають великий потенціал для поліпшення маркетингових стратегій сільськогосподарських підприємств. Їх використання дозволяє досягти ряду переваг, проте необхідно також враховувати деякі виклики та обмеження. По-перше, цифрові технології дозволяють підприємствам залучити більше клієнтів шляхом використання цифрових каналів, таких як веб-сайти, соціальні мережі та електронна пошта. Це дозволяє ефективно просувати продукцію та послуги, залучати нових клієнтів та підвищувати свідомість про бренд. По-друге, цифрові технології допомагають збирати та аналізувати дані про клієнтів, що дає можливість підприємствам краще розуміти свою цільову аудиторію, прогнозувати її потреби та налаштувати маркетингові стратегії відповідно. Аналітика даних допомагає підприємствам приймати обґрунтовані рішення та вдосконалити ефективність своїх маркетингових зусиль. По-третє, використання цифрових технологій може вимагати наявності належної інфраструктури, доступу до Інтернету та комп'ютерних навичок. Це може створювати обмеження для сільських районів, які можуть мати обмежений доступ до цифрових технологій. Також, впровадження та підтримка цифрових технологій вимагають інвестицій в обладнання, програмне забезпечення та навчання персоналу. По-четверте, використання цифрових технологій може створювати певні виклики щодо довіри в сільському господарстві. Можуть виникати питання якості продукції та екологічних практик, що може впливати на сприйняття споживачами. Довіра відіграє важливу роль у сільському господарстві, тому необхідно забезпечити якість і екологічність продукції та відкритість у комунікації зі споживачами.

Отже, використання цифрових технологій при розробці маркетингових стратегій сільськогосподарських підприємств є важливим напрямом. Вони допомагають сільськогосподарським підприємствам залучити більше клієнтів, поліпшувати аналітику та управління даними. Однак, необхідно враховувати виклики, пов'язані з доступністю інфраструктури, довірою споживачів та необхідністю кваліфікованого персоналу. Подолання цих викликів може сприяти успішному впровадженню цифрових маркетингових стратегій у сільському господарстві.

Хоча цифрові технології вже використовуються в маркетингових стратегіях сільськогосподарських підприємств, існує кілька напрямків для подальших досліджень, які можуть привести до ще більшого вдосконалення цих стратегій. Зокрема, важливо досліджувати, як цифрові маркетингові стратегії впливають на споживачів сільськогосподарської продукції. Дослідники можуть проводити опитування та фокус-групи, щоб з'ясувати, які фактори впливають на вибір споживачів та їх сприйняття цифрових маркетингових ініціатив. Дослідники також можуть шукати нові способи

використання цифрових технологій у сільському господарстві, такі як застосування штучного інтелекту, Інтернету речей або блокчейн-технологій. Це може сприяти автоматизації процесів, підвищенню продуктивності та зниженню витрат. Загалом, подальші дослідження в галузі використання цифрових технологій у маркетингових стратегіях сільськогосподарських підприємств можуть сприяти подальшому розвитку цього напрямку та забезпечити більш ефективне використання цифрових інструментів для досягнення успіху в аграрному секторі.

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Governance and Economic Development in West Africa: Linking Governance with Economic Misery

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Abstract. In this study, we explored how governance could influence economic misery. Consideration is made of 16 West African countries from 2005 through 2020. The governance indicators used in the study include voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; the rule of law; and control of corruption. Barro's misery index was computed and used in this study. The analysis used the pooled ordinary least squares, fixed and random effect models, and the Granger causality test. The Granger causality test indicated that unidirectional causality runs from government effectiveness, political stability and absence of violence/terrorism, and regulatory quality to economic misery. For the pooled OLS, only voice and accountability aided in reducing economic pain in a significant manner, while the rule of law aggravated financial distress. In the Fixed effect model, none of the governance indicators could significantly influence economic misery, while in the Random effect model, voice and accountability with regulatory quality significantly reduced financial discomfort. Government effectiveness has not in any way exerted a significant influence on economic misery within the study period. Other variables that substantially influenced economic distress within West Africa were trade liberalisation and credit to the private sector, as they both significantly reduced economic misery. The weak governance indicators show poor institutional quality intensifies economic pain within the West African region.

Keywords: governance; economic development; economic misery; inflation; unemployment.

INTRODUCTION

The issue of development has extended to encompass happiness. Consequently, "development has to be more concerned with enhancing the lives we lead and the freedom we enjoy" [14]. It could result from human curiosity to try to explain something as subjective as happiness using a scientific method [22]. Economics frequently uses utility to measure a person's satisfaction from consuming goods and services. "The utility derived from consumption is highly personal and could thus be regarded as a measure of happiness" [35]. On the other hand, the concept of utility is rather theoretical and difficult to apply in practice. To present a more credible study, a happiness measurement based on more concrete factors would be preferable.

There have been efforts to estimate the perception of happiness using variables that are not as theoretical as those used to compute the concept of utility. In 1960 (specifically in 1966), American economist Arthur Okun proposed the Misery Index, which attempted to compute happiness's inverse, unhappiness. According to Okun, "inflation and unemployment are two major causes of unhappiness in the population", so his index is based on these two variables. Further, Okun stated that the misery index can be viewed as "a crude utility or simply a disutility function in an economy" [36]. According to [26], the index measures economic discomfort as an unweighted sum of unemployment and inflation, two important macroeconomic policy outcome indicators. Inflation and unemployment are both affected by a country's economic and political situ-

ation, which means that misery, at least according to Okun's definition, may be affected by how a government decides to structure its economy [22].

Other index variants have been developed, such as the Barro [5] misery index, which incorporates interest and GDP growth rates into the mix. Since then, the index has been used as an essential measure of economic livelihood in many countries, and policymakers use it to guide policy [9]. The index, in general, is a vector quantity with magnitude and direction usually triggered by the magnitude and direction of unemployment, growth rate, and inflation at any given time [2]. As a result, an upsurge in the misery index portrays the manifestation of a negative consumer sentiment connected with economic discomfort.

As a result, it is worth looking into whether there's a link between misery and how well-regulated an economy is. In other words, is there a relationship between the Misery Index and the governance index? Unemployment and inflation, vital components of the misery index, remain critical problems in the country's macroeconomic management. Poor fiscal policy management through government expenditure and taxation can lead to an increase in the general price level, a high unemployment rate, a balance of payment deficit, unequal income distribution, and poverty, among other things [2]. If fiscal policy fails to create productive employment opportunities while addressing poverty and income inequalities in developing countries, this raises serious concerns. It is worth noting that the misery index has since proven useful in predicting election outcomes [43], plus offering some facts about the presidential approval rating [23]. It has also been thoughtfully designed to be a reverse measure of economic good [30].

The misery index, which combines the inflation and unemployment rates, measures a country's macroeconomic situation [10]. Although the misery index has been criticised for being a simplistic representation of economic discomfort, it is inversely associated with consumer sentiment [24] and happiness [11] and positively interconnected to the suicide rate [47] and crime rate [1].

With the global effect of the Covid-19 pandemic, countries are experiencing some form of economic misfortunes like rising unemployment, rising price levels, declining economic growth, and trade deficits. These variables, which are

critical for the economic well-being of the citizens being unfavourable, clearly indicate that the economic misery of the West African countries has increased drastically. The West African region is not exempted from these perils as countries face economic turmoil from the Covid-19 restrictions. Within these scenarios, these countries' governments have employed several policies, like the increase in the monetary policy rate, to align with the global interest rate hikes to tackle inflation. One component these countries have failed to address is the governance style they adopt.

Governance is a vital issue of concern in the West African sub-region [14]. Evidence from the World Governance Indicators (ranges from approximately -2.5 (weak) to +2.5 (strong) governance performance) developed by the World Bank has indicated that West African countries are embedded in negative governance indicators over the years. In 2020, a country like Nigeria, which is regarded as "the Giant of Africa", recorded negative governance indicators as follows: Voice and accountability (-0.59); Political Stability and Absence of Violence/Terrorism (-1.86); Government Effectiveness (-1.03); Regulatory Quality (-0.96); Rule of Law (-0.81); and Control of Corruption (-1.10). The misery index in the country has risen from 14.61% in 2011 to 22.91% in 2020 and then to 25.29% in 2021. Government intervention in an economy (based on the Keynesian view) is expected to bring forth the desired economic outcome. However, with poor institutions, such desired results may not be attainable. With the poor governance indicators of the West African countries, could this be a reason behind the rising economic misery in Nigeria? In this regard, this study seeks to investigate the influence of governance on financial distress within the West African sub-region. Since there is no database offering the level of economic misery, this study will have to make such computations using Barro's approach.

Given the above problem, the following questions seek answers: What is the level of misery index within West Africa? Is there any relationship between governance and economic misery in West Africa? How do the governance indices affect the economic misery index in West Africa?

This study's core objective is to explore institutional quality's influence on economic misery in 16 West Africa from 2005 to 2020. The specific

goals are to: compute the misery index for the West African countries, determine the nature of the causal relationship between governance indices and the misery index in West Africa, and examine the influence of governance indices on the economic misery index in West Africa.

The goal of government is frequently fundamental in political discourse in politics. Libertarians may agree with John Locke that "the state's only function is to protect life and property" [20, 22]. The socialist, on the other hand, may feel that "the government exists to redistribute wealth and power in society to assist the working class" [45]. This debate occurs in every country on the planet. How severely an economy should be controlled and whether this makes people happier or more miserable is an issue that will almost certainly remain important for as long as there is an economy to shape [22].

For years, political debates have been largely based on this concept, and for a good reason – questions on how an economy should be structured influence people's lives. Politicians throughout the world make economic decisions regularly. Consequent to the topic's importance, more excellent information about the issue should be seen as desired. As a result, this study intends to contribute to the discussion by giving information on how governance affects economic misery. This will be accomplished by investigating the impact of governance variables on the Barro Misery Index in the West African sub-region.

This study explores the influence of governance indicators on economic misery within the West African region. The study focuses on 16 West African countries, and data covering the period of 2005 through 2021 will be utilised. The study considers the six core governance indicators (voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption) as developed by the World Bank, and the misery index will be the Barro's misery index. Though there are other measures of misery index, such as Okun's misery index, the choice of Barro's misery index is more encompassing since it does not only capture the inflation and unemployment components; but also considers the rate of interest and the economic growth as crucial variables in its computation.

Literature Review

Conceptual Issues

Misery Index. This is also known as the economic discomfort index (EDI), which measures the citizens' misery level. Concerning Okun's postulation, the misery index is the sum of unemployment and inflation. But this has been adjusted to incorporate lending interest and GDP growth rates. This approach is Barro's, where the misery index is computed as the sum of inflation, unemployment, and lending interest rate, less the GDP growth rate.

Governance. Governance refers to "how any organisation, including a nation, is run. It includes all the processes, systems, and controls used to safeguard and grow assets" [46]. Developing a system of governance that fosters, supports, and sustains human development, particularly for the most marginalised and poor, is a challenge for all societies. However, the hunt for a concisely stated notion of governance has just begun.

Participatory, open, and accountable government are just a few characteristics of good government. Additionally, it works well and fairly. It also supports the rule of law. The voices of the poorest and most vulnerable people are heard when decisions are made regarding the distribution of development resources, which is made possible by good governance, ensuring that political, social, and economic priorities are based on a broad consensus in society.

The three pillars of governance are economic, political, and administrative. Economic governance is the decision-making procedures impacting a nation's economic activities and interactions with other economies. It significantly affects equity, poverty, and quality of life. Making decisions to create policy is the process of political control. Implementing policies is done through a system of administrative governance. Considering all three, good governance describes the procedures and frameworks that direct political and socioeconomic interactions. The state is included in control but extends beyond the state to have the private sector and civil society organisations. It is hotly contested what the state is made up of.

The state is referred to here as including both political and public sector organisations. The effectiveness with which the government meets the needs of its citizens is of primary concern to UNDP. The informal market sector and private businesses (such as those engaged in manufac-

turing, trade, banking, cooperatives, and other activities) are included in the private sector. Some claim that civil society consists of the private sector. However, the private sector is distinct in that its participants impact social, economic, and political policies to improve the environment for businesses and the market.

Between the individual and the state, civil society is made up of both organised and unorganised people who interact socially, politically, and economically under the control of both formal and unofficial rules and laws. According to UNDP, enhancing good governance capabilities is the first step in eradicating poverty. The growing international consensus that good governance and sustainable human development are inseparable has been led by the United Nations Development Programme (UNDP). Thoughts on sound management and the connection between it and sustainable human development differ significantly among development professionals and in academic literature [46].

The measures of governance in this study are given as follows: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption.

Theoretical Review

This study hinges on institutional theories. Since 1970, the field of public administration institutions has become more and more open to contributions from other social sciences, including history, political science, and organisational sociology. In addition to considering institutions as autonomous actors and dependent variables, it has become less normative and more empirical. In academic circles, new schools of thought have emerged. The term "institutional theory" oversimplifies how different these institutions are from one another because they have different agendas [44]. Four of these were identified by Thoenig [44]: "historical institutionalism, sociological institutionalism, new institutionalism, and local order or actor institutionalism".

Historical Institutionalism. Early in 1980, the author [18] noted that a theoretical movement known as "historical institutionalism" emerged [42]. This viewpoint challenges the idea that the state apparatus operates as an impersonal, passive agent and defines public administration as a component of political life. Why does the public sector distribute resources and authority inequi-

tably? Competition for limited resources between groups and issues is the essence of politics [44]. As emphasised by neo-Marxists [21, 15], neo-corporatists [3], and organisational theorists [12], it appears to be much more like a complex set of differentiated institutions [44].

According to historical institutionalism, the results of public policies do not always correspond with the preferences or interests of the most prominent social groups [44]. Current and previous arrangements also guide them. Past policy decisions influence decisions made today. As a result, the institutions, customs, and processes that govern the interactions between economic actors and the state are path-dependent [44]. In these situations, enacting radical and voluntary changes in public administration is mainly futile. The decisions themselves are structured by the institutions already in place. Historical or longitudinal approaches emphasise that "politics and policies shape institutions", contrary to older forms of institutionalism which hypothesised "those institutions shape policies and politics". Public institutions serve as the foundation for collective action and are taken for granted. They have become accepted social norms and are never questioned. They resist any incremental change or reform a single actor implements because they are social constructs [17].

Sociological Institutionalism. Selznick's Tennessee Valley Authority study was a groundbreaking contribution to the sociological institutionalism perspective [38, 39]. Insofar as their field units adopt and advance values and interests ingrained in the local communities in which they operate, public agencies as organisations are considered institutional actors instead of simply being tools used to carry out goals and values established by a principal. The first lesson is that there may be discrepancies between the stated goals and what the organisation accomplishes or aspires to. It pursues productive goals as well as self-supporting and self-maintaining objectives. It evolves into a polymorphous system whose battle for survival compels it to disregard or obstruct its objectives. Public bureaucracies have a life of their own and sometimes even start their businesses. Participants don't just act by the roles that have been assigned to them. Therefore, public management should consider how participants are influenced, changed, and completed by informal structures in addition to the art of designing formalised systems. In some cases, what happens at the bottom of the hierarchy, in grass-

roots units, matters even more than what occurs at the top. The limitations and pressures imposed by the external local context in which a public bureaucracy operates must be managed.

"The process by which agency members acquire values that go beyond the technical requirements of organisational tasks is institutionalisation" [44], which is the second lesson. No company is devoid of values. According to [40], "to institutionalise is to infuse with value beyond the technical requirements of the task at hand." It is brought about by the selective hiring of staff, by forging close ties or alliances with outside groups using techniques like implicit alliances, embracing similar values, or cooperating with local partners. Thick institutionalisation occurs "when certain rules or practices are revered, certain departments or employees within a public agency develop into autonomous power centres with their vested interests, and when there are administrative rituals, symbols, and ideologies" [44]. Institutions run by the government grow over time. They gain respect from their peers and outside vested interests due to their unique societal position. About 40 years later, sociological institutionalism had its actual birth or revival. It supports some theories that Selznick had previously put forth. The constraints and pressures imposed by the environments in which organisations operate must be managed.

New Institutionalism. The origins of the explicit school of thought known as "new institutionalism" can be found in a paper written by two political scientists [29]. The government's role is to create its environments, not to change with them. Political initiatives and societal visions steer public administration. As a result, institutions rather than instruments should be used to conceptualise organisations that handle public affairs [8]. They create and put into action rules that specify how the game should be played.

Who is a legitimate participant? What are the acceptable agendas? Which sanctions should be applied in case of deviations? Which processes would be able to induce actual changes? The way people think, interpret facts, act and cope with conflicts are influenced and simplified by public administration. Do public administration reforms match societal needs? And do they also help and enhance democratic participation? [44].

The notion that public organisations can be reformed and controlled from the top down and technocratic is regarded as dangerous by new

institutionalism. The less-than-tenable axioms or hypotheses supporting and legitimising reforms must be made explicit in social science research. For instance, neo-liberal economics' rational choice and agency theory, which are widely held postulates and are purported to be generally applicable, are the foundation of New Public Management approaches. A perspective known as contextualism maintains that politics is merely a by-product of social constructs like social classes, culture, or demography.

According to the reductivism theory, political phenomena are merely the results of specific individual behaviours. For example, how a public agency operates can be explained by the behaviour model of a single bureaucrat. According to economic utilitarianism, people's actions are primarily motivated by self-interest. Functional approaches adopt Darwinian principles; historical evolution selects organisational forms that meet environmental requirements and eliminates those that do not. According to an instrumental perspective, allocating limited resources is the primary function of political life, and it is acceptable to rationalise the selection criteria used by governments and budgets.

An idea for a theory of learning in ambiguous settings is provided by new institutionalism. It forecasts and explains how and why people and organisations try to understand the context they face in a particular action context [29]. It examines why each chooses to focus on a specific topic at a given time and how information is gathered and used [29]. For example, decentralisation policies in municipalities, complex public building projects [37], constitutive reforms of the European Union [7], municipal accounting, and central government officials [13] continue to pique the interest of social scientists. According to this perspective, public management results from human activity rather than specific techniques. Contrary to most proponents of the New Public Management argument, organisations are not passive, leaders are not entirely controlled, and policy decisions are not unanimous.

Empirical Review

Authors [6] investigated the historical impact of fiscal policies and institutions on unemployment. They estimated reduced-form unemployment equations for 21 OECD countries from 1982 to 2003 using cross-country/time series data. They discovered that a high tax rate raises the rate of unemployment. The author [25] employs a time-

series approach to investigate the relationship between public spending and inflation in Mediterranean countries from 1970 to 2009. He discovered a long-run relationship between the growth of government spending and inflation in some countries.

Authors [19] investigated the impact of government spending on unemployment in 20 OECD countries from 1980 to 2007. According to the study, a 1% upturn in government spending reduced unemployment by about 0.3% in the current year. This effect was found to be stronger during recessions than during booms, and it was also stronger under a fixed exchange rate regime than under a floating control.

The author [31] applied the co-integration and Vector Error Correction Model to time series data from 1970 to 2010 to investigate the long-run and short-run impact of government spending on inflation in three emerging Asian economies: India, Indonesia, and Vietnam. The findings in all three sample countries confirm a long-run cointegrating causal link between government spending and inflation.

The author [33] used aggregate annual time series data from 1980 to 2013 to investigate fiscal policy's effect on Nigeria's unemployment. The co-integration method and ECM were used. The study discovered a long-run equilibrium relationship between the variables. The parsimonious ECM result shows that "government spending has a negative and significant relationship with unemployment in Nigeria". The results also show a long-run rapport between fiscal policy and unemployment, as indicated by the sign and statistical significance of the ECM coefficient.

In the study [32] investigated the relationships between Nigeria's fiscal deficit, financing options (domestic and external borrowing financed deficits), and unemployment rate. The data were analysed using the vector autoregression (VAR) econometric technique. It discovered a long-run relationship between unemployment and endogenous variables: "GDP per capita, overall fiscal deficit, domestic credit to the private sector, domestic borrowing financed deficit, external borrowing financed deficit, and foreign direct investment". The study also discovered a link between the unemployment rate and fiscal deficits.

Researchers [10] examined the relationship between the misery index and economic growth in Iran and the impact of governance on the misery

index from 1974 to 2011. The vector autoregressive model was used to achieve this goal. Government effectiveness was used as a proxy for good governance in the study. The study discovered that economic growth has a negative relationship with the misery index. Another finding is a link between the type of governance and the misery index.

The author [1] used data from 1986 to 2016 to examine the effect of institutional quality and misery index on the crime rate in Nigeria. In estimating the model built for the study, the ARDL approach to co-integration was used. The findings indicate that the variables have a long-run relationship. It also reveals that institutional quality reduces crime rates significantly in the short run, whereas economic hardship increases crime in Nigeria. These findings suggest that gradual improvements in institutional arrangements within democratic administrations would provide a more effective and efficient peaceful means of resolving disputes and realigning socioeconomic inequalities, which appear to be Nigeria's primary causes of criminal activity.

Researchers [2] examined the impact of fiscal policy on the Nigerian misery index from 1981 to 2018. Fiscal policy variables such as capital expenditure, recurrent expenditure, and government external debt were used. Dummy variables were used to capture the effects of policy changes on the Nigerian misery index. The misery index was calculated by adding unemployment, inflation, and lending rates to the real GDP per capita growth rate. The ordinary least squares (OLS) regression analysis method was used in this study. According to the findings, an increase in government spending reduced the misery index, but rising external debt in the current period worsened the misery index in Nigeria.

Researchers [22] investigated the relationship between misery and economic freedom. A random effects model with clustered standard errors was used to compare Okun's Misery Index and the Heritage Foundation's Economic Freedom Index. The Misery Index is calculated by adding a country's inflation and unemployment rates, which have been shown to impact personal well-being negatively. The findings revealed a significant inverse relationship between the Misery Index and the Economic Freedom Index. This suggests that greater economic freedom leads to a happier population.

From 1991 to 2019, Atan and Effiong [4] investigated the impact of government activities on inflation in Nigeria. The Augmented Dickey-Fuller unit root test, the Bounds test for co-integration, and the error correction model were all used in the study. The findings indicated that government activities in Nigeria do not drive inflation in the long or short run. The paper concluded that increased government spending in Nigeria is still required because it is not inflationary. Government activities have not yet reached Collin Clerk's 25% critical limit.

In exploring the influence of governance on economic development, researchers [14] referenced ten selected West African countries from 2002 to 2019. The study utilised the random effect model and the autoregressive distributed lag (ARDL) in its estimation. The "Random Effect Model" found that the "rule of law" negatively and significantly impacts West Africa's economic development. The economic development of West Africa, meantime, was positively and significantly affected by voice and accountability. The ARDL model revealed that although the rule of law had a negative but minor impact on economic development, regulatory quality had a negative but considerable impact. On the other hand, political stability, lack of violence and terrorism, and voice and accountability had a beneficial and significant long-term effect on economic development. None of the governance indices substantially impacted the development of the sub-region in the near term, although the majority showed a negative impact.

The author [16] used data from 1985 to 2020 to investigate fiscal policy's impact on Nigeria's misery index. The misery index was calculated by adding unemployment, inflation, and lending rates to the percentage change in real GDP per capita [5]. The Autoregressive Distributed Lag - ARDL model served as the primary analytical tool. The ARDL Bounds test revealed that the variables had a long-run association. The findings revealed that recurrent expenditure and external debt had decreased Nigeria's misery index over the study period. However, capital expenditure, total tax revenue, and domestic debt have not effectively reduced Nigeria's misery index over the study period. Factors responsible for this include "mismanagement, corruption, embezzlement and the inability of the government to detect and eradicate all administrative loopholes for capital expenditure, tax revenue and domestic

debt to contribute meaningfully to the reduction of misery index in Nigeria" [16].

It is observable from the above review that the majority of the studies centred on fiscal policy (government spending, taxation, budgetary deficits, and public debt) without some substantial attention to governance indicators. Also, these studies only utilise components of the misery index (unemployment, inflation, or growth) in their analysis without constructing a unique measure of economic misery (except for [10], who considered government effectiveness in the Iranian case). This study will compute the misery index for the West African countries and examine how governance indicators affect its level within the region. The study will capture fifteen West African countries, and the time frame will be from 2005 to 2021.

METHODOLOGY

Model Specification. In exploring the influence of governance on economic misery (measured by the economic misery index or financial discomfort index, EDI) within the West African Sub-region, we consider key governance indicators like voice and accountability (VAC), political stability and absence of violence/terrorism (PVT), government effectiveness (GEF), regulatory quality (RQT), rule of law (RLW), and control of corruption (CCP). The model is therefore specified as follows (1):

$$EDI_{it} = f(VAC_{it}, PVT_{it}, GEF_{it}, RQT_{it}, RLW_{it}, CCP_{it}) \quad (1)$$

where the variables are as earlier defined, and i and t capture the country and time, respectively.

By controlling equation (1) with other variables like trade openness and financial sector development, credit to the private sector, and population growth, equation (1) now becomes (2):

$$EDI_{it} = f(VAC_{it}, PVT_{it}, GEF_{it}, RQT_{it}, RLW_{it}, CCP_{it}, TRP_{it}, FSD_{it}, POP_{it}, CPS_{it}) \quad (2)$$

where TRP measures the degree of openness of the economy, and FSD captures financial sector development.

Equation (2) is thereby presented to reflect the estimable form of the model in its econometric form as follows (3):

$$\begin{aligned}
 EDI_{it} = & \gamma_0 + \gamma_1 VAC_{it} + \gamma_2 PVT_{it} + \gamma_3 GEF_{it} + \gamma_3 RQT_{it} \\
 & + \gamma_4 RLW_{it} + \gamma_5 CCP_{it} + \gamma_6 TRP_{it} \\
 & + \gamma_7 FSD_{it} + \gamma_8 POP_{it} + \gamma_9 CPS_{it} + \mu_t \quad (3)
 \end{aligned}$$

Equation (3) portrays the econometric form of the model, where γ_0 is the constant term; γ_1 to γ_7 are the slope coefficients of the explanatory variables, and μ is the error term assumed to be normally distributed.

A Priori Expectation. The a priori expectation for γ_0 is expected to be non-zero ($\gamma_0 \neq 0$) to reflect that our estimation does not follow regression through the origin. Also, we are not sure of the a priori expectation for γ_1 to γ_4 ($\gamma_1 = \gamma_2 = \dots = \gamma_5 = ?$) implying that the slope coefficients for the governance indicators can either be positive or negative but not equal to zero. Meanwhile, the a priori expectation for γ_6 is positive ($\gamma_6 > 0$) pointing to the fact that increasing liberalisation could harm the domestic economy through adverse effects on the exchange rate, increasing economic misery. To γ_7 , it is expected to be negative ($\gamma_7 < 0$) to portray that an improved financial system will aid financial flows for investment which could reduce economic misery within the West African region. Also, γ_9 is expected to be harmful as credit to the private sector will aid in stimulating investment and spur employment and overall economic growth, which are critical pointers in the computation of the misery index. Lastly, γ_8 is expected to be positive as the increasing population will pressure the available resources, resulting in higher unemployment.

Nature and Sources of Data. The data to be used in this study are panel data which cover the period of 2005 through 2020. These data are to be obtained from a cross-section of 16 West African countries of Benin Republic, Burkina Faso, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo. Data on all the governance indicators will be obtained from the World Governance Indicators. In contrast, data on trade openness, financial development, and construction of economic discomfort index (unemployment rate, inflation rate, GDP growth rate, and lending interest rate) will be obtained from the World Development Indicators.

Measurement of Variables. Initially, the economic discomfort index is measured as the sum of un-

employment and the inflation rate in the economy. In expanding this measure, Barro's (1999) misery index incorporates interest rates and Gross Domestic Product (GDP) growth rate into the mix. As such, our economic discomfort index is constructed based on Barro's (1999) approach, where the financial discomfort index (*edi*) will be given as the sum of inflation (*inf*), unemployment (*unm*), and interest rate (*int*) less GDP growth (*gdp*). Hence, $EDI = (inf + unm + int) - gdp$. The index varies between 0% and 100%, with higher values representing more significant economic discomfort experienced by the residents within an economy. Trade openness is measured in percentage as the sum of export and import (total trade) divided by GDP. The higher the rate, the higher the degree of openness of the economy. Also, financial development is measured in percentage as the ratio of broad money supply to GDP. A higher rate captures a higher degree of financial depth. The governance indicators are counted as an index between the -2.5 (weak) to +2.5 (strong) range. Higher values represent better governance performance compared to lower values.

Analytical Technique. Since our study is based on panel data, the analysis will be conducted using panel data analysis based on the two identified objectives. For the first objective, the study will utilise the Pairwise Granger causality tests (stacked test) to capture the nature of the causal relationship between the governance indicators and economic misery within the West African sub-region. Meanwhile, the second objective will be addressed by estimating the specified model using pooled OLS approach, fixed effect and random model to panel data analysis, and Granger causality.

EMPIRICAL ANALYSIS

Stylised Facts

The stylised facts here are based on the misery index and governance indices across the selected West African countries.

Stylised Facts on Misery Index. The selected West African countries are characterised by various levels of misery index as computed for this study. Figure 1 captures this situation as of 2020.

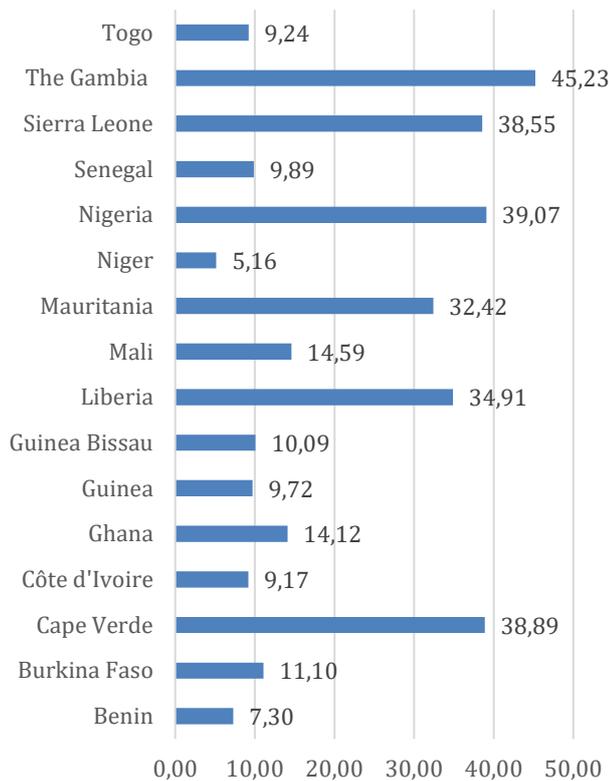


Figure 1 – Misery Index for the Selected Countries, 2020

As can be observed from Figure 1, Gambia has the highest misery index of 45.23%, followed by Nigeria with 39.07%. The country with the most minor misery index is Niger Republic, with only 5.16%, followed by Benin Republic, with 7.30%. Other countries include Cape Verde, with a misery index of 38.89%; Sierra Leone, 38.55%; Liberia, 34.91%; Ghana, 14.12%; and Senegal, 9.89%. It can be observed that most of the French-speaking West African countries have a lower misery index compared to their Anglophone counterpart.

Stylised Facts on Governance Indicators. The governance indicators captured are voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption. These indicators, in the range of +2.5 (strong) to -2.5 (weak), are displayed in Figures 2–3.

As can be observed from Figure 2, where voice and accountability are captured, it is clear that only Cape Verde, Ghana, and Senegal have cheerful voice and accountability index. Every other country exhibits a negative index, with the most predominant in Liberia being -1.38.

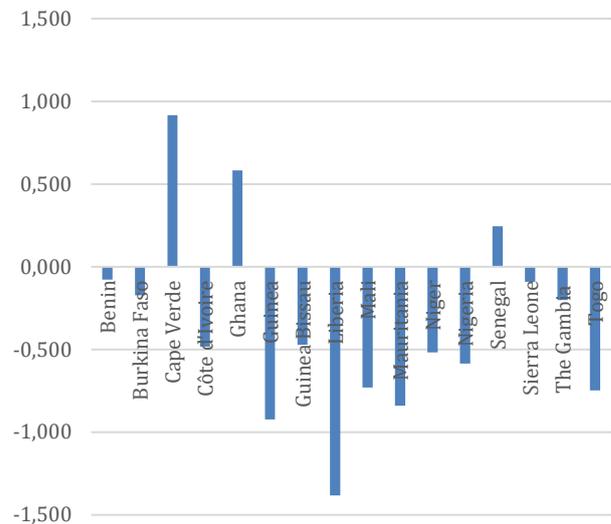


Figure 2 – Governance Indicators: Voice and Accountability, 2020

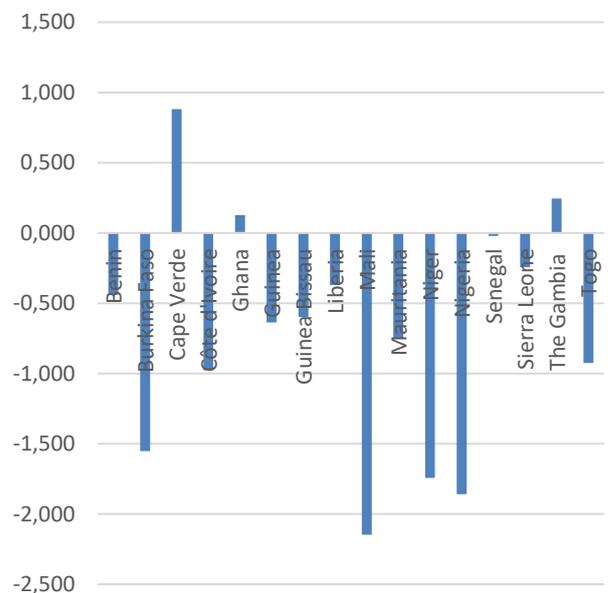


Figure 3 – Governance Indicators: Political Stability and Absence of Violence/Terrorism, 2020

For Figure 3, where political stability and absence of violence/terrorism are captured, it can be noticed that apart from Cape Verde, Ghana and Gambia, every other county exhibit negative value, the highest being -2.15 for Mali. The recent high index for Mali could be linked to the military intervention in politics in recent times, which has shaken the democracy of the country.

Figure 4 showcases that most of the West African countries are not effective in terms of their governance.

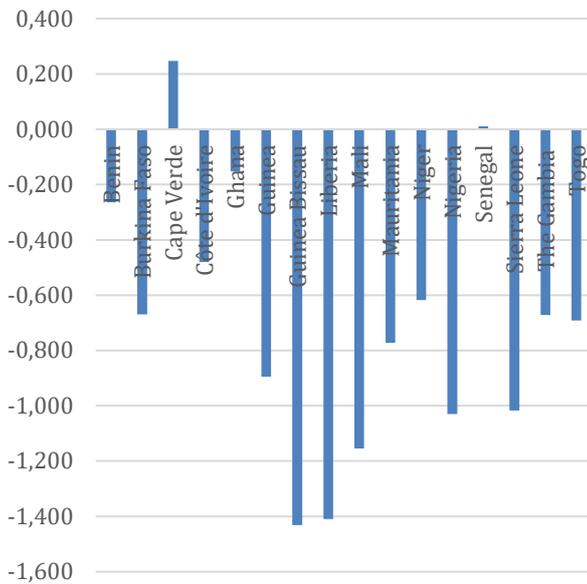


Figure 4 – Governance Indicators: Government Effectiveness, 2020

This is because apart from Cape Verde and Senegal, with a very minute positive value, every other country within the region exhibits negative government effectiveness. Nigeria, regarded as the giant of Africa, falls under this category, with -1.03 as its government effectiveness index. The weakest country regarding government effectiveness is Guinea-Bissau with -1.43, followed by Liberia with -1.41.

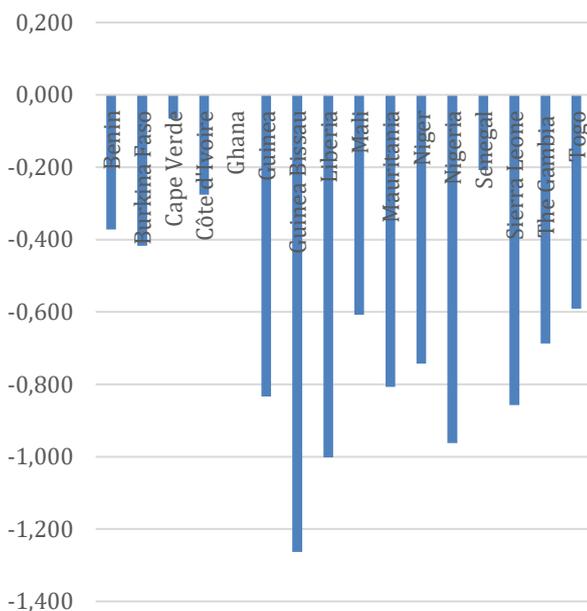


Figure 5 – Governance Indicators: Regulatory Quality, 2020

Ghana's regulatory quality is only slightly positive, while every other country exhibits negative values. Guinea Bissau becomes the weakest regarding regulatory quality (-1.26), followed by Liberia (-1.002). Nigeria also has a weak regulatory framework, given that its index is -0.963, although it is better than a few of its partners, like Sierra Leone. Though it is weak in Cape Verde and Ghana, they are not as vulnerable as the countries above in the region.

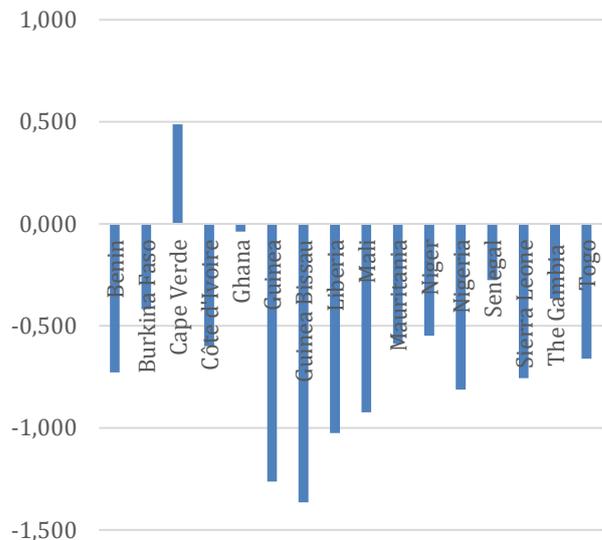


Figure 6 – Governance Indicators: Rule of Law

Based on Figure 6, which captures the rule of law, it is clear that many West African countries are fragile regarding the rule of law. Only Cape Verde, as of 2020, exhibits positive value, while all other nations were noted to have negative values, with Guinea Bissau (-1.37) and Guinea (-1.26) being in the weakest position.

When it comes to control of corruption, Cape Verde seems to present a promising result given its firm control of crime, as reflected in Figure 7.

Though Senegal also has a positive value, such is very little and still tilts to the weak status. It can be seen that Guinea Bissau exhibits the most vulnerable (-1.32) when it comes to control of corruption, followed by Nigeria (-1.097).

Weak governance indicators have characterised West African countries in recent years. Whether these indicators could have an undesirable effect on the economic misery of the region will be explored further by using an econometric approach.

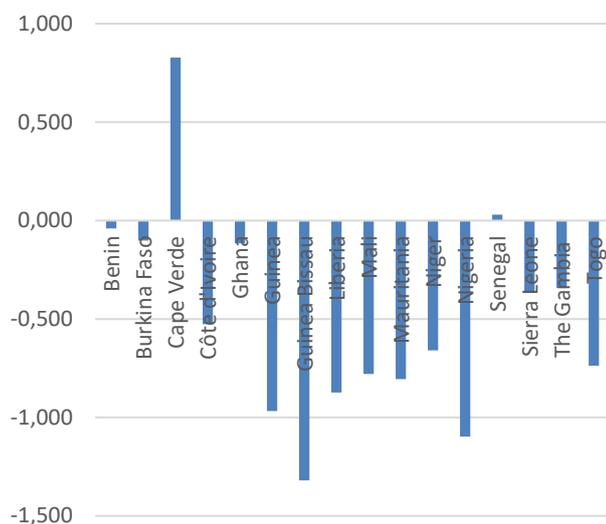


Figure 7 – Governance Indicators: Control of Corruption

Descriptive Statistics of Governance Indicators

The descriptive properties of the variables are presented in Table 1, where both the measures of position and dispersion are displayed.

Table 1 – Descriptive Statistics of Governance Indicators

Indicators	CCP	VAC	GEF	PVT	RLW	RQT
Mean	-0.608	-0.418	-0.796	-0.566	-0.661	-0.610
Maximum	0.951	0.979	0.354	0.963	0.653	0.128
Minimum	-1.559	-1.983	-1.760	-2.400	-1.586	-1.577
Standard Deviation	0.511	0.652	0.445	0.774	0.496	0.360
Skewness	1.216	0.148	0.492	-0.390	0.570	-0.041
Kurtosis	4.808	2.671	2.691	2.543	3.159	2.247
Jarque-Bera	97.932	2.094	11.339	8.731	14.146	6.117
Probability	0.000	0.351	0.003	0.013	0.001	0.047
Observations	256	256	256	256	256	256

It is clear from Table 1 that all the governance indicators have negative average values across the West African region. For instance, control of corruption averaged -0.608 with a standard deviation of 0.511; voice and accountability averaged -0.418 with a standard deviation of 0.652; government effectiveness averaged -0.796 with a standard deviation of 0.445; political stability and absence of violence/terrorism averaged -0.566 with a standard deviation of 0.774; regulatory quality averaged -0.610 with a standard deviation of 0.360; and rule of law averaged -0.661 with a standard deviation of 0.496. Only voice and accountability are normally distributed of all the indicators, given that the Jarque-Bera statistic is insignificant at the 5% level.

Correlation Analysis

As seen in Table 2, the correlation matrix captures the association between the governance indicators and economic misery (economic discomfort index) within the West African zone.

Table 2 – Correlation Matrix of Governance Indicators with Misery Index

	CCP	VAC	GEF	PVT	RLW	RQT	EDI
CCP	1						
VAC	0.735	1					
GEF	0.860	0.779	1				
PVT	0.614	0.556	0.546	1			
RLW	0.921	0.789	0.881	0.664	1		
RQT	0.765	0.738	0.868	0.509	0.848	1	
EDI	-0.019	-0.226	-0.073	0.030	-0.021	-0.117	1

It is clear from Table 2 that all the variables are inversely correlated with economic misery except for political stability and the absence of violence/terrorism, which exhibits a direct correlation with financial pain. However, the correlations between economic distress and governance indicators are somewhat weak across all hands. This implies that the degree of association between governance indicators and economic misery is soft.

Granger Causality Test

The pairwise Dumitrescu-Hurlin causality test is deployed in the study to detect the direction of causality between the governance indicators and economic misery within West Africa. The result is captured in Table 3 for all six governance indicators as they Granger-cause economic misery.

Table 3 – Pairwise Dumitrescu Hurlin Panel Causality Tests Result

Null Hypothesis	W-Stat.	Zbar-Stat.	Probability
EDI does not homogeneously cause CCP	2.6306	0.0686	0.9453
CCP does not homogeneously cause EDI	3.5199	1.0997	0.2714
EDI does not homogeneously cause VAC	3.7014	1.3102	0.1901
VAC does not homogeneously cause EDI	3.6387	1.2374	0.2159
EDI does not homogeneously cause GEF	1.9288	-0.7452	0.4562
GEF does not homogeneously cause EDI	4.7230	2.4946	0.0126*
EDI does not homogeneously cause PVT	2.7819	0.2440	0.8072

Null Hypothesis	W-Stat.	Zbar-Stat.	Probability
PVT does not homogeneously cause EDI	4.3065	2.0117	0.0443*
EDI does not homogeneously cause RLW	4.0835	1.7531	0.0796*
RLW does not homogeneously cause EDI	3.0212	0.5215	0.6020
EDI does not homogeneously cause RQT	3.5965	1.1885	0.2346
RQT does not homogeneously cause EDI	4.2433	1.9384	0.0526*

Given Table 3, there is no causality between control of corruption and economic misery in West Africa as none of the null hypotheses are rejected. Therefore, neither financial distress causes crime nor corruption causes economic discomfort within the region. Also, there is no causality concerning economic misery and voice and accountability, given the insignificance of the test statistics at the 5% level. For financial distress and government effectiveness, a unidirectional causality flows from government effectiveness to economic misery. This implies that government effectiveness causes economic pain, and the reverse does not hold. It is also being observed that a unidirectional causality flows from political stability and the absence of violence/terrorism to economic misery, as the null hypothesis is rejected at the 5% level.

Consequently, political stability and the absence of violence/terrorism cause economic distress and not vice versa. In the case of the rule of law, it is observed that a unidirectional causality flows from economic misery to the rule of law, implying that economic pain causes the rule of law and not the rule of law causing financial distress. Lastly, the regulatory framework is noted to cause economic misery as a one-way causality flows from regulatory quality to economic pain within the West African region.

Pooled-OLS Regression Analysis

The panel least squares (pooled OLS) are utilised to ascertain the influence of governance indicators on economic misery within the West African region. The regression result is conducted in two aspects. First, only the governance indicators are considered as explanatory variables. In the second case, governance indicators are included along with other control variables like trade openness, population growth, financial sector development, and credit to the private sector.

The regression result is presented in Tables 4 for the two aspects.

Table 4a – Pooled OLS Regression Result of Governance Indicators on Economic Misery

Variable	Coefficient	Std. Error	t-Statistic	Probability
CCP	-1.0128	3.9438	-0.2568	0.7975
VAC	-10.4017	1.9414	-5.3577	0.0000*
GEF	3.5016	4.3693	0.8014	0.4237
PVT	1.4864	1.2947	1.1481	0.2520
RLW	12.5400	5.0732	2.4718	0.0141*
RQT	-9.0964	4.5763	-1.9877	0.0479*
C	17.5029	1.8264	9.5835	0.0000*
R ²	0.1372	F-statistic		6.6002
Adjusted R ²	0.1164	Prob (F-statistic)		0.0000*

Notes: * portrays significance at the 5% level

Table 4b – Pooled OLS Regression Result of Governance Indicators on Economic Misery with some control Variables

Variable	Coefficient	Standard Error	t-Statistic	Probability
CCP	-0.8360	4.2403	-0.1972	0.8439
VAC	-13.6406	1.9058	-7.1575	0.0000*
GEF	1.0725	4.1992	0.2554	0.7986
PVT	-0.6020	1.2904	-0.4665	0.6413
RLW	20.4581	4.9170	4.1607	0.0000*
RQT	-5.7016	4.6097	-1.2369	0.2173
TRP	-0.0723	0.0334	-2.1645	0.0314*
POP	-9.6397	1.7572	-5.4859	0.0000*
FSD	0.1305	0.0966	1.3504	0.1781
CPS	-0.4608	0.1356	-3.3979	0.0008*
C	54.7023	6.9369	7.8857	0.0000*
R ²	0.2783	F-statistic		9.4473
Adjusted R ²	0.2488	Prob (F-statistic)		0.0000*

Notes: * portrays significance at the 5% level

From the regression result in Tables 4, it can be seen that the effect of control of corruption on economic misery is negative but insignificant. Implying that corruption control within the West African region does not reduce economic misery at a substantial level. For voice and accountability, the result indicates that its effect on economic misery is negative and significant at the 5% level. Implying that voice and responsibility as an indicator of governance has helped reduce economic misery within the West African region over the study period. A 1 unit increase in the voice and accountability index will lead to a 10.4017 decrease in financial misery. Government effective-

ness is observed to wield a positive but insignificant increase in economic misery of the region over the study period. This implies that the government has not been effective, as shown by the weak indicator, and as such, it cannot reduce economic misery instead of aggravating it.

Meanwhile, the rule of law wielded a positive and significant effect on economic misery. This implies that disregarding the rule of law is an essential factor that could aggravate economic misery. Given the coefficient, a 1 unit increase in the direction of law leads to 12.54 units increase in economic misery within the study period. The regulatory quality has the desired sign as it is seen to exert a negative and significant effect on economic misery within the region. A 1-unit increase in regulatory rate will lead to a 9.0964-unit decrease in financial misery. Consequently, reasonable regulations will reduce unemployment and inflation and as well promote growth which could result in a reduction in economic misery within the region.

The intercept of the regression result indicates that holding all the governance indicators constant, the level of economic misery within the West African region will be 17.5029%. The overall model is significant at 5% given the F-statistic, and the model jointly explains 13.72% of the total variations in economic misery within the West African region. Given this weak explanatory power of the model, we cannot fully state that governance is a strong predictor of economic misery within West Africa. This necessitates the introduction of other critical variables in the model, and the result is presented subsequently.

Given the introduction of other variables, it can be seen that trade openness generates a negative and significant effect on economic misery. A one-unit increase in trade openness will lead to a 0.0723-unit decrease in financial misery. This can be linked to the fact that increased trade will ensure the transfer of technology and job creation, which will aid productivity and employment of labour. The resultant effect could be a decline in unemployment and an increase in growth. It can also be seen that population growth has a negative and significant impact on economic misery in West Africa. A one-unit population increase will lead to a 9.6397 unit decrease in economic misery. This indicates that population growth is not associated with increasing economic misery within the region. For financial sector development, the effect is positive but insignificant in in-

fluencing economic misery. Credit to the private sector is a crucial variable influencing economic misery as it exerts a negative and significant effect. Given the coefficient, a one-unit increase in credit to the private sector will lead to a 0.4608 unit decrease in economic misery. It follows that credit to the private sector will spur investment which will ensure more employment and growth within the economy, with such improvements leading to a decline in economic misery.

Holding all the explanatory variables constant, it is clear that economic misery will be 54.7023%. This regular term is significant at 5%, portraying the explanatory variables' importance in influencing economic misery. The model is substantial overall, with its F-statistic at 5%. Further, the variables jointly explain 27.83% of the total variations in economic misery over the study period.

Fixed Effect Model

In the fixed effect model, we assume that the period and the cross sections are set. The result of the selected effect model is presented in Table 5, where it is seen that none of the governance variables significantly affect economic misery; instead, other variables captured exhibit some considerable influence.

Table 5 – Fixed Effect Model Regression Result

Variable	Coefficient	Standard Error	t-Statistic	Probability
CCP	0.3132	2.9846	0.1050	0.9165
VAC	-3.5138	2.3311	-1.5073	0.1332
GEF	-4.2145	3.0236	-1.3938	0.1648
PVT	-0.4190	1.1446	-0.3660	0.7147
RLW	1.9491	3.7164	0.5245	0.6005
RQT	-4.7913	3.3709	-1.4214	0.1567
TRP	-0.1010	0.0250	-4.0365	0.0001*
POP	-4.8138	1.7465	-2.7562	0.0063*
FSD	0.0706	0.0894	0.7900	0.4304
CPS	0.0769	0.1207	0.6376	0.5244
C	25.2561	5.4880	4.6021	0.0000*
Effects Specification				
Cross-section fixed (dummy variables)				
The period fixed (dummy variables)				
R ²	0.8558	F-statistic		31.9081
Adjusted R ²	0.8290	Prob (F-statistic)		0.0000*

It can be observed from Table 5 that CCP and RLW have a positive but insignificant effect on economic misery, while VAC, GEF, PVT, and RWT put forth a negative but insignificant impact. The

implication is that the latter aided in reducing economic misery within West Africa, but such was not substantial anyway. However, variables like trade openness and population growth negatively and significantly affect economic misery. In contrast, the effect of financial development and credit on the private sector is positive but insignificant. The constant term indicates that holding the explanatory variables steady, the level of economic misery in West Africa will be 25.2561%. The fixed effect model portrays that the explanatory variables jointly explain 85.58% of the total variations in economic misery within the study period. Meanwhile, the overall model is significant, as seen from the significance of the F-statistic at the 5% level.

Random Effect Model

By assuming that both the period and cross sections are random, Table 6 captures the result of the random effect model.

Table 6 – Random Effect Model Regression Result

Variable	Coefficient	Standard Error	t-Statistic	Probability
CCP	1.8187	3.0004	0.6062	0.5450
VAC	-5.5408	2.2865	-2.4232	0.0161*
GEF	-0.3903	3.0082	-0.1298	0.8969
PVT	0.8922	1.1090	0.8045	0.4219
RLW	-0.5115	3.6350	-0.1407	0.8882
RQT	-8.0228	3.2402	-2.4761	0.0140*
TRP	-0.1091	0.0247	-4.4163	0.0000*
POP	-4.9679	1.6989	-2.9242	0.0038*
FSD	0.0180	0.0765	0.2355	0.8140
CPS	-0.0897	0.1164	-0.7708	0.4416
C	30.9040	6.6766	4.6287	0.0000*
Effects Specification				
			S.D.	Rho
Cross-section random			14.6886	0.8881
Period random			0.6580	0.0018
Idiosyncratic random			5.1728	0.1101
Weighted Statistics				
R ²	0.1748	F-statistic		5.1914
Adjusted R ²	0.1412	Prob (F-statistic)		0.0000*

The result of the random effect model presented in Table 6 indicates that out of the six governance indicators, only voice, accountability, and regulatory quality wielded a significant effect on economic misery. The two variables negatively and significantly affected economic misery, implying that they substantially reduced economic misery within the West African region. From their coeffi-

cient, a 1 unit increase in the voice and accountability index will lead to an average 5.5408 unit decrease in economic misery. In comparison, a 1 unit increase in regulatory quality will lead to an 8.0228 unit decrease in economic misery in West Africa. Governance indicators like control of corruption and political stability and absence of violence/terrorism are seen to exert positive though insignificant effects on economic misery within the region. Therefore, the rising crime and political instability, matched with rising terrorism in some areas of West Africa, aids in intensifying economic misery in the region. Apart from the governance indicators, it is also observed that trade openness helped in reducing economic misery in a significant way.

CONCLUSION AND RECOMMENDATIONS

This study explored how governance influences economic misery in 16 West African countries. This arises from the widespread weak governance indicators observed in the region over the years. The governance indicators utilised in the study are six in number: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption. Data on governance indicators were obtained from World governance indicators. The misery index was computed for the sixteen countries using Barro's approach (the sum of unemployment, inflation, and lending interest rate, less the GDP growth rate). The data used to compute the misery index and other control variables in the mode were all obtained from World Development Indicators. The study used panel regression analysis that involves the pooled OLS, the fixed effect model, and the random effect model to examine the influence of governance indicators on economic misery. At the same time, the panel causality test was also deployed to ascertain the nature of the causal relationship between governance indicators and economic misery.

The causality test result indicated that government effectiveness, political stability and absence of violence/terrorism, and regulatory quality cause economic misery, portraying that a unidirectional causality flows from the governance above indicators to economic misery. However, it was observed that unidirectional causality runs from economic misery to the rule of law. This implies economic misery causes the rule of law,

not vice versa. From the pooled OLS regression result, it was observed that voice and accountability, control of corruption, and regulatory quality aided in reducing economic misery. However, that of control of corruption is insignificant.

Meanwhile, the governance indicators that intensify economic misery within West Africa include government effectiveness, political stability and absence of violence/terrorism, and the rule of law. This is linked to poor institutional quality in the region's countries. By controlling the model with some control variables, the study also noted that trade openness, population growth, and credit to the private sector aided in reducing economic misery within the West African region. In the fixed effect model, none of the governance indicators negatively affected economic misery through hands like voice and accountability, government effectiveness, political stability and absence of violence/terrorism, and regulatory quality was observed to reduce economic misery in an insignificant manner. The control variables in the model which also aided in reducing economic misery are trade openness and population

growth. In the random effect model, it is observed that voice and accountability, along with regulatory quality, significantly reduced economic misery. In contrast, the effect of government effectiveness is not significant though negative. The control variables also portray that trade openness and population growth aided in reducing economic misery within the West African region.

Based on the findings of this study, it can be concluded that the poor institutional quality, as showcased in the weak governance indicators, intensifies economic misery within the West African region. For economic misery to be reduced, there is a need for improved institutional quality, which will reflect strong governance indicators. In this way, improved governance will inevitably trickle down to the households by decreasing the variables that point to higher economic misery. Further, West African countries can reduce economic misery through trade openness due to its crucial role in facilitating competition and improved output through technological transfers.

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Serological Qualitative Diagnoses of *Helicobacter pylori* in Patients Accessing Care at the Bingham University Teaching Hospital Jos, Nigeria

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Abstract. The widespread *Helicobacter pylori* infection is a substantial global health problem affecting approximately 50% of the worldwide population, with 50% infection rates in developed countries and 80% in developing countries, mainly concentrating in resource-limited settings. The mode of transmission is through the faecal-oral route, contamination of food and water, where inadequate sanitation practices, low socioeconomic status and overcrowdedness seem to relate to the high prevalence of *H. pylori* infections. This study sought to serologically determine the prevalence of *H. pylori* and the disease-associated burden in patients accessing care in a Tertiary Hospital. This hospital-based cross-sectional study was conducted at the Bingham University Teaching Hospital, North-Central Nigeria, for four months (September to December 2022). There, 551 blood specimens were collected from the patients into plain tubes and spun to obtain serum for the serological qualitative analysis. Out of the 551 screened specimens for *H. pylori*, 79% (n=437) were 58.4% reactive female and 41.6% male. Ages 15-49 had 62%, 50-70 yrs had 26.5%, and less than 14 yrs had 11.4% respectively. Furthermore, 64.3% of female patients presented with burning pains, nausea/vomiting, and trouble breathing.

In comparison, 35.5% of the male counterparts presented symptoms of dyspepsia, and 32.1% had either taken one of the Nonsteroidal-inflammatory drugs. 86.7% of the suspected patients were hand washed after using the toilet, 83.3% had a loss of appetite, 55.4% reported alcohol intake and 35.9% smoked instead. 47.7% ate from mama-put, 30.1% from street-vended foods and 22.2% from classified restaurants, while 94.7% got their drinking water from sachet, bottled, borehole or tap, and well water, respectively.

Serum antibody detection of *H. pylori* infection was higher in female than male patients accessing care at the Bingham University Teaching Hospital, Jos. This revealed that gender could be considered a potential risk factor. Thus, early risk identification factors, such as other transmission routes, are urgently needed in defining clinical and epidemiological characteristics to facilitate appropriate supportive care and prompt treatment.

Keywords: peptic ulcer; *H. pylori*; seropositivity; gastric cancer; test-and-treat.

INTRODUCTION

Despite a recent decline in incidence, gastric ulcer, commonly known as peptic ulcer, remains one of the leading causes of gastric cancer death worldwide [1–3]. *Helicobacter pylori* (*H. pylori*), a gram-negative bacterium, is responsible for colonisation in a human gastric micro niche with

more than 50–84% prevalence worldwide, causing progressive genetic damage to the gastric epithelium that may eventually lead to gastric adenocarcinoma [4–7]. Over two decades, early studies demonstrated that *H. pylori* infection contributes to the development of several digestive diseases, such as dyspepsia [8, 9], peptic ulcer disease (PUD) [9, 10], and gastric cancer [11]. How-

ever, current clinical recommendations state that *H. pylori* test-and-treat should be individualised based on comorbidities and patient preferences among populations at increased risk for specific morbidities because, in recent times, researchers believed that people could transmit *H. pylori* from person to person, especially during childhood [12]. Peptic ulcer formation depends on the presence of gastric juice pH and the decrease in mucosal defences [14]. Though *H. pylori* remain present between the mucous layer and the gastric epithelium strategically designed to reside within the aggressive environment in the antrum and migrates towards the proximal segment of the stomach, thus, for most people, the presence of *H. pylori* does not have a negative impact only 10 to 15% may end up developing ulcers [13, 14].

In the developed world, the prevalence rates of *H. pylori* vary from 1.2 to 12.2%, and the USA recorded 82%. In contrast, the rates are much higher in developing countries, with about 70% to 90% of the population harbouring *H. pylori* [15]. In Nigeria, the prevalence rate of *H. pylori* accounted for 91%, with 82% found in children between the ages of 5-9 years old [16, 17]. Research conducted in other parts of Nigeria reported the prevalence of *H. pylori* among patients attending GIT clinics to be 52% in Anambra [18], 81% in Kano [19], 77.1% in Gombe [20], 73% in Ile-Ife [21], 87% in Jos [22], 84% in Maiduguri [23].

Individuals infected with *H. pylori* develop serum antibodies which correlate strongly with histologically confirmed cases, thus, necessitating the need for the development of one step screening test kit device that utilises a combination of antigen-coated particles with antihuman immunoglobulin G (IgG) to detect *H. pylori* antibodies qualitatively and selectively in human blood specimen in just a few minutes. Sero-positivity indicates active or past infection both in symptoms and asymptomatic patients, which may persist for months after spontaneous or therapeutic resolution of active disease and complications increases, thereby raising the problem of growing antimicrobial resistance by reducing the efficiency of eradication therapy [15, 24 25].

In most cases, burning pain is observed in the middle or upper stomach between meals or at night, followed by discomfort that temporarily disappears if one eats something or takes an antacid. Infected patients may also experience bloating, heartburn, nausea or vomiting, dark or black

stool due to bleeding, unexplained weight loss, trouble breathing, and fainting [26].

Furthermore, the prevalence of *H. pylori* appears to affect all age groups, particularly children, where most diagnostic procedures rely on rapid urease test, culture and direct gram stain, histology, cytology, and polymerase chain reaction (PCR). However, there is an urgent need to serologically confirm and thus enable the assessment of the prevalence of *H. pylori* and the disease-associated burden in resource-limiting settings among patients accessing care this study aimed to seek.

MATERIALS AND METHODS

This hospital-based cross-sectional study was conducted at the Bingham University Teaching Hospital, North-Central Nigeria, for four months (September to December 2022). This study's sample size was determined by taking a minimum sample size from the study conducted by [22], who reported an 87% prevalence of *H. pylori* in Jos using the Cochran formula recommended by [27].

A whole blood sample of about 5 ml was collected from 551 patients suspected of peptic ulcer into a plain tube container and spun for 5 minutes in the centrifuge at 3000 RPM to obtain serum and tested to detect antibody for *H. pylori* infection using a Royal Care diagnostic kit (ISO:9001 certified) following manufacturer instructions, the samples were measured in the test cassette and the mixture determined by capillary effect. The displayed results were then recorded.

The patients' biodata, including age, sex, symptom of dyspepsia, history of smoking, alcohol intake and NSAID, was documented.

Data Analysis. Data were entered into Excel and Microsoft Word and imported into statistical packages for social science (SPSS version 26) for analyse. Frequency and percentage rate were computed for categorical variables, and the prevalence was expressed in percentage. The proportion was compared for the degree of fitness and association by the chi-square test with a level of significance set at 5% ($p < 0.05$).

RESULTS AND DISCUSSIONS

Seroprevalence of H. pylori in the study area. Out of the 551 serological specimens for *H. pylori*,

79.3 % (n=437) were positive. Studies [18, 28] found the prevalence of *H. pylori* at 52% and 12.7%, respectively. Also, in Korea, a study by [29] reported that the seroprevalence of *H. pylori* infection was 41.5%. This indicates that the seroprevalence of *H. pylori* in most parts of the world is significantly high. The prevalence ranges between 85% and 95% in developing countries and between 30 and 50% in developed countries, for which our study falls in the range.

In Table 1, results revealed that the female patients had higher positivity rates of 58.4% and males with 41.6%.

This showed that female folks have high intensity of the disease compared to males, which is proportionate to [18], who reported that female patients have the highest (53%) rates of *H. pylori* than the male (47%) in Anambara state with no significant difference (p=0.232). This also concurs with the report [30], which revealed that the prevalence of *H. pylori* infection was found to be

significantly higher (42.6%) among female participants than among their male (8.2%) counterparts.

Table 1 – Seroprevalence of *H. pylori* in patients accessing care at the Bingham University Teaching Hospital

Gender	Positive (%)	Negative (%)	Total (%)	P-value
Male	182 (41.6)	47 (41.2)	229 (41.6)	
Female	255 (58.4)	67 (58.8)	322 (58.4)	
Total	437 (79.3)	114 (20.7)	551 (100)	0.9354

Following age groups, ages 15-49 had 62.0%, followed by 50-70 years and above with 26.5%, respectively, as seen in Figure 1.

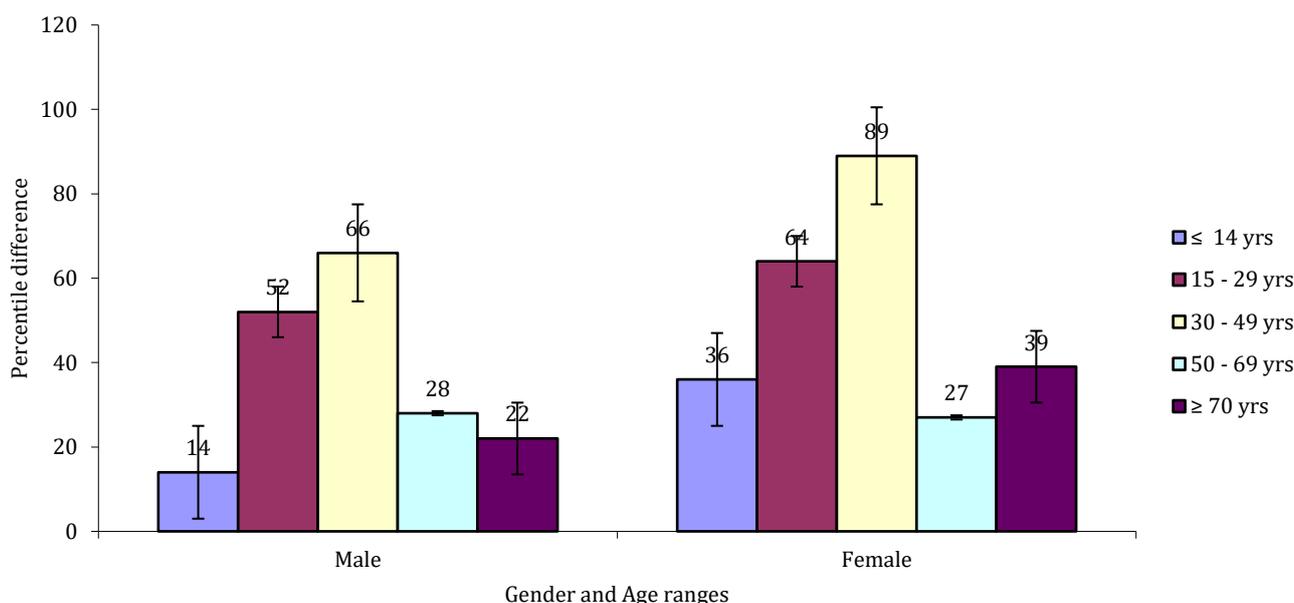


Figure 1 – Prevalence based on gender and age group

The prevalence among ages less than 14 years showed a lesser (11.4%) seropositivity rate in the study area, where studies in other parts of the developing countries reported higher rates of 82% (Nigeria), 48% (Ethiopia), 95% (Gambia), 50% (Egypt), 58% (Bangladesh), 41% (China), 22% (India), 30% (Siberia), and 52% (Peru) in ages between 0-12 years old. Authors [31] reported that the prevalence of *H. pylori* infection

was 18.2% among 6–59 months old children, 14% among adolescent boys and 16% among teenage girls aged 10–19 years, and 40% among 20–49 years non-pregnant women.

Symptoms of dyspepsia. For the discomfort or pain that occurs in the upper abdomen in the patients, our study revealed that 64.3% of the female patients had reported feeling burning pains, nausea or vomiting and having trouble breathing.

In comparison, 35.5% of the male counterparts experienced symptoms of dyspepsia. Though in Nigeria, various studies on *H. pylori* confirmed high prevalence rates between 73.0% and 94.5% among patients with dyspepsia [12]. Those with pain, including discomfort in the upper abdomen and symptoms resembling those of ulcer and had taken any pain reliever or drug were 32.1%. However, this study discovered that symptoms don't always happen, but functional dyspepsia is common among them, as seen in Table 2 below.

Table 2 – Symptoms of Dyspepsia in patients suspected to have a peptic ulcer in the study area

Variables	Male (%)	Female (%)	Total	P-value
Feel burning pain	83 (38.6)	132 (61.4)	215	
Feel nauseous or vomiting	68 (29.8)	160 (70.2)	228	
Have trouble breathing	39 (38.2)	63 (61.2)	102	
Any pain reliever or drug for the pain	79 (44.6)	98 (55.4)	177	
If yes, which one				
Antacid/MMT	59 (41.3)	84 (58.7)	143	
Ibuprofen	43 (39.8)	65 (60.2)	108	
Aspirin	18 (60.0)	12 (40.0)	30	
Misoprostol	21 (21.9)	75 (78.1)	96	
Omeprazole	56 (40.0)	84 (60.0)	140	0.0014*

Notes: *Significant p-value <0.05

Risk factors assessment. Table 3 revealed that most (86.7%) suspected patients were hand washed after using the toilet to prevent infection. This is agreed with the continued Epidemiologic studies to demonstrate the favourable cost-benefit ratio and positive effects of simple hand flowing for preventing transmission of pathogens in healthcare facilities [32]. Many (83.3%) lose their appetite, followed by alcohol intake (55.4%), and 35.9% for smoking instead. Regarding sources of food, normally eating away from home, 47.7% of them eat from mama-put, 30.1% for street-vended foods and 22.2% for classified restaurants. Many (94.7%) of the patients got their source of drinking water mainly from sa-

chet, bottled, borehole or tap, and well water, respectively.

Table 3 – Dyspepsia risk factors amongst patients seen in the study area

Variables	Yes (%)	No (%)	Total (%)	P-value
Do you smoke	157 (35.9)	280 (64.1)	437	
Alcohol intake	242 (55.4)	195 (44.6)	437	
loss of appetite	364 (83.3)	73 (16.7)	437	
hand washing after using the toilet	379 (86.7)	58 (13.3)	437	
Source of food normally eating away from home.				
Mama put (unclassified restaurants)	103 (47.7)	127 (57.5)	230 (52.6)	
Street food (vendors)	65 (30.1)	69 (31.2)	134 (30.7)	
Restaurants (classified)	48 (22.2)	25 (11.3)	73 (16.7)	
Total	216 (49.4)	221 (50.6)	437 (100)	0.0073*
Source of drinking water				
Sachet water	194 (95.6)	9 (4.4)	203	
Bottled water	74 (94.8)	4 (5.1)	78	
Well water	58 (90.6)	6 (9.4)	64	
Pipe or tap water	129 (94.2)	8 (5.8)	137	
Borehole water	67 (97.1)	2 (2.9)	69	
Total	522 (94.7)	29 (5.3)	551 (100)	0.5061

Notes: *Significant p-value <0.05

CONCLUSIONS

Serological qualitative serum antibody detection of *H. pylori* infection was higher in female than male patients accessing care at the Bingham University Teaching Hospital, Jos. This revealed that gender could be a potential risk factor for *H. pylori*. Thus, early risk identification factors for *H. pylori* because of food and water contamination are urgently needed in defining clinical and epidemiological characteristics with greater precision to facilitate appropriate supportive care and prompt treatment.

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Conflict of interest

The authors declared no conflicting interests whatsoever that could lead to bias.

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Assessment of Air and Water Quality in the Surroundings of School Environment: Its Relation to Mosquito Population and Environmental Health

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Abstract. This article explores the importance of evaluating air and water quality in the vicinity of school environments and its relation to mosquito populations and environmental health. The author highlights that poorly maintained school environments can become breeding grounds for mosquitoes, including *Aedes aegypti* mosquitoes, which are carriers of serious diseases such as dengue fever. The impact can harm the health of students, school staff, and the surrounding community. This study utilises the Systematic Literature Review method to investigate relevant information from reliable sources such as PubMed, Web of Science, Scopus, and Springer Link. The research provides a deeper understanding of the importance of monitoring and evaluating the air and water quality in school environments to prevent more severe health issues. In addition to addressing mosquito-related concerns, this article also highlights the significant role of climate change and human activities in exacerbating air and water quality issues in the vicinity of school environments. With climate change affecting rainfall patterns and human activities such as industry, intensive agriculture, and transportation contributing to pollution, attention to the conditions of school environments becomes increasingly crucial. The article emphasises the need for proactive actions and comprehensive policies involving various stakeholders, such as schools, government entities, environmental organisations, and the community, to address these issues. Furthermore, increased awareness and education regarding maintaining a healthy environment are crucial to implementing effective preventive measures and protection. We can create safe, healthy, and optimal school environments for students' development and the community's well-being through collaboration and strong commitment from all parties involved.

Keywords: assessment; air quality; water quality; surroundings; school environment; mosquito population; environmental health.

INTRODUCTION

The problems faced in evaluating water and air quality around school environments in Indonesia are water and air pollution that threaten the health and well-being of the school community. Water pollution occurs due to industrial, agricultural, and domestic waste that contaminates the water sources used by schools [1]. On the other hand, air pollution is caused by emissions from motor vehicles, industries, and waste burning, which generate hazardous particles and pollutant gases inhaled by students and school staff [2].

Additionally, the growth of mosquito populations presents a severe problem as mosquitoes can act as vectors for diseases such as dengue fever and malaria, posing a threat to the school community's health [4]. Poor water and air quality can lead to serious health issues for students, school staff, and the surrounding community. Schools, as environments where vulnerable populations like children spend a significant amount of their time, expose them to water and air pollution daily. Long-term exposure to pollutants can cause respiratory disorders, skin irritations, and other illnesses that negatively impact their health [3, 4]. The growth of mosquito populations also complicates this situation. Poorly maintained

school environments can provide ideal conditions for mosquito breeding, including disease vectors such as *Aedes aegypti* mosquitoes that can transmit dengue fever and other illnesses [5]. The increased risk of mosquito-borne infectious diseases can jeopardise the health of students, school staff, and the surrounding community [5].

Monitoring and evaluating air and water quality in school environments is crucial in preventing more significant health problems [6]. Through regular monitoring, early detection of air and water pollution that exceeds safe limits can be achieved [7]. This enables prompt actions to reduce pollution sources and improve and protect the school community's health [8, 9]. Climate change and human activities also significantly exacerbate air and water quality issues around school environments [10, 11]. Climate change can cause changes in rainfall patterns, affecting the quality of water and river flow around schools [12]. Human activities such as industrial operations, intensive agriculture, and transportation also contribute to air and water pollution that affects school environments [13].

Therefore, proactive measures and comprehensive policies are needed to address these problem sources and safeguard the health of school environments [14].

Engaging various stakeholders, including schools, government bodies, environmental organisations, and the community, is essential to improve air and water quality around school environments [15]. Increased education and awareness about maintaining a healthy environment should also be promoted to implement preventive measures and protection [16] effectively. We can create safe and healthy school environments for future generations through collective action and strong commitment.

This study aims to raise awareness about the importance of maintaining a healthy school environment by evaluating air and water quality. The research emphasises the need for higher knowledge and understanding among stakeholders regarding the significance of keeping clean, safe air and water in the school environment. The study promotes a proactive approach to environmental prevention and protection measures by increasing awareness.

This requires collaborative efforts involving schools, government entities, environmental organisations, and the community to develop com-

prehensive policies and implement practical preventive actions. Overall, this research underscores the urgency of evaluating air and water quality in the school environment to ensure the well-being and health of students, staff, and the broader community. The study emphasises the need for collective action and a solid commitment to create a safe, healthy, and optimal learning environment for future generations. By implementing the findings and recommendations of this research, it is hoped that the protection of students, staff and the surrounding community from mosquito-borne diseases and overall quality of life can be achieved.

METHODS

The research method used in this study is a Systematic Literature Review. This method consists of two main points: eligibility criteria and search strategy. A systematic review was conducted to gather information on the Evaluation of Air and Water Quality around School Environments relevant to children's health. The search started with a comprehensive search strategy in PubMed, Web of Science, Scopus, and Springer Link, published between 2012 and 2022, using keywords such as "Air Quality, Surrounding Air, School Environment, Mosquito Population, and Environmental Health".

The search was limited to English articles published between 2010 and 2022. The inclusion criteria involved observational and intervention studies focusing on analysing Air Quality, Surrounding Air, School Environment, and Mosquito Population. Exclusion criteria excluded studies on animals, narrative or editorial reviews, and studies with low methodological quality. Out of the initial 59 identified articles, carefully evaluating titles and abstracts led to the selection of 30 relevant compositions [17]. Studies that did not meet the inclusion criteria were excluded from this research. Subsequently, the studies that met the inclusion criteria were downloaded in full text and critically assessed for each study.

The selection was then narrowed to 13 articles that met the inclusion criteria. Data extraction included article titles, authors, research objectives, study designs, key findings, and health and school environment implications. Results from these 13 high-quality articles were synthesised and organised in a comprehensive table, providing an exciting understanding of the Evaluation

of Air and Water Quality around School Environments: Its Relationship with Mosquito Population and Environmental Health [18]. The following diagram presents the search and study selection results in a graph that provides a visual overview of the research process [19].

RESULTS AND DISCUSSION

This article explores the importance of evaluating air and water quality near schools. The diagram shows the number of studies found, the number of studies excluded, and the number of studies included in the research after critical assessment. The search results are presented in environments and their relationship with mosquito populations and environmental health. The authors highlight that poorly maintained school environments can become breeding grounds for mosquitoes, including the *Aedes aegypti* mosquito,

to, which carries severe diseases like dengue fever.

The impact can harm the health of students, school staff, and the surrounding community. This research provides a deeper understanding of the importance of monitoring and evaluating the air and water quality in school environments to prevent more severe health issues. In addition to addressing the mosquito issue, the article emphasises the significant role of climate change and human activities in worsening the air and water quality around school environments. With climate change affecting rainfall patterns and human activities such as industrial operations, intensive agriculture, and transportation contributing to pollution, attention to the condition of school environments becomes increasingly essential. The publication years range from 2010 to 2022 and were conducted in urban and rural areas such as South Africa, Nigeria, Sweden, and several centres in the United Kingdom.

Table

Resources	Objective	Method	Findings
[20]	This study aimed to evaluate indoor air quality in primary and secondary schools, focusing on its implications for children's health.	The research method monitored air quality parameters such as PM _{2.5} and PM ₁₀ particles, CO ₂ levels, and formaldehyde concentrations.	The findings of this study indicated the presence of air pollution in schools that can negatively impact children's health, particularly respiratory issues.
[21]	This study aimed to evaluate the indoor air quality in urban and rural preschools in Shanghai, China, and conduct a health risk assessment.	The research method measured air pollutant parameters such as PM _{2.5} , PM ₁₀ , SO ₂ , and NO ₂ .	The findings of this study demonstrated that air pollution in preschool classrooms could pose health risks to children, particularly respiratory disorders.
[22]	This study aimed to evaluate the indoor air quality in childcare facilities and examine its association with respiratory and allergic symptoms in children.	The research method involved a cross-sectional survey collecting data on air quality, respiratory symptoms, and allergies in children attending childcare facilities.	The findings of this study revealed a correlation between indoor air quality in childcare facilities and respiratory and allergic symptoms in children.
[23]	This research aimed to assess the disease burden from environmental risks globally and emphasise the importance of preventing diseases through healthy environments.	This study involved a literature review and data analysis from various sources to estimate the disease burden caused by environmental factors.	This research demonstrated that unhealthy environments, including poor air quality, can contribute to various diseases and have significant health impacts.
[24]	This study aimed to evaluate the indoor air quality in schools and examine its association with health and academic performance.	The research method involved measuring air quality parameters and collecting data on student's health and academic performance.	These studies provide valuable insights into evaluating air quality in school environments and its impact on children's health and academic performance. The findings emphasise the importance of ensuring healthy indoor air quality in schools to create a conducive learning

			environment and protect the well-being of students.
[25]	This study aimed to compare airborne particles in classrooms with different types of ventilation: natural ventilation, mechanical ventilation, and air-conditioning.	The research method used appropriate measuring instruments to measure classroom airborne dust particles.	The findings of this study indicated that classrooms with mechanical ventilation or air-conditioning had lower levels of airborne particles than rooms with natural ventilation.
[26]	This study aimed to evaluate the indoor air quality in schools in Hong Kong and assess personal exposure to formaldehyde and acetaldehyde.	The research method included measuring the concentrations of formaldehyde and acetaldehyde in the air and collecting data on indoor air quality.	The findings of this study revealed potential exposure to formaldehyde and acetaldehyde that could negatively impact children's health in schools.
[27]	This research aimed to evaluate particle emission factors during cooking activities.	The research method used appropriate measuring instruments to measure airborne particles generated during cooking.	The findings of this study indicated that cooking activities could cause particle emissions that can affect indoor air quality, particularly in school environments.
[28]	This study aimed to evaluate the symptoms of Sick Building Syndrome and the perception of indoor air quality in commercial buildings in China.	The research method included surveys and data collection on health symptoms and the perception of air quality from building occupants.	The findings of this study revealed a relationship between Sick Building Syndrome symptoms and poor perception of air quality in school environments.
[29]	It aimed to evaluate the indoor air quality in classrooms and its relation to respiratory symptoms among elementary school students in Jakarta.	The research method involved measuring air quality parameters and collecting data on students' respiratory symptoms.	The findings of this study indicated a correlation between indoor air quality in classrooms and respiratory symptoms among elementary.
[30]	It aimed to evaluate indoor air quality and its impact on the health of elementary school students in Yogyakarta.	The research method included measuring air quality parameters and collecting student health data.	The findings of this study revealed the impact of indoor air quality on the health of elementary school students in Yogyakarta.
[31]	It aimed to evaluate indoor air quality in elementary school classrooms in Semarang City.	The research method involved measuring air quality parameters in classroom settings.	The findings of this study provided information about indoor air quality in elementary school classrooms in Semarang City.
[32]	Aimed to evaluate indoor air quality in classrooms and its impact on respiratory symptoms among elementary school students in Bandung City.	The research method included measuring air quality parameters and collecting data on students' respiratory symptoms.	The findings of this study indicated a correlation between indoor air quality in classrooms and respiratory symptoms among elementary school students in Bandung City.
[33]	It aimed to evaluate indoor air quality in classrooms and its impact on Padang City students' health.	The research method involved measuring air quality parameters and collecting student health data.	The findings of this study provided information about the impact of indoor air quality in classrooms on students' health in Padang City.

Several relevant articles evaluating air and water quality in the vicinity of school environments provide essential insights into their impact on children's health. Studies [20, 26] highlight

school air pollution that can affect children's respiratory health.

Research [22] demonstrates a link between air quality in childcare facilities and respiratory

symptoms and allergies in children. Additionally, studies [23–25] emphasise the importance of ventilation in reducing exposure to harmful airborne particles in classrooms and reveal potential exposure to hazardous chemicals such as formaldehyde in schools [23–25]. The research [23] also underscores the importance of preventive actions through a healthy environment to protect public health [23]. Based on these studies, governments, schools, and communities must collaborate to identify issues, formulate appropriate policies, and implement preventive measures. Education on maintaining a healthy environment also needs to be enhanced. These steps will help create a safe, healthy, and optimal school environment for the well-being of students.

Several studies have been conducted in Indonesia to evaluate air quality in and around school environments. The author [29] aimed to assess indoor air quality in Jakarta's elementary school classrooms and its association with respiratory symptoms among students. They found a correlation between indoor air quality and respiratory symptoms. The author [30] conducted a similar study in Yogyakarta, focusing on indoor air quality's impact on elementary school students' health [30]. Their findings highlighted the influence of indoor air quality on students' health. The author [31] evaluated indoor air quality in Semarang's elementary school classrooms, providing valuable information on the air quality in those environments. Authors [32] investigated the indoor air quality in Bandung's elementary school classrooms and its impact on respiratory symptoms among students. They discovered a correlation between indoor air quality and respiratory symptoms. Authors [33] assessed the indoor air quality in classrooms in Padang and its impact on students' health [33]. These studies collectively contribute to understanding the relationship between indoor air quality in school environments and its potential effects on students' respiratory health. These studies emphasise the importance of evaluating and improving the air quality in school settings. They highlight the association between poor indoor air quality and respiratory symptoms among elementary school students. The findings suggest that factors such as pollutants, ventilation systems, and environmental conditions can significantly impact the health and well-being of students.

Addressing indoor air quality issues and implementing effective measures to minimise pollu-

tants and improve ventilation is crucial. These studies provide valuable insights for policymakers, school administrators, and relevant stakeholders to prioritise interventions that enhance the air quality in school buildings. Promoting a healthy indoor environment can reduce the risk of respiratory problems and create a safer and more productive educational environment for students. Further research and continuous monitoring are necessary to develop comprehensive strategies for maintaining optimal air quality in schools and safeguarding students' health.

Evaluating air and water quality in the vicinity of school environments is of utmost importance in various cases worldwide. Air and water pollution issues in many countries have become serious concerns due to their adverse impacts on human health, including school children. With growing populations and increasing urbanisation, school environments are often exposed to pollutants from various sources such as vehicles, industries, and agriculture.

Evaluating the air and water quality around school environments while considering mosquito populations and environmental health is crucial to creating a safe and healthy learning environment for students. Several studies have found that indoor air pollution in schools can adversely affect children's health, particularly respiratory problems. Pollutants such as PM_{2.5} and PM₁₀ particles, CO₂ levels, and formaldehyde concentrations can lead to respiratory disturbances and pose threats to student health. Furthermore, the association between indoor air quality and respiratory symptoms and allergies in children attending childcare facilities is also a significant concern. Therefore, routine evaluation and monitoring of air and water quality in school environments should be prioritised, and proactive preventive measures must be taken to reduce sources of pollution and protect student health.

Increasing awareness and education regarding the importance of a healthy environment should also be enhanced, involving various stakeholders such as schools, government bodies, environmental organisations, and the community, to create safe and healthy school environments for future generations. Thus, concrete steps and comprehensive policies must be implemented to address these issues at their source and maintain optimal quality of school environments.

Several studies have revealed the link between air and water pollution and health issues affect-

ing students and school staff. These studies identify the presence of hazardous particles such as PM_{2.5} and PM₁₀, chemicals like formaldehyde, and toxic gases like SO₂ and NO₂ in the air surrounding school environments. Long-term exposure to these pollutants can lead to respiratory disorders, allergies, and other health problems in vulnerable children. Additionally, water quality near school environments is a serious concern. Water pollution can occur due to industrial waste, intensive agriculture, and other sources contaminating water sources around schools. Contaminated water can cause stomach illnesses, respiratory infections, and other health issues. This can disrupt the well-being of students and school staff and negatively impact the quality of education and learning outcomes.

Evaluating the air and water quality around school environments becomes an essential initial step in addressing these issues. The data obtained from such evaluations can be used as a basis for identifying problems, planning preventive actions, and engaging various stakeholders in joint efforts to improve the quality of the school environment. Furthermore, comprehensive policies are needed to control pollution sources, improve environmentally friendly infrastructure, and educate the community about maintaining a healthy environment. In a global context, evaluating the air and water quality around school environments should be part of the priority agenda in sustainable development.

Countries and international organisations must collaborate to develop stringent school air and water quality standards. Technical and financial assistance should also be provided to countries facing severe philosophy and water pollution issues. Overall, evaluating school environments' air and water quality is crucial in protecting students' health and well-being and creating an optimal and safe learning environment. The issue of air and water quality in school environments is not solely the responsibility of individuals or schools. Still, it is a collective responsibility of the entire community and government. Collaboration among schools, government, environmental organisations, and the community is essential in addressing these issues.

In this regard, the research [20] provides valuable insights into evaluating air quality in school environments and its implications for children's health. These studies highlight the presence of air pollution in schools that can negatively impact

children's health, particularly respiratory issues. The survey [23] also demonstrates the connection between indoor air quality in childcare facilities and respiratory symptoms and allergies in children. Moreover, the studies [25, 26] also provide essential insights into evaluating air quality in school environments. These studies emphasise the importance of ventilation in reducing exposure to hazardous airborne particles in classrooms and reveal potential exposure to harmful chemicals such as formaldehyde, which can negatively impact children's health in schools.

In a broader context, the research [23] emphasises the importance of disease prevention through a healthy environment. This research presents a global overview of the disease burden resulting from environmental risks, including air and water pollution, and emphasises the need for preventive actions to protect public health.

Based on these studies, it can be concluded that evaluating the air and water quality around school environments is a crucial step in maintaining the health and well-being of students. Governments, schools, and communities must work together to identify issues, formulate appropriate policies, and implement adequate preventive measures.

CONCLUSIONS

Significant impacts have been found in evaluating air and water quality in and around school environments, particularly concerning mosquito populations and environmental health. Poorly maintained school environments can become breeding grounds for mosquitoes, including disease vectors such as *Aedes aegypti* mosquitoes that can transmit dengue fever and other illnesses. The increased risk of mosquito-borne diseases can jeopardise the health of students, school staff, and the surrounding community. Several studies highlight the presence of air pollution in schools that can contribute to health issues, especially respiratory problems in children. Evaluating water quality is also crucial in preventing more significant health problems. Climate change and human activities also significantly exacerbate air and water quality issues in school environments.

Proactive measures and comprehensive policies involving various stakeholders such as schools, governments, environmental organisations, and the community must address these issues. Edu-

cation and increased awareness about maintaining a healthy environment should also be enhanced to effectively implement preventive actions and protection. Taking collective action and a solid commitment to creating a safe, healthy, and optimal school environment for future generations is crucial. By implementing these measures, protecting students, school staff, and

the surrounding community from mosquito-borne diseases can be expected, along with an overall improvement in quality of life.

Conflict of interest

The authors declare no conflict of interest.

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A Bibliometric Analysis Performance Assessment of Science Education on Science Process Skill

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Abstract. This study aims to determine a comprehensive performance assessment of science education using peer assessment and self-assessment to measure scientific process skills. The method of writing article through a literature review that was published from 2010 to 2022, descriptive qualitative and bibliometric analysis was used by the Perish 8 and VOS Viewer software, from 1000 articles sourced from journals, books, conferences, proceedings, and other literature that have been screened on Google Scholar and Scopus databases by the Publish and Perish 8 software. Found 340 articles sourced from journals and only 127 articles indexed by Scopus, consisting of 64 articles on Q1, 47 articles on Q2, 12 Articles on Q3 and four articles on Q4 to be used as references for further analysis as a literature review to write this article. The results of the bibliometric study qualitatively found that a comprehensive assessment of performance on science process skills can be assessed through peer assessment and self-assessment. Further analysis with the VOS Viewer application found a relationship between peer assessment and self-assessment of student science process skills.

Keywords: performance assessment; science education; scientific process skills

INTRODUCTION

Performance assessment is a systematic, formal, and evaluative description of the quality of work with specific standards regarding the advantages and disadvantages of students individually and in groups. It is an essential function of human resources in education [1, 2]. Work in any field will eventually go through a work assessment or evaluation process, namely the assessment and the systems used [3]. The purpose of performance appraisal is to provide feedback to students personally and periodically, control student work behaviour, assign or determine awards [4], predict student progress in their education [5, 6], measure learning needs for students, counselling, setting and measure goals [7].

A performance appraisal system includes making better decisions, higher student satisfaction and motivation, and a more substantial commitment to learning so that learning can be more productive [8]. Students will receive an assessment if

they can participate, discuss plans and goals, and be assessed based on factors relevant to their work [9]. Practical assessment has five criteria: validity that can be seen from the assessment factors, reliability or consistency of evaluation, discrimination or can distinguish assessment results, bias-free, and relevant or according to learning situations and conditions [10]. Furthermore, [11] suggests that education with a sound performance appraisal system will use it continuously. This process is divided into four phases, namely:

1. Planning, in this phase, teachers and students hold meetings to discuss and set goals, as well as other work-related matters such as competencies, behaviours and work responsibilities that must be possessed.

2. In this phase of learning to achieve the goals that have been set, the role of the teacher as a guide can motivate students to improve their

learning objectives so that learning objectives can be achieved.

3. Measurement, in this phase, the teacher gives a reflection on the tasks that the student has done, and the results of this phase can influence the student in the form of other awards.

4. This phase is a review, which is to reunite teachers and students to provide and discuss student performance results in depth, and at the end of the meeting, the two again create and set goals and tasks for the future.

Performance assessment systems can sometimes run uneventfully. One of the reasons is the absence of a sense of belonging because Students are not involved in the process, so they are not trained, as well as the difference in the credibility of teachers as assessors [12]. On the other hand, subjective factors such as discrimination in the work environment, culture, race, gender, organizational structure, general stereotypes, perceptual distortions, and social behaviour can also influence [13]. For this reason, specific guidelines are needed in using the grading system and providing grade criteria, communicating the importance of performance appraisal to all students, and reviewing the tools or scoring systems used [14]. Effective performance appraisal has accurate measurements, and reinforcement mechanisms, can identify deficiencies, and provides information as feedback to students to improve their learning in the future [15].

For this reason, collaborative project learning-based performance assessment is considered capable of overcoming problems that arise in performance appraisal. This model can be adjusted to the respective parts of the work so that the performance appraisal will be more open, transparent, and fair. It is hoped that this scoring model can also represent a performance appraisal system that is more advanced than other scoring systems [3].

Performance assessment makes it possible to find out the advantages and disadvantages of student performance, and work assessments can be made more detailed to make it easier for the authorities to provide objective evaluations and recommendations. This begs the question, is it the right grading system to assess project-based performance processes collaboratively, and does it have anything to do with science process skills? Review articles using bibliometric analysis with the Perish and VOS Viewer applications tried to

provide solutions regarding performance appraisal systems suitable for collaborative project-based learning and their relation to science process skills.

METHOD

The literature search was carried out on the Google Scholar (GS) database using the Perish 8 or Publish Application with the keyword "Performance Assessment, Project base learning, self-assessment, Peer Assessment, and science process skills". The search results were converted into an Excel file and then analyzed descriptively using STATA software. Furthermore, the data was tabulated in graphs and further interpreted using VOS Viewer qualitatively. The screening results selected for further analysis are those from articles indexed by Scopus in quartiles 1 to 4.

RESULTS AND DISCUSSION

Screening using the Perish application on the Google Scholar database found 1000 publication documents from books, journals, conferences and proceedings, and others from 2010 to 2022, as shown in Figure 1.

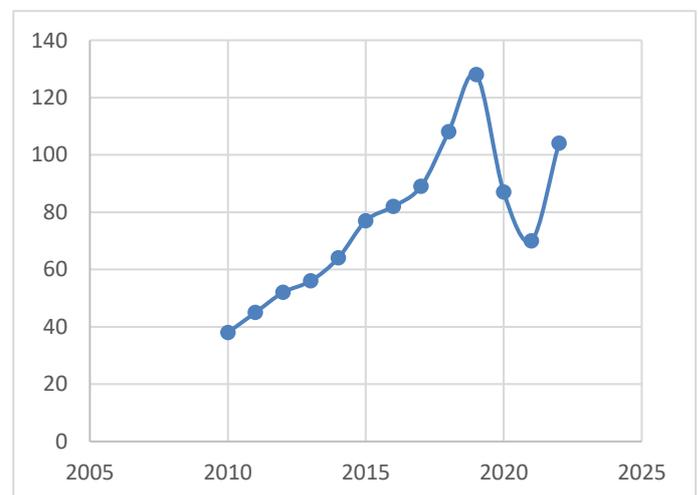


Figure 1 – Publication data using Perish Application Year 2010-2022

Based on Figure 1, from 2010 to 2019, there was a tendency to increase the number of publications related to the topic I wrote about yearly. This means that researchers from various countries consistently research learning assessments related to performance through self-assessment and peers associated with process skills and sci-

ence attitudes. Meanwhile, from 2020 to 2021, there was a decrease in the number of publications related to this research topic due to the impact of COVID-19, which impacted the world of education to conduct research and publish scientific papers. After the completion of the effect of COVID-19, the number of research and publications began to increase again. This can be seen by the increase in magazines in 2022. The search results of 1000 articles (Figure 2) came from 276 articles, 340 journal articles, 298 articles sourced from proceedings and conferences, and sourced from other documents as many as 86 articles.

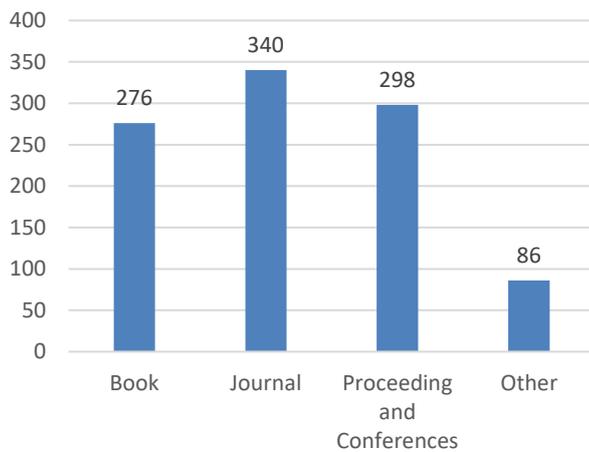


Figure 2 – Article Screening Result using Perish Application

Figure 2 shows that most of the article writing related to this research topic is sourced from journals, namely as many as 340 articles, of the 340 articles based on Figure 3. There are 127 articles indexed by Scopus, 176 articles that are not indexed by Scopus and 37 articles that are duplicates.

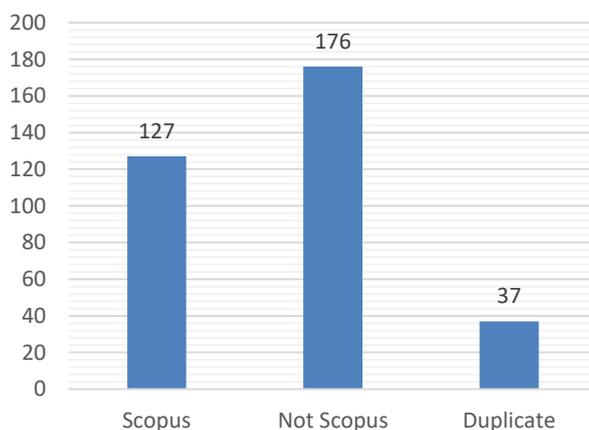


Figure 3 – Indexed the article

Of the 1000 articles screened, the further analysis used in this article is 127 articles indexed by Scopus. Based on Figure 4, it was found that out of 127 papers indexed by Scopus, 64 were in Q1, 47 – in Q2, 12 articles in Q3, and four articles were at the Q4 level. This means that most of the articles used in the advanced analysis in this study were at most in quartile four (Q4).

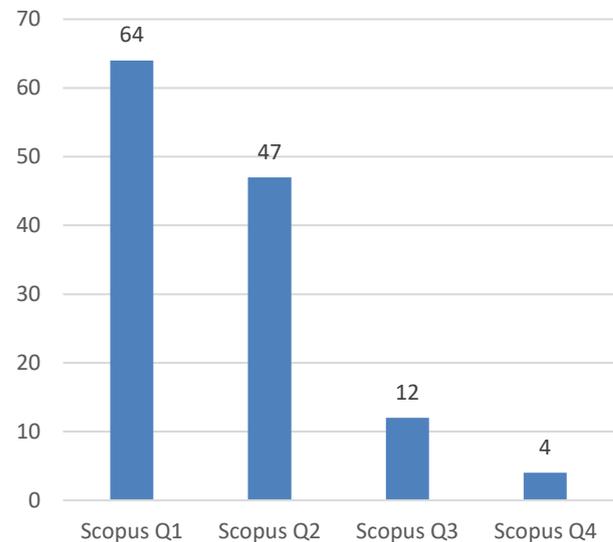


Figure 4 – Article Quartile indexed by Scopus

Based on Vos Viewer's analysis of the keywords of this research topic, obtained in Figure 5. Based on the figure, it can be interpreted that the publication is related to the study of research topics.

Performance Assessment. Based on the learning objectives, assessment activities in the classroom can be grouped into three domains: first, the cognitive realm, which is learning carried out to improve thinking abilities or skills. Second, the goal in the affective realm is to develop attitudes, feelings, and dispositions/personalities. Third, the psychomotor domain, that is, learning to improve skills physically [2]. According to [1], there are two dimensions in the cognitive realm: the knowledge and the mental process dimensions. The level knowledge dimension consists of factual expertise at the lowest level, conceptual understanding and procedural knowledge, and the highest level is meta-cognitive knowledge.

The level of achievement of learning outcomes in the cognitive realm on the dimensions of mental processes, according to [16], consists of remembering as the lowest level, followed by understanding, applying, analyzing, evaluating, and the highest creating. The goals in the affective realm consist of receiving, responding, valuing, organi-

First, there is a congruence between philosophical bases, short-term goals, long-term goals, and the assessment instruments used [3, 15]. Second, in the assessment process, students carry out three activities at once, namely selection (sorting), diagnosis (diagnosing), and evaluation [27]. Third, running multiple cutting scores and multiple variables in the selection and diagnosis process, not just a single test/score [28]. Fourth, the assessment instrument simultaneously measures various processes/activities [29]. Fifth, diagnosis and evaluation activities co-occur (ongoing) and cannot be separated in each stage of learning [30]. Sixth, the student diagnoses and evaluates himself, achieving short-term and long-term goals. Seventh, assessments provide practical and pertinent information to improve teaching and inform students [31].

Based on various views and implementation of the assessment and related materials based on Figure 6 above, it can be summarized into an understanding of comprehensive assessment. According to [32], the assessment is comprehensive if:

- 1) it has some characteristics, including the existence of goal suitability, multilevel, multiple cutting scores and variables, students are involved in the evaluation process, and provide recommendations for teaching improvement;
- 2) involving various sources of assessment and assessors from different circles;
- 3) is sustainable so that the assessment results can show the process of competency development;
- 4) covers various dimensions/areas/domains of assessment.

Especially in vocational practice learning, according to [3], the scope includes reviews on aspects of cognitive skills, work attitudes and behaviours, process skills (work) and products (workpieces).

From a curriculum oriented towards learning materials to mastering competencies bringing demands for changes in the assessment management system. Schools must reorganize and find ways to gather relevant information to rearrange the curriculum and external assessments. According to [5], to be genuinely competency-oriented, there are the following requirements: first, learning is student-oriented, which demands flexibility in the learning process [2, 4]. Second, programs oriented toward work or com-

petence must be developed [5, 7]. Third, schools should differentiate lesson packages into work-domain groups [9]. Fourth, coherence must be organized between the various learning routes within the vocational education system [11]. Fifth, different models of learning and assessment approaches must be developed [13, 14]. Therefore, competency standards-based assessment should be an ontic reflection of field praxis (workplace practice) and standardized in detail so that graduate users know with certainty the competencies/skills possessed by certificate holders [19, 23].

In competency-based learning, it is also essential to pay attention to the achievements of previous competencies through various experiences that students have mastered. [3,7] argues that Recognising Prior Learning (RPL) is critical in implementing competency-based training. What is meant by RPL is a formal procedure in appreciating students' abilities due to their learning and work experiences they have experienced. Many methods can be used to find out the extent of a learner's initial ability level before joining the learning program to be followed. These include 1) interview activities, both structured and unstructured, 2) a review of documentation, 3) product or portfolio assessment, and 4) performance assessment [5-7].

In the competency standards-based learning process, an assessment process is needed that is not only gradual but also able to record achievements in all aspects of learning. According to [17], the emergence of demands for a comprehensive assessment model is because the, first, existing assessment models have not been able to explore complete/comprehensive information on assessment objects [30]. So far, based on scores from product (workpiece) assessments, no/have not been able to explore affective aspects (attitudes and behaviours) and process skills [19]. Second, there is a demand that assessment should be an integral part of the learning process through feedback to students during the practical learning process [4, 6]. A comprehensive assessment plan has been developed by [18] in a health professional preparation program. The implementation of this assessment model is used to assess whether the educational program carried out can meet the demands of the seven areas of responsibility and competencies that entry-level health educators must possess. Strategies adopted in this comprehensive assessment process include focus group inter-

views with senior student participants, department advisory council, assessment by the internship preceptors, interviews with graduating seniors, alum surveys, and portfolio assessment [15]. Thus, according to [21], one of its characteristics is to use diverse strategies and methods (multi-methods) and involve various groups as appraisers.

The school designs some assessment programs to meet its various needs, such as to evaluate the level of program accountability, teacher accountability, diagnosis of learning needs, curriculum placement, academic promotion, identification of students' unique needs, and improvement of learning [7,10]. Authors [17] reviewed a comprehensive assessment program that included tests for ongoing assessment of essential ability development from preschool to level 12. These basic skills include reading, math, and language [31, 32].

The components of a comprehensive assessment program that are important to pay attention to are, first, the validity of the content, namely the conformity between the objectives of the test and the objectives of the curriculum [7]. Second, technical ease is seen from the level of reliability of test results [8]. Third, a test result report includes rough scores, correct percentages, local correct percentages, national percentiles, grade equivalents, standard curve equivalents, and equal-interval scores [8]. This report is also supplemented by interpretive statements intended for administrators, teachers, parents, and students [10]. Fourth, the administration is manual clarity in writing and easy-to-follow directions [2]. The physical presentation of the test is well designed, including colour, spacing, and paper thickness, so that it is easy to read and use by students [11].

Referring to [12], three main objectives of assessment cover a wide variety of assessment instruments, both formal and informal, namely as an effort to 1) sort, 2) predict (diagnosing), and 3) evaluate (evaluating). According to [13], placing something in a continuum, the function of selection and placement of an assessment can be in the range between the lowest and highest scores. The process of the diagnosis of an assessment, according to [4], is to collect information about a situation. It can be in the form of strategies, tendencies or processes and feedback in the assessment process (Figure 6). The evaluation function means assessment is a tool used to de-

termine an intervention or treatment that has been carried out on assessment variables, and at the time of the assessment, there is feedback on the course of activities or learning.

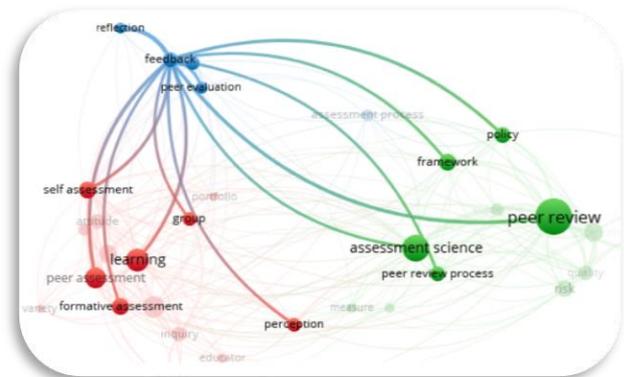


Figure 6 – Feedback at Process Assessment

Project-Based Learning Assessment. The assessment is carried out to assist teachers in measuring the achievement of standards, evaluating each student's progress, providing feedback on the level of understanding that students have achieved, and assisting teachers in developing the next learning strategy [16]. A collaboration project assessment assesses a task that must be completed within a specific time. The study is a series of activities ranging from planning, data collection, organizing, processing, presenting data, and reporting [1,7]. Assessment is the process of collecting and processing information to measure the achievement of learner learning outcomes. The implementation of the assessment refers to the Educational Assessment Standards and other relevant assessment regulations, namely criteria regarding the scope, objectives, benefits, principles, mechanisms, procedures, and instruments for assessing student learning outcomes which are used as a basis for determining student learning outcomes in primary and secondary education.

The project-based learning assessment system analyzed with VIOS viewer is shown in Figure 8. Project-based learning is associated with problems, peer assessment, self-assessment, scientific methods, and their impact on science process skills, attitudes, critical thinking, and science literacy.

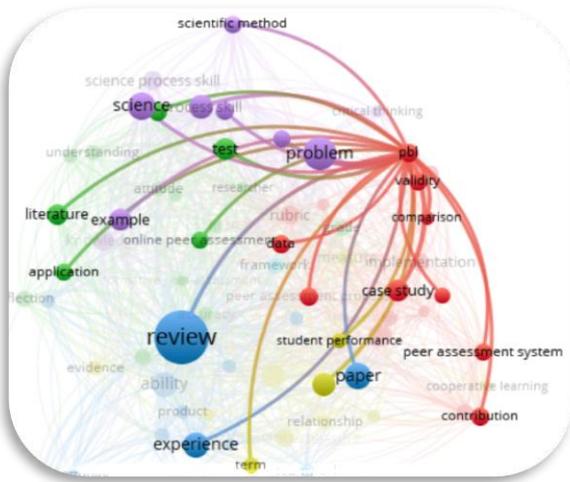


Figure 7 – Project-based learning assessment

Figure 7 above can be implemented in project learning-based assessments in one or more basic competencies [14], can be done on one subject [22], several subjects [20], and clusters of issues are also cross-subjects that are not cognate. According to [6], there are at least four things to consider in the project assessment, namely:

- 1) Management ability. The ability of students to choose topics, find information, manage data collection time, and write reports carried out in groups [5].
- 2) Relevance. Conformity of project tasks to subject content, considering the stage of knowledge, understanding, and skills in learning [19].
- 3) Authenticity. The project carried out by the learner must be the result of his work, taking into account the contribution of the teacher in the form of guidance and support to the project carried out by the student.
- 4) Innovation and creativity. Projects carried out by students there are elements of novelty (contemporary) and find something unique and different from the usual [20].

Peer Assessment. Assessment is a general term and includes all methods commonly used to determine student learning success by assessing the individual performance of students or groups [17]. Assessment is the application of various means and the use of diverse tools. Based on the results of the VOS Viewer application analysis in Figure 8, shows that peer assessment is related to performance assessment in the form of collaborative projects or groups, self-assessment, science literacy, process skills, critical thinking, science attitudes, and assessment process includes

collecting evidence to show learning achievement (competency achievement) of learners [20]. The assessment definition closely relates to each part of the teaching and learning activity. This indicates that the assessment process concerns learning outcomes and all teaching and learning processes [31].

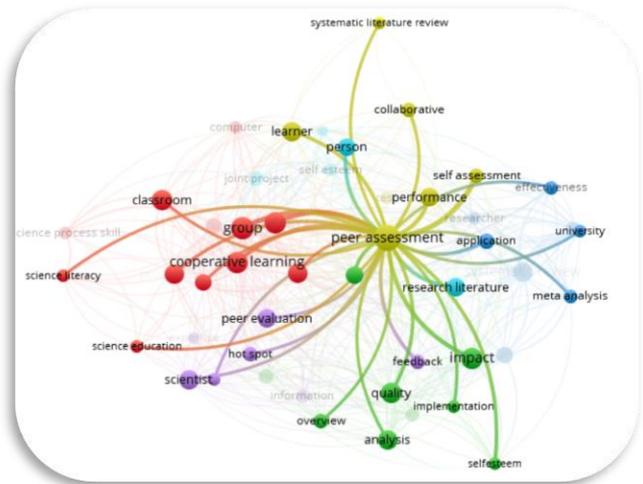


Figure 8 – Peer Assessment Process

According to [17], peer assessment is a process in which a student assesses the learning outcomes of a friend or other student at the same level. Furthermore, [20] stated that peer assessment could be used to assist learners in developing the ability to cooperate, criticize the learning processes and outcomes of others (formative assessment), receive feedback or criticism from others, giving students a deep understanding of the criteria used to assess learning processes and products and for summative assessments. Peer assessment encourages students to have a sense of responsibility for their learning process to be independent, train evaluation skills useful for lifelong learning, and promote deep understanding.

Self Assessment. Based on the VOS Viewer analysis results in Figure 9, self-assessment is associated with performance assessment, peer-to-peer assessment, collaboration assessment, and group assessment to assess itself as related to the status, process, and level of achievement of the competencies it learns [18, 32]. Self-assessment techniques can measure cognitive, affective, and psychomotor competencies [15]. The advantages of using self-assessment in the classroom include:

ing, collaboration, content, context, related to measurements in projects or laboratories, this is in line with what was conveyed by [13] stated that learners' SPS can be observed through practicum learning, made before, are ongoing until the presentation of the results of the practicum. The SPS of the learner will be less developed if the learner tends not to get involved with concrete objects in learning. At the same time, SPS is needed in scientific work because it underlies the steps of learners on problem-solving, which will ultimately bring the expected abilities [10, 13]. SPS can be developed by the project method because learning by the project method gives the learners themselves the opportunity to create and practice it. According to [18], one of the project methods that can be developed is Project Based Learning (PjBL). The SPS level of learners can be measured by a test using multiple choice test questions that represent all SPS indicators [16]. SPS is defined as an adaptation of skills used by scientists to compile knowledge, solve problems, and make learning permanent [20,31].

Meanwhile, according to [17], SPS can also be assessed as a means of understanding and mastering science. It is also the primary purpose of scientific research since skills are needed not only by scientists but by every citizen. Furthermore, [30] stated that SPS is a teaching and learning approach that leads to the growth and development of a certain number of skills in students, to be able to process information or new valuable things in the form of facts, concepts, and the development of attitudes and values.

Learners need to be helped to develop scientific skills, including observing skills, using tools and materials, planning experiments, asking questions, formulating hypotheses conducting experiments, inferring, and communicating findings [11]. Author [15] defines SPS as using several steps to learn as scientists think and work. From this understanding, it can be concluded that SPS is a series of events that students must carry out in seeking and processing the results of their acquisition to become new knowledge for themselves [17]. SPS is essential to be trained and developed. It is a unique knowledge and understanding for students of a concept and theory [18]. The SPS approach must integrate learning scientific work skills as a process of knowledge

discovery and formation, learning the basic concepts of scientific knowledge as science content/products, and learning scientific attitudes [30]. Therefore, according to [22], the formation of scientific knowledge begins with the scientific process. Author [14] suggests that SPS can be divided into two groups: basic SPS and integrated SPS.

SPS is the foundation for learning integrated SPS. Basic SPS includes observing, inferring, measuring, communicating, clarifying, and predicting, while what has integrated SPS is controlling variables, providing operational definitions, formulating hypotheses, integrating data, conducting experiments, and formulating models [2].

Thus, it is concluded that science process skills are students' science process skills. Continued by [15] stated the same thing: the influence of project-based learning on science process skills after repeated post-tests. Judging from the research results by [22], project-based learning models can improve learners' science process skills - the ability to act in learning science so that learners produce concepts, theories, and facts.

Based on research that has been conducted by [19] stated that there are differences in learning outcomes of science process skills between groups of students who have field-independent cognitive styles and groups of students who have field-dependent cognitive techniques using the Project Based Learning model. [23] also argues that the results of the study show that there is an influence of Project Based Learning learning on Science Process Skills.

CONCLUSIONS

Comprehensive performance assessment is multidimensional by involving students in the evaluation process. There was feedback and recommendations for teaching improvement, involving various sources and assessment methods as well as assessors from different circles (peer and self-assessment), is sustainable so that the assessment results can show the process of competency development and cover various assessment domains, including assessment on aspects of cognitive skills, attitudes and behaviours, process and product skills of science education.

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Implementation of Manuscript-based History Learning on High School Students' Learning Outcomes in Langsa City, Indonesia

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Abstract. The study investigates the impact of history learning based on the Abdurrauf As-Singkili manuscript on student learning outcomes. The research addresses the limitations of history education in schools, particularly regarding the lack of engaging and locally relevant content. By utilising the valuable historical resource of the manuscript, the study aims to provide an innovative approach to history education that enhances student motivation and learning outcomes. The experimental research methodology involved two groups: an experimental group that received history instruction using the manuscript and a control group that did not. The study was conducted in two high schools in Kota Langsa, Aceh, Indonesia, and the participants were X-grade students. A questionnaire assessed students' knowledge, and data analysis included hypothesis testing. The results indicate that the experimental group achieved higher average scores than the control group, suggesting the positive impact of utilising the manuscript in history education. The average score of students in SMA Negeri 1 Kota Langsa with the module was 85.54, while the average score of students in SMA Negeri 3 Kota Langsa without the module was 69.28. The statistical analysis showed that the distribution of post-test data for the experimental group can be considered normal. The findings contribute to developing innovative history teaching methods and highlight the significance of utilising local historical resources in enriching students' learning experiences.

Keywords: historical learning; Abdurrauf As-Singkili Manuscript; learning outcomes.

INTRODUCTION

The Role of History Education in Developing Students' Understanding of the Past, Culture, Civilization, and Values that Form the Basis of National Identity. However, the teaching process of history in schools often focuses solely on using textbooks and less engaging materials, leading to student boredom and a lack of enthusiasm for learning history. Based on observations and discussions with history teachers in High Schools in Langsa City, there are issues regarding the content of Indonesian History textbooks in the K-13 curriculum, which lack local content richness. This is a common occurrence in history education, particularly in local history, where teachers face challenges, including limited historical sources, time allocation, and a lack of innovative ideas to facilitate students. The low literacy culture in local history is one of the problems that need to be addressed by teachers and researchers [1]. Consequently, the goals of history educa-

tion, which aim to shape good citizens, make students aware of themselves as good individuals, and provide historical perspectives to students, are challenging to achieve.

Efforts to achieve educational goals become the responsibility of educators in preparing future generations from an early age. In this regard, educators must strive to develop academic concepts and learning processes for students, especially in the learning age group, as they will be the future generation. Therefore, they should be instilled with positive values that apply to society, shaping good character.

History education plays a role in actualising two elements: instruction and intellectual training, moral education for the nation and a democratic civil society responsible for the nation's future. History education's instructional and academic training elements provide an overview of the past and train critical thinking, concluding, and

extracting meaning and values from the studied historical events.

History education is answering "what to teach" and how the learning process can capture and impart the values and messages behind historical realities to students. This learning process aims not only for students to master the subject matter but also to assist in the personal development of students, enabling them to respond and adapt to the increasingly complex socio-national actions and global demands [2]. One learning resource that can be utilised is historical manuscripts, which serve as a local wisdom treasury of Aceh's historical knowledge.

Various forms of local wisdom that can be incorporated into educational development in the community include [3]:

- 1) local wisdom in the form of written regulations on the obligation to learn, such as the requirement for illiterate community members to participate in learning activities;
- 2) local wisdom in maintaining harmonious relationships among individuals through cooperation in various activities;
- 3) local wisdom related to art, where certain artistic expressions hold values that foster a sense of togetherness, respect for leaders, and elders;
- 4) local wisdom in informal systems agreed upon during community meetings to promote the intelligence of citizens, such as the obligation for community members to be literate when applying for an Identification Card and Family Card.

In the context of this research, the relevant form of local wisdom relates to maintaining harmony among individuals by fostering a sense of togetherness, setting an example, and showing respect for the nation, leaders, or elders. Specifically, in a historical context, Abdurrauf As-Singkili successfully composed a manuscript titled *Mir'at Al-Thullab* after the death of Sultan Iskandar Tsani, the Sultan of the Aceh Sultanate. The manuscript embodies universal and cosmopolitan values.

The manuscript by Abdurrauf As-Singkili is a valuable historical legacy of Aceh, but it has not been optimally utilised in history education. Manuscripts are valuable resources for delving into local history and understanding cultural heritage. Using manuscripts as the basis for history education is expected to provide a more engaging learning experience, motivate students, and enhance learning outcomes. However, there is

currently a lack of research exploring the impact of manuscript-based history learning on the learning outcomes of high school students in Langsa City. Therefore, this study aims to fill this gap by investigating the influence of this learning method on the learning outcomes of high school students. The findings of this research are expected to contribute to the development of more innovative history teaching methods, particularly in utilising the Abdurrauf As-Singkili manuscript (further - Manuscript) as a historical learning resource [4].

The results of this study are expected to provide scientific information regarding the design of manuscript-based history learning using the Manuscript to enrich the solidarity of high school students in Langsa City. Additionally, it aims to develop programs, curricula, and learning designs based on the Manuscript, particularly in history education, to bridge the gap between school education and historical education and align with the needs and changes in social and cultural processes within society. This aligns with the national education plan to implement an education paradigm that focuses on life skills based on the support and needs of the community [5].

METHODS

The research method used in this study is experimental research. It is a planned and conducted activity by the researcher to collect evidence related to the hypothesis, focusing on manipulating and controlling variables and observing and measuring the experimental outcomes. In this research, variables are manipulated on two independent variables: history learning using the Manuscript as the first experiment and history learning without using the Manuscript as the second.

The research is located in Langsa City, Aceh Province, Indonesia. The research subjects are Class X in SMA Negeri 1 Langsa (the experimental group), and SMA Negeri 3 Langsa (the control group). These two schools were chosen because they have similar academic achievements, have multicultural students from various ethnic backgrounds, are located in the city centre, and have students with diverse economic backgrounds. The instrument used in this study is a questionnaire consisting of 29 questions based on

knowledge indicators. The data analysis used is hypothesis testing of knowledge data.

RESULTS AND DISCUSSION

The results of this study indicate that the experimental group achieved higher scores than the control group. The average score of students in SMA Negeri 1 Langsa with the use of the Manuscript (experimental group) was 85.54, while the average score of students in SMA Negeri 3 Langsa without the use of the module (control group) was 69.28. Therefore, comparing the mean results between the experimental and control groups can be calculated as a difference of $85.54 - 69.28 = 16.26$.

Based on the pre-test data obtained from the student's learning outcomes before the treatment, it was found that the scores of 32 students ranged from a minimum of 0 to a maximum of 84. The average score obtained was 51. However, after the treatment using the Manuscript as an experimental class, the post-test data revealed that the scores of 32 students ranged from a minimum of 76 to a maximum of 100. The average score obtained was 89.

On the other hand, for the control group without the treatment, the pre-test data showed that the scores of 32 students ranged from a minimum of 16 to a maximum of 76. The average score obtained was 45. In the post-test data, the scores of 32 students without using the Manuscript as the control group ranged from a minimum of 52 to a maximum of 96. The average score obtained was 74.

Using SPSS version 19, the statistical analysis was performed with a sample size of $n=32$ and $\alpha=0.05$. The Sig value for the normality test of the SMA Negeri 1 Kota Langsa post-test data, which utilised the module, was 0.501. Since the Sig value is more significant than 0.05, the assumption of normality for this data group is accepted (null hypothesis accepted). In other words, the distribution of post-test data for the student's learning outcomes in SMA Negeri 1 Kota Langsa can be considered normal using the module.

Similarly, using SPSS version 19, the statistical analysis for the pre-test data of SMA Negeri 3 Kota Langsa without using the module resulted in a Sig value of 0.882 for the normality test. Since the Sig value is more significant than 0.05, the assumption of normality for this data group is also

accepted (null hypothesis received). In other words, the distribution of pre-test data for the student's learning outcomes in SMA Negeri 3 Kota Langsa without using the module can be considered normal.

From the above learning outcomes, it can be observed that the students of SMA Negeri 1 Kota Langsa achieved higher learning outcomes than those of SMA Negeri 3 Kota Langsa. This indicates that the instructional design and learning approach used in SMA Negeri 1 Kota Langsa, which incorporated the Manuscript as a teaching material, effectively enhanced the students' learning outcomes.

The design of history-based learning using the Manuscript as a guide for Enrichment Solidaritas originated from the researcher's interest in developing the history learning process in SMA Negeri in Kota Langsa. Several components played essential roles in the instructional design created by the researcher, including the planning, implementation, and evaluation phases [6]. The planning phase involved the creation of history learning, the Manuscript, and the Enrichment Solidaritas [7]. The learning materials created included the syllabus, lesson plans, and modules. The implementation phase involved teaching history using the Manuscript and utilising the Enrichment Triad Model by Joseph Renzulli for student Solidaritas. The history-based learning design was then developed through syntax to produce instructional and guiding impacts. The instructional implications included improving the learning process, while the guiding influence aimed to enhance students' knowledge.

In many schools in Kota Langsa, history teaching still largely relies on conventional models or methods found in textbooks or learning materials provided by the schools. During the observation of the sample schools in this study, it was noted that history teachers predominantly used conventional teaching methods and relied on printed books or packaged textbooks available at their schools.

History education plays a role in actualising two elements of learning and teaching. The first element is instruction and intellectual training. In contrast, the second element is moral education for the nation and democratic civil society responsible for the nation's future. In history education, instruction and intellectual training provide an overview of the past and cultivate critical

thinking, concluding, and extracting meaning and values from the historical events studied.

The outcomes of history education shape students into individuals with strong personalities who understand things and can determine their attitudes. The importance of understanding history for daily life equips students with tools to uncover the mysteries of societal movements. Through history, the results of struggles from the past can be known. History can be likened to a teacher as it educates the human spirit through its achievements.

History education aims to shape good citizens, make students aware of being good individuals, and provide a historical perspective to students. The specific objectives of history teaching include teaching concepts, developing intellectual skills, and providing historical information to students [8].

In history education, it is also essential to build the existing thoughts within students. To achieve

this, constructivism as a teaching approach is recommended in the history learning process.

CONCLUSIONS

The experimental group utilised the Manuscript as teaching material and achieved higher learning outcomes than the control group. The average score of students in SMA Negeri 1 Kota Langsa with the module was 85.54, while the average score of students in SMA Negeri 3 Kota Langsa without the module was 69.28. The statistical analysis showed that the distribution of post-test data for the experimental group can be considered normal. The instructional design and learning approach used in SMA Negeri 1 Kota Langsa, which incorporated the Manuscript, effectively enhanced students' learning outcomes. The history-based learning design focused on enriching solidarity and utilised the Enrichment Triad Model by Joseph Renzulli.

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Principles for Teaching Economics and Social Science Education Discourse

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Abstract. The research employed critical discourse analysis of official social science documents and three prominent lines of social science textbooks. Despite the recent emphasis on incorporating real-world economic practices into school financial education, the findings reveal that new social science textbooks exhibit increased criticism toward the market economy. Furthermore, they tend to avoid addressing and analysing the socio-economic issues of the present day. The study concludes by emphasising the need for economic education in schools to focus on contemporary social and financial problems.

Keywords: teaching economics; market economy; discourse; analysis; interviewing techniques.

INTRODUCTION

Economic education refers to the instruction provided by knowledgeable individuals, such as teachers or experts, on various economic issues and challenges. The "Education Economics" course offers students an opportunity to examine education through an economic lens, applying economic frameworks, evaluation methodologies, and principles to the field of education. Institutions train individuals who will later teach financial concepts to secondary school students to find solutions to economic problems in society. It is essential to recognise that a significant portion of our daily lives involves making economic decisions, whether as producers or consumers. By understanding economic principles, we can make better decisions than we would have otherwise.

Economic education empowers individuals to make well-informed decisions that positively impact their lives and society.

The world of economies and economics confronts a complex web of crises, prompting us to examine the approaches to economic education across various nations to equip young individuals with the necessary tools to tackle the unique challenges of the 21st century. What are the expected outcomes of economic education in today's context? While opinions may vary, most

economic educators would likely concur that financial education should foster students' comprehension of fundamental principles governing national and global economies, impart skills to effectively manage personal finances, cultivate an understanding of the intricacies of the professional realm, and enable them to make informed decisions when embarking on their initial career journey. However, recent years have witnessed a noticeable shift in perspective, with greater emphasis on financial literacy and nurturing an entrepreneurial mindset, supplanting the previously emphasised objectives (as indicated by research on financial literacy by [1, 2]).

Social studies encompasses various academic disciplines, such as history, geography, civics and government, economics, sociology, anthropology, and psychology [3]. Consequently, the subjects covered in the Swedish definition of social studies, namely political science, economics, and sociology, align with the broader international understanding of the field. The teaching of economics faces challenges in competing with the vast information landscape outside of schools. Many occupations rely on practical experience rather than the subjects studied in high school. Some individuals may enter these careers regardless of their education and gradually accumulate relevant experience. Another segment of job seekers

may pursue higher education to secure employment aligned with their educational background and qualifications. However, unintentional decisions regarding university majors can lead to various consequences for countries. These include heightened government spending on higher education institutions, an increase in job vacancies that remain unfilled, intensified competition among individuals with undergraduate degrees, an excess supply of labour in the job market, decreased wages, adverse effects on the quality of university education, and an extended job search period.

If secondary education focused more on the economy, professions such as handicrafts would gain attractiveness and admiration. Society and its institutions would support these career paths by incorporating these skills into school curricula. Furthermore, these jobs have the advantage of not requiring substantial capital investment while being product-oriented, thus stimulating the local economy and generating employment opportunities for job seekers. Conversely, when secondary education fails to adequately prepare students with practical skills for entering the workforce, these simple jobs tend to be undervalued by institutions.

This lack of emphasis on vocational skills results in untapped potential regarding physical capital, natural resources, unique regional characteristics, and local economic growth. Consequently, various locally viable professions may be neglected, and individuals may delay their job search until after completing a university education. This scenario leads to higher rates of unemployment, increased emigration, reduced domestic investment, and decreased expenditure on education, particularly in the realm of secondary education.

Schools play a crucial role in economically advanced nations as they design curricula to impart diverse, high-quality skills to students. Consequently, the duration of schooling in these countries tends to be longer compared to Iran. Graduates' skill sets and ease of finding employment reflect the challenges faced by individuals in Iran when seeking jobs compared to their counterparts in developed countries. Moreover, other important aspects are lacking in Iran's educational system and families. Schools in Iran struggle to teach students how to think creatively, step outside conventional boundaries, acquire practical skills, or embrace risk-taking. The existence of

a rigid curriculum, where students must merely complete coursework and gain theoretical knowledge, further exacerbates the situation.

The principles and main objectives of teaching economics in school and the realities of economics. The state's expectations for social science education are outlined in the state educational standard for secondary general education. This document serves as a key reference point, establishing the objectives and fundamental principles of teaching social science in modern schools. The standard emphasises cultivating several student characteristics encompassing civil, moral, and legal orientations. These characteristics also extend to promoting healthy lifestyles, thoughtful career decision-making, and self-education.

The objectives of economic education can be summarised as follows:

1. Gaining a thorough understanding of the financial system in society, seeing it as the setting for economic activity for people, families, enterprises, and the government.
2. They are developing economic thinking abilities that allow people to make wise decisions while taking responsibility for the effects on themselves, their environment, and society.
3. Nurturing project skills, encompassing the ability to design and implement interdisciplinary economic projects based on foundational financial knowledge and values.
4. Putting newly learned information and acquired abilities to successfully perform various socio-economic tasks, including consumer, producer, buyer, seller, borrower, shareholder, employee, employer, and taxpayer.
5. Gaining an understanding of my position and role in the global economy and developing the ability to navigate and comprehend current economic events.

These objectives aim to equip individuals with the necessary knowledge, skills, and attitudes to navigate economic matters effectively, make informed decisions, and actively participate in economic activities within the societal context.

A key objective of the concept is to foster legal, economic, and political literacy among students. Within the economics component, there is a focus on addressing issues such as corruption, the functioning of capital and labour markets, and developing an understanding of entrepreneurial activities and the knowledge economy. The con-

cept also emphasises the importance of financial literacy, which has gained significant prominence in public policy discussions in recent years. However, while the idea specifies certain areas of individual economic activity, it fails to address several fundamental problems that pose significant challenges to conducting business openly. These problems include bureaucratisation, oligarchic capitalism, high levels of corruption, an economy heavily reliant on raw materials, obstacles to small business development, and the pervasive existence of a shadow economy within a society characterised by migration. These unresolved issues complicate the economic landscape and require further attention and solutions to create a more favourable environment for economic activities.

By examining the critical normative documents about social science education and the notable challenges within the modern economy, it is essential to explore how this contradiction between educational goals and economic realities manifests in the discourse of financial education within schools. This investigation involves analysing popular social science textbooks and studies conducted with teachers, including interviews, to gain insights into the perception and experiences of educators in economic education.

Social science textbooks as a reference: representative sampling and methodology concerns. According to the argument presented, educators may rely on the economics sections in social studies books for instructional guidance. These textbooks, whether in physical or digital form, are produced by authorised publishing companies and serve as valuable resources that shape the curriculum being taught. They provide essential content guidance, influencing school material [4, 5]. Research has indicated that despite online resources' growing availability, teachers and students continue to utilise traditional paper-based textbooks. Furthermore, textbooks directly impact students' learning experiences and indirectly influence teachers as they serve as instructional references [6, 7]. By applying this methodology, the study aimed to critically analyse the discourse present within economic education, shedding light on how knowledge is constructed and disseminated and its implications for shaping individuals' understanding of economic realities within society.

The model [8] has gained recognition and has been widely employed in analysing printed pub-

lications. The model encompasses several stages, including an overall publication review and selection of specific discourse fragments for analysis. The study also examines the contextual elements, such as visual components, presentation structure, and the topics covered. Additionally, the research focuses on identifying rhetorical techniques, such as argumentative forms, symbols, and tropes. The goal is to isolate the ideological component and ascertain the overall intention of the text.

This comprehensive analysis examines specific discourse fragments in-depth, leading to discovering a discourse strand. In framework [8], a discourse strand refers to a collection of text fragments that pertain to a particular topic. In the study, the Siegfried Jäger model was applied to analyse all three lines of textbooks. This approach enabled the identification of discourse strategies and ideological influences, facilitating a comparative analysis between the books.

By examining these specific areas, the study aimed to shed light on the discourse surrounding them and uncover any noteworthy patterns or ideological influences in the textbooks. In economics, books play a pivotal role in education's pedagogical and epistemological aspects [9]. They are essential tools for teaching and learning, providing a structured framework for conveying economic concepts and knowledge. Moreover, textbooks contribute to developing and understanding the discipline's underlying principles and ways of thinking, shaping the epistemological foundations of economics education.

Directed at the future? Analysis of economics textbooks in discourse. An alternative definition of the economy is presented, emphasising its connection to material and non-material benefits and needs [10]. It is also recognised as a scientific field investigating the laws governing this sphere of activity. Additionally, a brief overview of the historical development of economic doctrines is provided, ranging from mercantilists and physiocrats to Keynesians and neoclassicists. However, there seems to be a gap in the curriculum concerning the role of the economy in modern society. Instead of addressing contemporary societal aspects, the focus shifts towards the relationship between economic production and the spiritual self-improvement of individuals [10]. This omission raises questions about the representation of the economy about current societal dynamics

and the understanding of its impact on modern society.

The paragraph highlights another issue in the teaching of economics in the curriculum. After briefly discussing the historical development of economic doctrines, the description of the role of the economy in modern society falls short. Instead of delving into contemporary financial processes and their relevance, the focus narrows down to the roles of individuals as participants in economic relations, mainly as owners, consumers, employees, and representatives of households [10].

This approach raises concerns as it fails to provide students with a comprehensive understanding of the evolution of economic theories and their applicability in the modern world. Students may lack the necessary insights to critically analyse and engage with the present era's complex financial issues and dynamics by presenting factual knowledge about past economic schools without exploring their evolution and relevance in today's context. The curriculum must incorporate the study of modern financial processes, their evolution, and their implications for contemporary society to ensure a more comprehensive understanding of economics. This would enable students to understand better the dynamic nature of economics and its relevance to their world.

The textbook even provides examples of mixed economies in Japan, the United States, Sweden, and China [11]. However, the book fails to address the shortcomings or limitations of each economic system, leaving it up to the students to independently identify the positive and negative aspects of the systems being studied. This approach could hinder students' ability to critically evaluate and understand the complexities and challenges of different economic systems.

However, the textbook overlooks the concept of unfair competition, failing to provide students with an understanding of its impact on market dynamics and the broader economy. The curriculum needs to address the limitations and drawbacks of each system and encourage critical thinking skills in evaluating economic phenomena to provide a more comprehensive experience of financial systems. Additionally, unfair competition should be included to enhance students' awareness of its implications in market economies.

The paragraph describes the use of schemes and illustrations in the topic "The Role of the State in the Economy" within the textbooks. These visual aids are considered appropriate and contribute to understanding the content effectively. The mentioned schemes include the "invisible hand of the market" concept, illustrating the market's self-regulating mechanism. Additionally, diagrams depict the tasks of the state's economic policy and its essential roles in the economy (in the 9th grade). Furthermore, there are diagrams showcasing the directions of government programs and photographs representing social objects that serve as public goods (in the 11th grade).

The structure of the conveyed meanings follows a progression from general concepts, such as the state's role in the economy, to specific tasks, functions, and policy directions related to supporting the public sector. This sequential approach facilitates students' understanding of the topic and its practical implications. Visual aids, such as schemes and photographs, can enhance students' engagement and comprehension of complex economic concepts. By gradually introducing specific details and applications, students are guided towards a deeper understanding of the state's role in the economy and its various dimensions.

The analysis of the rhetorical means used by the authors reveals a consistent strategy employed in both the 9th-grade and 11th-grade textbooks. Rather than problematising the material and fostering critical thinking, the books present a simplistic narrative where specific fragments resemble slogans. This rhetorical strategy of giving historical examples as positive and successful reinforces a particular viewpoint without critically examining alternative perspectives or acknowledging the complexities and limitations of different economic systems. It simplifies the discourse and may hinder students' ability to develop a nuanced understanding of the subject matter.

By relying heavily on historical experiences as a source of argumentation, the textbooks may overlook contemporary economic realities and fail to engage students in critically analysing and evaluating different economic systems and their implications. It is essential for financial education to encourage students to think critically, consider multiple viewpoints, and explore the strengths

and weaknesses of various economic approaches in light of real-world challenges and dynamics.

A teacher's view of economic education in secondary schools. However, some commonalities exist among teachers from rural and urban schools. The teachers' reliance on the recommended textbooks may be attributed to restrictions imposed by the Ministry of Education, which limits their choices to the approved books. This lack of alternative options could impact the variety and quality of educational materials available to teachers and students, potentially limiting their exposure to diverse perspectives and approaches.

It is worth noting that the study did not provide specific details on the age-related differences in teachers' assessments and perceptions. However, the age factor suggests that more experienced teachers might have different perspectives than younger teachers, potentially influenced by their years of teaching experience and exposure to different educational approaches. It would be beneficial to consider expanding the range of recommended textbooks, allowing teachers greater flexibility in selecting materials that best suit their teaching contexts and students' needs to enhance the quality and diversity of economic education. This could foster a more dynamic and

inclusive approach to financial education, promoting critical thinking and exposing students to various economic perspectives and realities.

CONCLUSIONS

This discrepancy between educational goals and economic realities is reflected in the content and approach of the textbooks analysed. The books focus on theoretical aspects of economics and provide limited coverage of the complexities and challenges of the modern economic landscape. They often present a simplified and idealised version of financial concepts without addressing the real-life issues and problems individuals and societies face. These findings highlight the need for a more comprehensive and realistic approach to teaching economics in schools. This could involve updating the curriculum to include current economic issues, promoting critical thinking and analysis of financial systems, addressing social and economic inequalities, and encouraging students to explore and understand the complexities of the economic world they will eventually enter. By providing a more nuanced and realistic understanding of economics, students can be better equipped to navigate and contribute to their society's financial challenges and opportunities.

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Human Resources Management in Improving Employee Performance at the Employment Section of Syiah Kuala University, Indonesia

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Abstract. Human Resource Management is efficiently utilising several individuals and effectively used optimally to achieve organisational goals. This research aims to know human resource management in improving employee performance in the University of Syiah Kuala staffing section. This study used a qualitative approach with a descriptive research type. Data collection techniques using observation, interviews, and documentation. The data analysis technique used is descriptive qualitative analysis with data reduction techniques, data presentation, and conclusion. Based on the research findings, it was found that: 1) Programs that have been planned and carried out to improve employee performance include: formal education and training for employees, providing work motivation, preparing employee career development plans, providing satisfaction for State Civil Apparatus, placement Employees, and apparatus performance evaluation. 2) The strategy for improving employee performance is using policies adjusted to several considerations and targets for the institution. These policies are a Recruitment system, human resource placement system, human resource training and development system, and work evaluation management system (evaluation). 3) Obstacles in improving employee performance, namely: incompatibility of employee abilities with duties and functions, lack of motivation to increase performance and discipline for an employee. 4) The solution is to develop development and training programs, participate in learning assignments, apply effective communication methods, appreciate employee achievements, and pay attention to employee welfare and creativity.

Keywords: Human Resources; employee performance; development.

INTRODUCTION

Human Resource Management is a process and effort to recruit, develop, motivate, and conduct training of human resources who have received training and will perform tasks such as working in an institution or organisation and conducting a thorough evaluation of the Human Resources needed by the organisation to achieve the objective.

In addition, management's role is to control the organisational structure by what the organisation wants and assist leaders in monitoring and identifying the people needed in the organisation or institution. Human Resources is also a significant factor in large and small-scale organisations because human resources greatly influence the quality of work and the results to be achieved. The author [1] explains, "In large-scale organisations, human resources are seen as a very decisive element in the business development pro-

cess, the role of human resources become increasingly important". The development of the business world will be realised if qualified human resources support it.

If improperly managed, employee performance is a significant problem in a government institution or organisation. Satisfying performance from employees does not happen by itself and instantly, but there needs to be an ongoing evaluation. The performance of this employee is the result of the work performance of employees who are assessed in terms of quality and quantity based on work standards determined by the organisation.

Results or good employee performance will impact the achievement of organisational goals. Whatever the form and purpose, the organisation is made based on various visions for human interests, and humans manage its mission. So, the human being is a strategic factor in all the activities of the institution or organisation. Further-

more, Human Resources must be regulated and managed based on the organisation's vision to achieve goals that can be performed optimally, especially in service.

Human resource management is needed to increase the effectiveness of human resources in organisations. The goal is to provide the organisation with an effective work unit. To achieve this goal, the study of personnel management will show how companies should acquire, develop, use, evaluate, and maintain employees in number (quantity) and type (quality).

Human resource management deals with various problems within the scope of employees, clerks, labourers, managers, and other workers to support an organisation or company's activities to achieve predetermined goals. The section or unit usually deals with Human Resources is the Human Resources Department. Human resource management is an ongoing procedure that aims to supply an organisation or company with the right people to be placed in the correct positions and positions when the organisation needs them.

Every organisation strives to have quality HR and meet the competency requirements needed for all its efforts to realise the vision, mission and achievement of organisational goals for the short, medium, and long term. Therefore every human resource in an organisation must have characteristics or characteristics. As stated by the author [2], namely: Having knowledge of their duties, responsibilities, and authorities, having knowledge (knowledge) required related to the full implementation of the responsibilities of the State Civil Apparatus, being able to carry out the tasks it performs because it has the expertise, skills needed and is creative, productive, innovative, able to work with others, trustworthy, and loyal.

Syiah Kuala University (further - University) is a university that was founded on September 2, 1961, located in Banda Aceh. Syiah Kuala University, an institution engaged in services education, has implemented its Human Resource management, especially well educational staff, by applying binding rules so that the quality of employees is highly prioritised in work and the quantity of employees has been adjusted to the number of employees needed. In addition, it requires the appropriate skills and educational qualifications needs, and age determination are also requirements to become an employee of the University, both civil and non-civil servants.

The Personnel Department of the University has implemented competency-based HR Management.

METHODS

This research uses a qualitative approach with a descriptive research type. The data collected is not in the form of numbers but data derived from interview scripts, field notes, and documents, so this research aims to describe the empirical reality behind the phenomenon in depth, detail, and thoroughly.

According to the author [3], descriptive research is "Intended to investigate the circumstances, conditions or other things that have been mentioned, the results of which are presented in the form of a research report". In descriptive research, phenomena are forms, activities, characteristics, changes, relationships, similarities, and differences between one phenomenon and another.

The author [4] explains descriptive research, namely: "Research conducted to determine the value of an independent variable, either one variable or more (independent) without making comparisons, or connecting with other variables". Meanwhile, the primary purpose of descriptive research is to systematically describe the facts and characteristics of the object or subject being studied accurately.

The research subject is a source of data that provides clarity about sitting the problem studied. In qualitative research, only references are used as issues provide complete and accurate information about several events, people, and observed situations. The authors [5] state, "Qualitative researchers make an effort to make a complex picture of a problem or issue under study". This involves reporting perspectives, identifying factors associated with a situation, and generally sketching the emerging big picture. While the author's research subjects [3] provide limitations: "research subjects as objects, things or people where data for research variables attached, and at issue". In a study, research subjects have a very strategic role because on the research subject that's the data about the variable observing research.

The research subject is an essential part, which acts as a source for data collection for the completeness of the research itself. The issue in this

study is the Head of the Bureau of General Affairs and Finance, Head of the Personnel Section (Personnel Section Coordinator), Head of the Educator Sub-Division (Sub Coordinator Section of Educators), and Head of the Sub-Division of Education Personnel (Sub-Coordinator of Section Education Personnel) Personnel Section and Employees Section Personnel both Employees Civil Servants and Non-Civil Servants as well as other sources or informants who can provide accurate information or data to researchers.

Several stages were carried out in data collection to get an in-depth picture of HR Management in improving employee performance at the University's Personnel Section. Data collection in this study was carried out directly by researchers through observation, interviews, and documentation.

Researchers first make observations by collecting data in general, including looking at in-depth things about the research subject, which are helpful for researchers to do further research. One of them is regarding the facilities and infrastructure of the section office. In the next stage, the researcher collects data and information according to the research focus. While the third stage is developing a research focus and seeking information according to research objectives, namely regarding the work program of the Personnel Section, solutions, constraints, and Human Resources in the Personnel Section, qualitative research is descriptive and tends to use analysis.

RESULTS AND DISCUSSION

Work Program of the Head of Personnel Section in Improving Employee Performance. The work program will guide the organisation in carrying out organisational routines and be used to realise the organisation's goals. A program is prepared based on the plans or targets to be achieved. The planning arrangement of these programs is referred to as a work program.

Based on the results of the author's interview with the Head of the University's Personnel Section, HR Management in the Personnel Section begins with planning, in this case planning a work program which is the first step in management. Regarding the work program, the basic staffing rules must include the service elements. For this reason, employees with good performance are needed in developing work programs, namely for the smooth running of service tasks.

The head of the Personnel Section is a leader whose job is to lead the implementation of tasks in the Personnel Section, establish and formulate policies, objectives, programs and work plans at the University and divide tasks, mobilise, coordinate the implementation of functions, and carry out direction, guidance and work instructions to subordinates or employees. In addition, it is necessary to have a team that works together in carrying out the work program, in this case, assisted by two Heads of Sub-Divisions, namely the Head of the Sub-Division of Educators (lecturers) and the Head of the Sub-Division of Education Personnel (non-lecturers).

An institution usually requires a work program planning carried out by a leader, in this case, the Head of the Personnel Section. Planning this work program to improve employees' work quality is essential. Because with a work program, the services provided will be carried out and well-directed.

According to the authors [7], a work program is "A system of activity plans from an organisation that is directed, integrated, and systematically made for a period determined by an organisation". The work program will guide the organisation in carrying out organisational routines. The work program is also used as a means to realise the goals of the organisation.

The program is a data/planning tool that the University formulates in the form of plans. Meanwhile, according to the author [8], the program is "a collection of real, systematic, and integrated activities carried out by one or several government agencies in the framework of cooperation with the private sector and the community to achieve the goals and means set". A program is prepared based on the goals or targets to be achieved. The planning arrangement of these programs is referred to as a work program.

The Strategy of the Head of Personnel in Improving Employee Performance. Strategy is a careful plan regarding an activity or tool used by an institution to prioritise the functions of its resources to achieve long-term goals that an institution at the University has formulated. Based on the results of interviews with the Head of Personnel who told researchers that there were several policies taken in conducting HR Management to improve employee performance, namely: education and skill training for employees, a system of recruiting and determining human resource needs, a method of placing human resources, the

existence of program management structure, human resource training, and development systems, work appraisal management systems (evaluation) as well as through other activities that motivate employees so that they get employees who understand their duties and responsibilities.

In line with the results of the interview above, to ensure the correctness of the information, the researcher also interviewed the Head of General Affairs and Finance, who also told the researcher: "Of course, there is a strategy or effort, one of which is carried out through continuous professional education and training as well as by recruiting human resources. Qualified human beings, human resource placement systems, structured program management, and employee performance improvement can be carried out through activities that motivate employees".

This was also confirmed by an employee at the University who told researchers: "There are several strategies carried out by superiors to improve employee performance, namely first education and skills training for employees, a recruitment system that has high criteria, a work appraisal management system (evaluation), the existence of structured program management, training systems, and human resource development.

Based on the results of the interview above, it can be concluded that there are several strategies carried out to improve employee performance, namely first continuous professional education and training as well as by recruiting quality HR, then a recruitment system that has high criteria, a work assessment (evaluation) management system, then there is structured program management, human resource training, and development system.

According to the author [9], Strategy HR Management in an organisation is critical in creating quality employees. The creation of employees quality will significantly affect the quality of work produced to achieve an organisation's goals and success.

Author [10] revealed that: "The human resource strategy emphasises the need for human resource planning and the implementation of the strategy that the University will formulate in the context of organisational strategy". This strategy is responsive to changes in the organisation's external environment, so practitioners must inter-

pret and adapt to ensure compatibility between the human resource strategy and the organisation's business plan.

This is in line with the work program of the Personnel Department. Human resources are essential to maintaining competitive advantage and supporting employee performance improvement strategies. The University staffing agency continues to strive to improve the quality of Human Resources because the University believes that the quality of Human Resources plays a vital role in increasing the competitiveness of companies.

Based on the author's research on HR in the Personnel Section, it is good. This can be seen from the work programs to improve employee performance through essential staffing duties. The strategy for enhancing performance implemented by Human Resource Management in

The University's Personnel Section uses policies adjusted to several considerations and targets aimed at the institution. This policy dramatically affects employee performance, so it requires qualified employees with high integrity at work and good skills and skills that these employees must have in working and providing services. This is important to achieve the goals of the institution that has been made.

Obstacles Faced in Improving Employee Performance. In conducting training and Human Resource Development, of course, every leader faces obstacles and obstacles. According to the interview with the Head of the Personnel Division to the researcher, he said that: The barriers faced by human resource management in improving employee performance at the Personnel Section of the University are not too significant because they are always under supervision, but several things seem like a lack of discipline in working time and motivation to increase performance and discipline, sometimes there is a feeling of laziness at work, procrastinating work or things that must be done, piece does not match job description, and overwhelmed with work because there is a lot of work in the work unit that is their responsibility. The Head of the Bureau of General Affairs and Finance also conveyed the same thing to the researcher. He said: Of course, there are obstacles in human resource management. Moreover, this improves employees' performance at the University's Personnel Section. The obstacles we face are the lack of disciplined motivation for an employee, procrastinating work, and work not by the main task. There are several

obstacles to doing the job. Therefore, the efforts and follow-up actions taken by the leadership in overcoming these obstacles in providing services are by reprimanding the employees and providing directions and instructions in doing the job properly without coercion and overcoming the problems encountered so that the service continues. By asking employees directly if there are problems, they can immediately communicate and coordinate with the leadership to find solutions.

In this case, the author [11] states, "Services are all activities or activities that can be provided by someone to another party, which in this case is in the form of service and does not affect property rights by anyone". Because managing an institution or organisation is not an easy thing if you don't have human resources who are skilled and have extensive knowledge; many obstacles and problems will be faced in implementing an effective and productive organisation. Especially in terms of managing

This is by the author [1], who states, "Human resources, which are defined as all people who are bound in an institution to make the best contribution to the running of the organisation, certainly require good management so that everyone can carry out their duties properly. While simultaneously supporting the organisation with motivation, talent, creativity, work, and innovation from each". This is related to quality, timeliness, effectiveness, and work independence.

The various assessment components in institutions or organisations in the Personnel Section are suitable, but there are still obstacles or problems. In this case, the leadership is consistently swift in overcoming the problem, namely directly communicating something to the point, such as when some employees must be on time to receive rank decrees or retirement.

Solutions for Improving Employee Performance in the University's Personnel Section. The solution to implementing the Human Resource Management function is to create a development and training program for employees. This is the basis for improving employees' quality of work to achieve institutional goals. The following solution related to the problem of implementing the Human Resource Management function is the need to enhance excellent and intensive communication between all parties in the Personnel Department, both employees and leaders.

Several solutions are provided to improve employee performance through human resource management, namely by providing training to improve employee performance and following learning assignments. Then also apply effective ways of communicating, giving appreciation for achievements to employees, paying attention to employee welfare and good employee creativity, and generating motivation.

They are, furthermore, giving trust and respect to employees so that good cooperation can be established and services can run according to expectations. Then there are direct appeals and electronic appeals to all employees. Electronic requests are distributed. Because there is this appeal, it will further motivate employees to carry out their obligations and will result in increased employee performance.

Other factors can be used as a solution in managing HR Management, namely providing training to improve employee performance; leaders must be able to implement a good work culture and a positive work culture resulting from the attitudes and behaviour of each employee in their work.

For the relationship between employees and leaders to be closely intertwined, both can be open to each other and understand each other in organisational relationships. Another solution is giving employees authority or freedom to make decisions on some issues so that they are brave in providing services and dare to be responsible for their work and fulfil the needs of employees, especially in service tasks.

Thus, employees are expected to feel more acknowledged to foster a high loyalty to the institution, especially the personnel section, in providing services. With high dedication, the employee will automatically work without expecting anything in return.

CONCLUSIONS

1. Programs for the Head of Personnel Section that are planned and carried out to improve employee performance, namely: formal education and training for employees, technical/functional education and training for State Civil Apparatuses, provision of work motivation, pre-service education and training for Candidates for State Civil Apparatuses, structural education, and training, preparation of employee career development plans, provision of satisfaction for State Civil Apparatuses, awarding of outstanding employees,

procurement of state civil servants and appointment of employees in contract agreements, placement of employees, evaluation of apparatus performance, socialisation and guidance on retirement preparation for State Civil Apparatuses, handling cases of employee disciplinary violations, employee and lecturer leave services, construction/development of personnel information systems, practice of performance achievement reports and performance realisation.

2. The strategy for the head of staffing in improving employee performance is using several policies adjusted to several considerations and targets aimed at the institution. These policies are the Recruitment system and determination of human resource requirements, human resource placement system, training system, human resource development, and work assessment management system (evaluation).

3. Constraints experienced in improving employee performance, namely: Incompatibility of employee abilities with duties, lack of motivation to increase performance and discipline for an employee, the presence of several employees who

procrastinate on work, the possibility of too much workload and not by job desk main task.

4. The solutions to improve employee performance are: The Head of Personnel Section must implement and create an excellent collaborative atmosphere between leaders and employees so that human resources become better, namely by creating a positive work environment, providing training to improve employee performance, following learning assignments, applying effective communication methods, appreciating employee achievements, paying attention to employee welfare and good employee creativity, generating motivation, and giving trust and respect to employees so that good cooperation can be established to improve employee performance in line with expectations.

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Implementation of the Kayak Rowing Ability Test Instrument in Banda Aceh and Aceh Besar City Podsi, Indonesia

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Abstract. Instruments are necessary because they are essential in various contexts, such as research, evaluation, measurement, or other practical actions. Tools help in the collection of data needed for a particular purpose. For example, surveys use questionnaires as instruments to collect data from respondents. Mechanisms allow systematic and structured collection of information. This study aims to determine the value of validity, reliability, and objectivity. This study uses quantitative analysis. The population in this study was all rowing athletes in Banda Aceh City and Aceh Besar Regency, totalling 48 people – data collection by directly measuring samples using test instruments and measuring the ability to row kayaks in 2019. Data analysis techniques using validity tests and reliability are analysed using the SPSS. Instrument Validity of the rowing speed test for kayaks in male athletes obtained a score of 0.726, and the ability to row kayaks in female athletes received a score of 0.805. The results of the statistical reliability test of the rowing speed test instrument in male athletes obtained a score of 0.884.

In contrast, the statistical reliability of the kayak rowing speed test instrument in female athletes obtained a score of 0.948. The test is declared reliable because the results are more significant than 0.6. The test gets objective results in the Good category. Thus, it can be concluded that the test instrument measuring the ability to row kayaks in the Banda Aceh and Aceh Besar Podsi that has been modified or designed by previous researchers after being used in Banda Aceh and Aceh Besar Districts has validity, reliability and objectivity values as well as percentages in the Good Category.

Keywords: Implementation; Instruments; Rowing Capabilities.

INTRODUCTION

Sports coaching activities today have become one of the areas or concerns that are important and considered in various fields. It has become one element that cannot be separated from the development and progress of science and technology, which continues to change from time to time. Sports coaching that aims to achieve good achievement, in its application, must apply the requirements of sports coaching in a systematic and well-structured manner.

Excellent evaluation in coaching also has a role that is no less important in achieving sports achievements. Sports evaluation measures and analyses an exercise program's progress,

achievement, and effectiveness. This evaluation is essential to ensure that the athlete's coaching goals are achieved and identify areas needing improvement. The following are some evaluation methods commonly used in sports.

Evaluation will contribute significantly to the advancement of sports coaching achievement. This is because the progress of the success of coaching can only be measured through assessment. Based on the evaluation results, the coaching program's adjustment and development are carried out continuously.

The existence of the instrument that has been developed is expected to help trainers and coaches of rowing sports to see or monitor the

development of training based on rowing ability standards as part of the evaluation of coaching carried out so far. The success of coaching that is carried out depends on the evaluation process carried out as well. Therefore, the test instrument measuring the ability to row kayaks that have been developed is considered very supportive of the evaluation process of the components evaluated, especially on the rowing ability of rowing athletes, especially in the Aceh Besar Regency and Banda Aceh City.

Instruments are necessary because they are essential in various contexts, such as research, evaluation, measurement, or other practical actions. Tools help in the collection of data needed for a specific purpose. For example, surveys use questionnaires as instruments to collect data from respondents. These instruments enable systematic and structured information collection.

METHODS

This research is a quantitative type of research that uses an evaluation approach that aims to analyse the success or picture of the implementation of a measurement instrument. The study conducted was designed to utilise an evaluation approach. This study was designed to explore the performance of test instruments and measurements of kayak rowing ability in Ponsi Banda Aceh City and Aceh Besar Regency.

In this study, the researchers collected data by directly measuring samples using test instruments and measuring the ability to row kayaks in 2019 with the norms in Table 1.

Table 1 – Norms of classification of the 50-meter rowing test

No	Classification	Score, sec	
		Men	Women
1	Tall	Down -10.20	Down -18.20
2	Keep	10.21-14.28	18.21-25.63
3	Kurang	14.29- Over	25.64-Over

Data analysis is systematically searching and compiling data obtained from measurement tests, interviews, observations, and field notes and describing them to be informed others. This technique assesses a development product's feasibility level and quality. Then the next step is analysed using data processing software.

RESULTS AND DISCUSSION

The kayak rowing ability measurement test in Podsi Athletes of Banda Aceh City and Aceh Besar was carried out by measuring the ability to row a kayak. The trial and measurement instrument of the ability to fight a kayak boat developed in 2019 has been declared valid and reliable with a score as in Table 2. As it is known that the requirements for a good test and measurement instrument are instruments that have validity values and are declared reliable in this study, measurements are also made on the validity value and reliability of test instruments measuring the ability to row kayaks. The measurement results of these components are listed in Table 2.

Table 2 – Validitas values and reliability of Aceh kayak rowing ability test instruments

Test instruments in 2019					Test instruments in 2023				
No	Kind	Category	Score	Information	No	Kind	Category	Score	Information
1	Validity	Son	0.883	Valid	1	Validity	Son	0.726	Valid
		Daughter	0.716	Valid			Daughter	0.805	Valid
2	Reliability	Son	0.464	Reliable	2	Reliability	Son	0.884	Reliable
		Daughter	0.811	Reliable			Daughter	0.948	Reliable

Based on the scoring data, the validity and reliability value table above show that the kayak rowing ability measurement test instrument developed in 2019 is said to be still valid for current use. Authors [1] state that validity is the correctness of measurements related to questions, instruments or tests, the extent to which it

measures what is meant in sizes. While according to [2], validity is a measure that shows the area to which measurement instruments can measure what researchers want or measure. Based on the theory of the experts above, it can be concluded that validity is an essential concept in research that shows the extent to which measurement in-

struments can measure what is desired precisely and accurately.

High validity is necessary for research to ensure reliable and accurate results. Furthermore, the author [4] said reliability is the "consistency of measurement results obtained from measuring instruments or tests in the same situation. Based on the theory, reliability can be interpreted as measuring how reliable or consistent a measuring instrument or test gives the same results when repeated at the same conditions or time. Determining the reliability and validity of the measuring instrument or test is important. While objectivity, according to [5] explained that objectivity is "a property possessed by measuring instruments or meters in providing measurement results that are not affected by subjective factors". Further, the authors [6, 7] stated that objectivity is "the nature of measurements carried out honestly, impartially, and neutrally without any element of influence from subjective factors that can affect measurement results". Based on this theory, objectivity is the ability of a process, action, or decision to be neutral, fair, and not influenced by subjective factors or personal interests.

With the stated test and measurement instrument of the ability to row a kayak boat valid and reliable that the tool is quite suitable to measure the rowing ability of kayak number athletes in Aceh Province. The above conditions were also responded to quite well by the Aceh provincial rowing coach through an interview who said: "The tool used is enough to provide a good picture of the ability to row a good kayak boat by the ability of each athlete that we have been monitoring. For example, for an athlete, a Khairil so far through time measurement trials for a distance of 50 meters, obtained the best results with a time of 10.89 seconds and through measurements using this instrument, also obtained results with a time of 10.19 seconds, with this instrument enough to help us in coaching in terms of field supervision and control". On the same occasion the assistant coach in an interview also said that, "in general the instrument used is quite good for measuring the capacity of our athletes' rowing ability, especially for athletes with a short distance specialisation, namely a 200-meter distance sprinter considering the distance used in this test instrument as far as 50 meters from the start to the finish line".

Based on the results of data collection and data reduction carried out by researchers through several primary data sources and field trials, it can be concluded that the test and measurement instruments for the ability to row Aceh kayak boats developed in 2019 still meet the rules of a test and measurement instrument, namely valid with a score of 0.883, and reliable with a score of 0.464.

CONCLUSIONS

Based on the results of research that has been conducted on the Aceh Podsi Rowing Athletes in 2023, it can be concluded that the test instruments used are appropriate to determine the rowing ability of the Aceh PODSI and obtain the test results of the Validity of the Kayak Rowing Speed Test Instrument in male athletes received a score of 0.726 and the ability to row kayak boats in female athletes obtained a score of 0.805.

The results of the statistical reliability test of the rowing speed test instrument in male athletes obtained a score of 0.884. In contrast, the statistical reliability of the kayak rowing speed test instrument in female athletes received a score of 0.948. The speed test of rowing kayaks on Podsi athletes in Banda Aceh and Aceh Besar was declared reliable because the results obtained were more significant than 0.6. The test instrument measuring the ability to row kayaks on the large-scale Podsi Banda Aceh and Aceh Besar received objective results with the Good category.

The hypothesis proposed is accepted as accurate. Therefore, the test instrument measuring the ability to row kayaks in the Banda Aceh and Aceh Besar Podsi that has been modified or designed by Previous Researchers after being used in Banda Aceh and Aceh Besar Districts has a good validity, reliability and objectivity value.

The implications of the results of this study are:

1. Provides an easy rowing trainer to perform speed tests rowing kayak boats.
2. It is expected to assist trainers in coaching and improving the ability to paddle kayaks at Podsi Banda Aceh and Aceh Besar and to be a consideration and benchmark in efforts to improve the achievements of Podsi Aceh rowing athletes.

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Analysis of Coaching Patterns of Athletes Pon XII Aceh, Indonesia

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Abstract. The training programme for PON Aceh athletes through regional training is systematically programmed. The programme is carried out systematically and continuously to improve physical fitness, functional abilities, and body systems, leading to PON Aceh athletes achieving better than expected. The Aceh Indonesian National Sports Committee conducts training for PON Aceh athletes in 2023 through several athlete and coach recruitment mechanisms, athlete recruitment mechanisms through screening athletes who have achievements at the national, international and Aceh Sports Week levels, and coaches through recruitment screening have national and international coach certificates. The results of this study are as follows: 1) The interview results showed that the regional training coaching carried out by the Aceh Indonesian National Sports Committee during the regional training was carried out to issue elite PON athletes in 2024 during the 2023 regional training. 2) Aceh Provincial Government support related to funding management is channelled correctly. Pelatda Aceh PON athletes in 2023 are in the excellent category.

Keywords: analysis; coaching; Aceh PON Athletes.

INTRODUCTION

Sports coaching improves human quality, creates planned and deliberate changes [1] and can reach high and maximum achievements. It must be done in stages and continuously to peak achievements. The peak achievement of coaching students cannot be done alone but must be done systematically. The success of coaching athlete achievements that are systemic, integrated, directed and programmed is seen from several influencing factors, namely:

- 1) Availability of professional coaches,
- 2) Availability of sufficiently talented athletes,
- 3) Existence of tiered and sustainable programs,
- 4) Existence of sufficient budgets and good relations between all athletes, coaches, coaches, administrators, provincial administrators, the National Sports Committee, and the government,
- 5) Availability of adequate facilities and infrastructure, completeness of sports equipment.

The author [2] said that coaching could not be separated from management because management is one of the supporting factors determining athletes' success.

METHODS

This research is classified as research with a descriptive type. The author [3] explains that descriptive research is a systematic, factual and accurate picture of the facts and characteristics of a particular population or area. The approach to answer the research questions raised above uses a qualitative approach. The author explained that qualitative research methods are based on post-positivism or interpretive philosophy, used to examine natural object conditions, where researchers are vital instruments, and data collection techniques are triangulated (combined observation, interviews, and documentation).

The subjects in this study are administrators related to the Indonesian National Sports Committee Aceh. The population and study sample consisted of administrators KONI 2 persons, coach – five people, and at least 20 persons. KONI is two people, coaches are five people, and athletes are 20 people.

Data collection techniques refer to triangulation data collection methods. The author [3] explained that triangulation is when researchers simultaneously use in-depth interview techniques, participatory observation, and documentation for the same data source.

The data analysis technique used in this study uses triangulation analysis techniques of data sources from three existing sources: interview data, observation data, and documentation data. The analysis of triangulation data in this study consists of three significant steps in Sugiyono's opinion [3].

RESULTS AND DISCUSSIONS

The results of the study conducted during the collection of approximately three weeks obtained data from interviews conducted regarding the analysis of Aceh PON athlete coaching patterns. The results of the research got the following observational data:

1. The coaches involved in the PON Platda are coaches who, on average, have met the requirements as coaches who have completed the criteria made by the Indonesian National Sports Committee Aceh, where the trainers involved in Platda already have a national certificate and one of them has an international certificate.

2. Athletes involved in recruitment are athletes who have participated in the National Championship 2021, PON Papua 2021, athletes who get gold, silver and bronze medals, athletes taken from PORA 2022, Pidie athletes who get gold medals, then international athletes who get medals. The training program to prepare the 2023 PON Platda athletes, both short-term, medium-term, and long-term, is well organised and runs appropriately in the Aceh PON Athlete Platda.

Funding is one of the essential things in all activities related to the smooth implementation of the 2024 PON athlete Platda, in which funding is well realised and distributed adequately for the sustainability of the 2023 PON athlete Platda.

Facilities and infrastructure used in Platda training, it can be said from the results of interviews and reviews with KONI Aceh administrators, coaches, and athletes' facilities and infrastructure are categorised as good and complete.

80% of trainers involved in the Aceh PON Platda have national certificates, and 20% have international certificates. All trainers who participate in the PON Platda have National certificates.

Table – Interview results of PON Aceh Athlete Development in Athletics, Weightlifting, Tarung Drajat, Fencing

No	Interview thing	Indicators	Observations	
			Exist	No
1.	Human resources trainer	Recruitment	+	-
2.	Human resources of athletes	Recruitment	+	-
3.	Exercise program	Short Term Coaching	+	-
		Medium-Term Development	+	-
		Long-term Coaching	+	-
4.	Funding	Government	+	-
6.	Facilities and Infrastructure	Equipment Procurement	+	-
		Quality Quantity	+	-
		Equipment	+	-

The process of coaching PON Aceh athletes in athletics, weightlifting, drajat fighting, and fencing has carried out a coaching pattern by the training program that has been made by the coach and management of KONI Aceh consistently carrying out Platda activities by the schedule that has been made and agreed. The training program is then used to create training periodisation's as a reference and guideline for training activities.

The research results on the pattern of coaching Aceh PON athletes revealed that components, training programs, facilities and infrastructure, human resources, and funding were not constrained by related parties in the Aceh PON athlete development activities. Based on the indicators that have been compiled in the early stages of research in the instrument grid, researchers can describe as follows:

1. Coaches who will coach PON Aceh athletes in 2023 already have a coaching certificate. Both nationally and internationally, 80% of trainers have national certificates, and 20% have international certifications. It can be concluded that PON Aceh trainers have involved 100% national certificates as trainers.

The athletes recruited are athletes who have won gold, silver, and bronze medals at the 2021 championship, 2021 PON, athletes taken from the Aceh Sports Week in 2021 who won gold medals, and athletes who excel internationally, it

can be concluded that the recruitment of athletes from PON 30%, athletes from the National Championship 30%, athletes from PORA Pidie 2021 15%, International athletes 15%, and Potential athletes 10%, it can be said that Aceh is recruiting athletes who have been categorised as elite athletes.

The Aceh PON athlete training program has fulfilled the criteria as a reliable program in achieving targets in the 2024 Aceh-North Sumatra PON, both in preparing well-structured short-term, medium-term, and long-term programs. Sports funding is the responsibility of the provincial government, KONI Aceh. The local government allocates a sports budget through the city budget for the smooth implementation of the Aceh PON athlete Platda. It can be concluded that the Aceh Government, in the smooth running of the Platda, carried out in the province in 2023 and the preparation of athletes to face the 2024 PON, primarily in funding the Aceh government, supports the smooth running of the 2023 Platda.

The facilities and infrastructure for coaching Aceh PON athletes in carrying out the 2023 PON Platda, facilities and infrastructure are pretty complete from all branches, assisted by the Indonesian National Sports Committee Aceh, which already has standard facilities and infrastructure at the PON level facilities and infrastructure for PON 2023 Aceh athletes in the PON level normal category.

CONCLUSIONS

Based on the results of research on the pattern of coaching PON XXI Aceh athletes, to answer research questions specifically, this study can be concluded as follows: Coaches who conduct Coaching on PON Aceh athletes are coaches who

already have 80% National certificates, and 20% have International certificates, high experience, knowledge in developing training programs that have and strategising in carrying out PON Aceh athlete plate coaching. The 2023 Aceh PON Platda athletes come from various National and International championships: 30% from PON, 30% from national championships, 15% from PORA, 15% from international athletes, and 10% from potential athletes.

The training program, the Indonesian National Sports Committee (KONI) Aceh and coaches, in preparing the training program for the 2023 Aceh PON athlete development, have met the criteria as a reliable program. This can be seen from the presentation of the training program to the Indonesian National Sports Committee Aceh before the Platda was carried out, try-outs and try-ins carried out by the coaches, the targets to be achieved were explained in the delivery of the training program to the Indonesian National Sports Committee Aceh, both in short-term, medium-term, and long-term training programs are well structured. Government support in funding the PON athlete Platda supports the smooth running of the Platda carried out for the preparation of athletes. Both funds, athlete nutritional intake, lodging, athlete funds, and coach funds, are distributed all the time for the smooth preparation of athletes to face PON 2024.

Facilities and infrastructure in the Aceh PON athlete Platda can be categorised as feasible and complete according to the needs of each branch, both in terms of completeness of equipment in the field. Each branch is adequate and complete from all branches assisted by the Indonesian National Sports Committee Aceh. Facilities and infrastructure equipment are categorised as appropriate to be carried out as efficiently as possible.

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State of the Art on Vehicular Engine Exhaust Emissions Standards and Regulations: a Review

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Abstract. Burning fossil fuels introduced massive quantities of pollutants, leading to many adverse effects on human health. Therefore, regulations to reduce or eliminate exhaust gases and pollutants emissions from fossil fuels began to be issued worldwide in 1970. Automotive emissions issue has been strictly regulated since 1980. Therefore, this article reviewed some significant countries' vehicular emission standards for diesel and gasoline engines. The review began with an overview of considerable diesel and gasoline exhaust emissions, how they are generated, and their impact on the environment and human health, then surveyed the emission standards and regulations for motor vehicles in the United States, Europe, Japan, Australia, China, India and Nigeria. This section discovered that most countries have modelled their regulatory standards using the European and US regulatory models. Since Countries like Japan and Europe have already been following the worldwide harmonised test cycle to rectify the differences in present emission standards followed by different countries, more concerted research is needed for evolution to a shared universal emission standard implementable worldwide so that other countries may introduce the same shortly. Policies to discourage growth in personal automobile use are also potentially most significant. Thus, the review herein has been discussed to have better insight into the status of existing vehicular emission standards, which may be helpful for future improvisation and implementation of vehicular emission standards in Nigeria.

Keywords: emission standards; exhaust emissions; gasoline; diesel; greenhouse effect.

INTRODUCTION

There are about 1.2 billion light-duty vehicles (LDVs) and 380 million heavy-duty vehicles worldwide, and these numbers are growing. The daily demand for liquid fuels per year also exceeds 11 billion litres (23000 million tons oil equivalent [1]. During the energy conversion process, fuel oxidation in combustion occurs. Burning fossil fuels have been linked with its emissions in the form of nitrogen oxides (NO_x), sulfur oxides (SO_x), carbon monoxide (CO), and unburned hydrocarbons. The above emissions negatively influence the environment as automobile emissions lead to global warming, a severe threat to the world [2].

The two predominant forms of motor vehicle emission are major gaseous and particulate air

pollutants (which can be found in relatively high amounts in the atmosphere) and so-called air toxics (which are usually found in lower parts of the atmosphere but can have significant health implications) [3]. Diesel and gasoline engine vehicles not only bring economic benefits to us but also pollute the environment, bringing health and safety risks to our lives; because of this, countries and territories developed practical emission regulation standards to reduce the harmful gas emitted by these vehicles from the root.

The human population is projected to exceed 9 billion by 2050, which will increase the calorie intake and push the production of food crops on scarce arable land to its limit. The energy demand will also increase [4]. Fossil fuels provide a significant chunk of the energy requirement; however, depleting reserves, price volatility, and

environmental issues preclude their sustainability [5]. For some reasons, including the energy density of petroleum fuels, the internal combustion engine has been the power source of choice for automobiles and most other vehicles. However, with the oil shocks of the past few decades and an increasing awareness of the emissions of air pollutants and greenhouse gases from these vehicles, interest in emission control regulations keep propelling.

The global effort to set up emission control regulations for automobiles dates back to the mid-1960 when tailpipe emissions were identified as a significant source of pollutants in Los Angeles, California and the USA [6]. In early 1970, CO and HC standards were set, followed by measures to control NO_x. More and more countries followed the USA in establishing their emission standards and regulations. The introduction of fuel quality norms and stringent emission standards for vehicles are some of the steps taken to reduce the share of vehicular pollution. These emission standards are statutory permissible limits of the pollutants released into the atmosphere from specific sources over a particular period, designed to protect human health and achieve air quality specifications [4]. However, if tailpipe emissions from the escalating vehicles population are not checked, it may invalidate previous achievements. Consequently, this paper reviewed the formulated vehicular emission standards that were covered in some major countries, i.e., the United States of America, Europe, Japan, Australia, China and India, with the intent of controlling diesel and gasoline vehicle engine emissions to understand the present scenario of Nigerian vehicular emission standards.

RESULTS AND DISCUSSION

Vehicular engine exhaust emissions

The current tailpipe regulations for gasoline and diesel engines focus on oxides of nitrogen (NO_x), carbon monoxide (CO), hydrocarbons (HC) and particulate matter (PM). Facts on how these engine emissions are generated were explained as follows:

CO – carbon monoxide. Carbon monoxide is a colourless, odourless, poisonous gas. It arises mainly in the rich mixture since insufficient oxygen is required to oxidate carbon to harmless carbon dioxide. It is also characterised by having approximately the same density as air. It has been

claimed to be chemically active in smog composition.

HC – hydrocarbons. Incomplete combustion leads to unburnt hydrocarbon emissions. Moreover, the surface-to-volume ratio and wall quenching immensely alter and influence the formation of hydrocarbons. Hydrocarbons are released and emitted by exhausts, engine crankcase fumes, and vapour slipping or breaking away from the carburettor. Hydrocarbon content by volume is massively lower than carbon monoxide content.

NO_x – nitrogen oxides. NO_x is a byproduct of combustion. It is created when nitrogen and oxygen in the air combine during combustion. More NO_x is formed when the cylinder temperature is high. As such, the primary strategy to reduce NO_x formation is to lower combustion temperatures in the engine. Nitrogen oxides exist mainly in NO and NO₂, formed at high temperatures. Therefore, the presence of high temperature and the availability of O₂ is the main reason for comprising nitrogen oxides. Pure NO₂ is a toxic, reddish-brown gas with a harsh odour or smell. NO₂ can react with the moisture existing in the air to form nitric acid, damaging materials directly. Many other oxides like N₂O₄, N₂O, N₂O₃, and N₂O₅ are also included in low concentrations, but they break down immediately at ambient conditions of NO₂.

PM – Particulate matter. Particulate matter is the primary general term that includes soot (visible or not) and other small particles (solid or liquid). Dehydrogenation, polymerisation, and agglomeration commonly and frequently form solid particles. Acetylene (C₂H₂) is included as an intermediate product during the combustion process of distinct hydrocarbons. After concurrent polymerisation and dehydration, these acetylene molecules produce and yield carbon particles, the particulate's main elements. These particulates exist in the exhaust gases as solids (ash and carbon) or live in a liquid state.

Carbon Dioxide (CO₂). When considering appropriate functioning, the CO₂ value can be even more significant when complete combustion occurs. However, carbon dioxide is a harmless product of the combustion process. About 21.3 billion tons of carbon dioxide is emitted into the environment every year due to fossil fuel combustion. Natural processes absorb half of the carbon above dioxide. At the same time, the remaining 10.65 billion tons of carbon dioxide is added to the atmosphere yearly, the primary cause of

increasing global temperature, popularly known as global warming or the greenhouse effect, as stated by [5, 6].

Impact of the engine exhausts emissions

The human body's breathing range is between 0.3 meters and 2 meters, which is precisely the emission height of vehicle exhaust, posing a threat to human health [7]. Table 1 summarises

the environmental and health impacts of these toxic engine emissions, which cause health-related problems such as respiratory disorders, risk of developing cancer and other traumatic ailments and contribute tremendously to economic losses, especially regarding financial resources required for medical assistance to the affected people [8].

Table 1 – Environmental and Health Impacts of Engine Exhaust Emissions

No	Exhaust Emissions	Environmental and Health Effects
1	CO ₂	The most prominent greenhouse gas. Increased carbon dioxide content and concentration in the air will increase the earth's surface temperature. As a result, enough ice will melt, leading to an increase in the oceans' level. This phenomenon is known as the "Greenhouse effect."
2	CO	It has harmful health impacts on the human body. CO, when inhaled, replaces oxygen in the bloodstream, where the body's metabolism will not perform and behave appropriately. When inhaled, small CO concentrations lessen physical and mental activity and generate headaches. On the other hand, it has been known to kill within 30 minutes when exposure to a high concentration (> 750 ppm) occurs directly.
3	HC	The most common primary pollutant that produces photochemical smog. It stimulates the eyes and mucosa of the upper respiratory tract, which can cause eye redness, swelling and pharyngitis. On human health basis, it has been discovered that exposure to hydrocarbons cause cancer and tumour. Oxides of nitrogen accompanied by unburned hydrocarbons in sunlight form photochemical oxidants, which have undesirable adverse effects on human health and plants.
4	PM	Reduce atmospheric visibility, and contribute to global warming. It causes chronic lung disease and can even cause cancer. Due to its strong adsorption capacity, it can adsorb various metal dust and pathogenic microorganisms.
5	NO _x	The primary pollutant that produces nitrate particulates causes acid rain and destroys the atmospheric ozone. Exposure to NO _x concentration can cause respiratory dysfunction. Oxides of nitrogen and other destructive, harmful substances are produced in small portions and can cause air pollution in specific environments. Also, prolonged exposure is health threatening. Nitrogen oxides are also accountable for smog formation (photochemical oxidants), which are the most detrimental to human health.

Emission standards and regulations

The most comprehensive system of vehicle emission standards and regulations are those of the US, Japan and Europe [6]. In 1950, Dr A. Smit discovered that hydrocarbons and NO_x emanating from automobile exhaust emissions react in sunlight as main constituents in smog formation in Los Angeles, California. As such, the State 1966 established its first-ever automobile emission norms for HCs and CO only. In the same State in 1971, it set its first emission standard for NO_x. In 1968, the USA formulated vehicular emission

standards for the rest of the states, followed by several other countries [9].

Vehicular Emission Standards in the USA

Emission standards in the USA can be categorised into three stages: the initial stage (before 1977), substantial reduction stage (1978–1993), and super-low emission stage (1994 onwards). Emission standards applicable to 1990 model year vehicles, commonly called Tier 0, required roughly 90% reductions in exhaust HC and CO emissions and a 75 % reduction in NO_x emissions compared to uncontrolled emissions. Tier 1 standards were published in June 1991 and

phased between 1994 and 1997. In 1999 the National Low Emission Vehicle Standard (NLEV) was adopted based on California emission regulations. Tier 2 standards were phased in from 2004 to 2009. Tier 2 bars in the US extended the law to heavier vehicles. These medium-duty passenger vehicles were not regulated under the Tier 1 standards and were found to be an essential element for reducing NO_x emissions to 70% below Tier 1 levels. One of the super-low emission stage regulations is the Tier 2 standard, which can reduce the levels of sulfur in gasoline from 90% to an average value of 30 ppm. Yet, due to many hindered factors, a new set of emission standards for vehicles and fuels commonly known as the US EPA decided on Tier 3 emission standards in March 2014 [10]. The structure of Tier 3 emission standards formed was similar to the earlier existing Tier 2. In Tier 3 emission standards, the manufacturers were also required to get their vehicles certified to one of the seven available 'certification bins' as depicted in Figure 1. It reduced sulfur content in gasoline by ten ppm, aiming to improve the performance of catalytic converters so that the duration of the vehicle's useful life could be enhanced. Other essential components of Tier 3 were on-board diagnostic systems and emission test fuel [11].

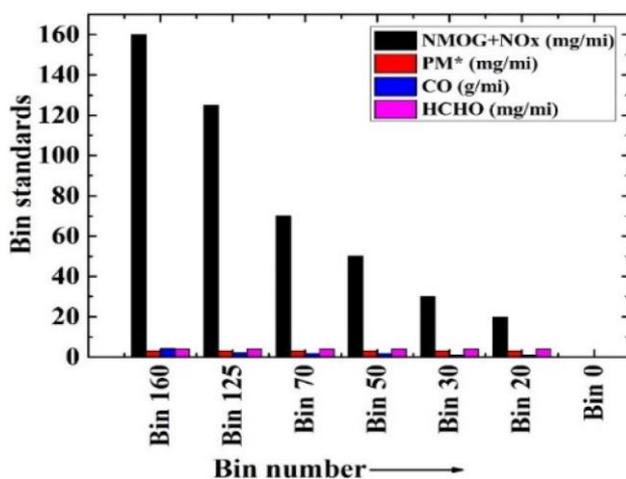


Figure 1 – Tier 3 Certification bin standards [10]

California, while challenging the re-opening of the GHG standards, is now planning for more reductions in GHG emissions beyond 2025. Key strategy elements were drafted to achieve a 40% reduction in overall GHG emissions over 2020 by 2030 [7].

Vehicular Emission Standards in Europe

The control of pollutants has a long history of regulatory work since the mid-1960 in European Union. The initiatives to implement national emission regulations independently by France and Germany were seen as barriers to free trade by other European Community members, as such opposed. Sequel to this, the implementation of European emission regulations was delayed until early 1990 [4]. Light duty vehicles were the first regulated in 1970 to conform to the Economic Commission for Europe (ECE) Regulation. The regulation was later amended four times (ECE 15-01 in 1974, ECE 15-02 in 1977, 15-03 in 1979, and ECE 15-04 in 1984) and applied to gasoline and diesel-fueled light-duty vehicles [6]. The Union later introduced the first two regulation standards (Euro I) and (Euro II) in 1992 and 1996 to reduce particulate and gaseous emissions for heavy-duty vehicles. It later approved the Euro IV (2009), Euro V (2014), and Euro VI (2016) regulations. The emission values emanating from passenger car diesel engines are established in Figure 2. However, Euro VI technology has been proven to have 65 to 70% additional NO_x reduction capacity [9].

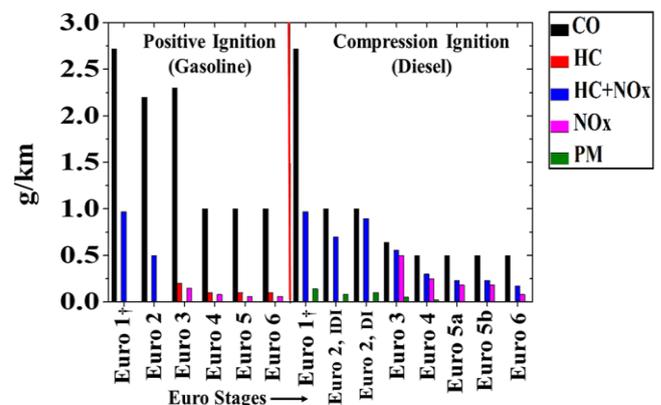


Figure 2 – Evolution of European emission standards for passenger car diesel engines [9]

Euro VI has set the fuel standards for the nation. Still, the Union's strategy for low-emission mobility now aims to limit transport-related greenhouse gas (GHG) emissions by 2050 to be at least 60% lower than in 1990. In line with the aim, a legislative proposal was adopted in late 2017, targeting reductions in average fleet CO₂ emissions from new LD vehicles in 2025 by 15% and 30% in 2030, compared to New European Drive Cycle (NEDC)-based CO₂ limits of 95 g/km for passenger cars and 145 g/km for light commercial vehicles in 2020. The CO₂ emissions testing

will be done using the World-Harmonized Light-Vehicle Test Procedure (WLTP) starting in 2021 to address some of the issues related to the testing procedure [5].

Vehicular Emission Standards in Japan

Japan's Ministry of Environment established its first tailpipe emissions 1966 for diesel and gasoline to cope with increasing environmental degradation. The first vehicular control measures concerning CO emissions were enacted in 1969 and extended to HC and NOx emissions in 1973. These standards involved concentration and mass emission limits relative to driving cycles specific to Japan and were revised review for light-duty vehicles in 1991. The Japanese emission standards for gasoline, diesel passenger cars, diesel light commercial vehicles, and diesel heavy commercial vehicles are depicted in Figures 3–6, respectively. Rules were applicable differently in the case of diesel and gasoline-fueled vehicles for different weight categories [12]. The two types of diesel passenger cars were those less than 1250 kg and those greater than 1250 kg. The diesel-fueled light commercial vehicles were divided into two categories according to their gross vehicle weight: those less than 1700 kg and those more incredible than 1700 kg [13].

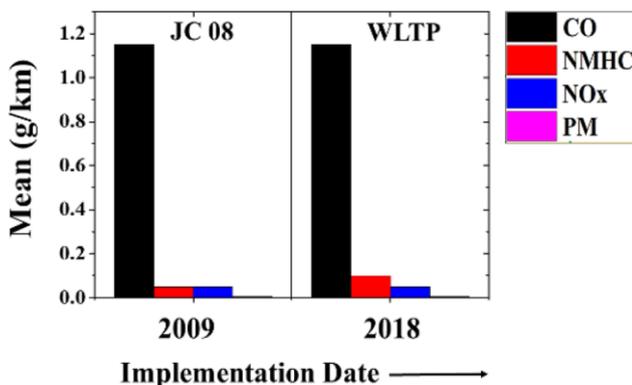


Figure 3 – Japanese emission standards for gasoline vehicles [13]

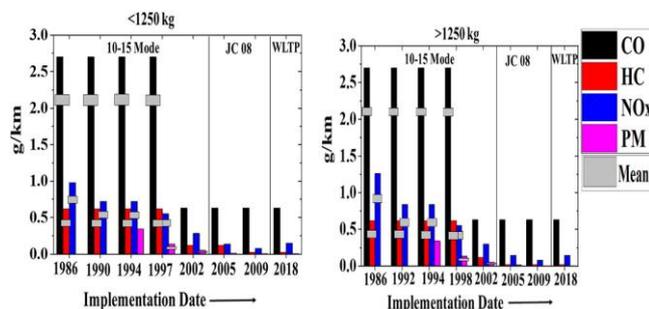


Figure 4 – Japanese emission standards for diesel passenger cars [13]

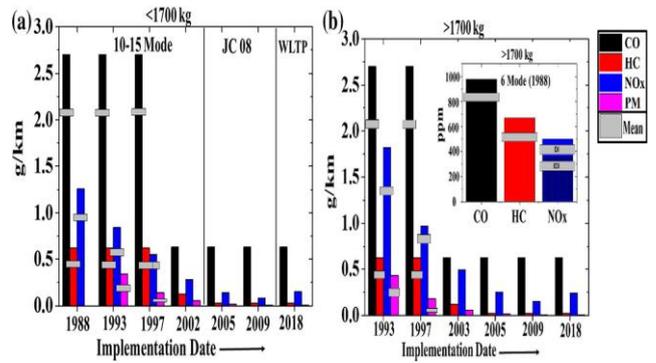


Figure 5 – Japanese emission standards for diesel light commercial vehicles [13]

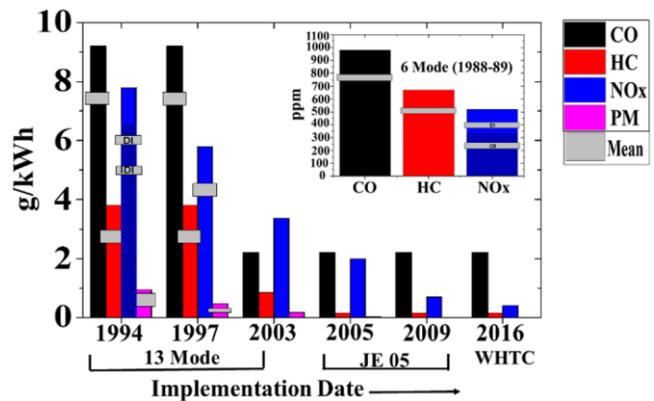


Figure 6 – Japanese emission standards for diesel heavy commercial vehicles [13]

Vehicular Emission Standards in Australia

In Australia, Vehicle emission standards started in 1970 for petrol-fueled light vehicles. Vehicular emissions in the country became a severe concern after studies have shown that about 70% of urban air pollution was attributed to cars. Furthermore, about 80% of CO, 60–70% of NOx and 40% of HC emissions were reported to emanate from automobile exhausts [14]. As such, Australia initially adopted the Euro standards as their base, but the US and Japanese emission standards were also considered for designing their emission standards. The government of Australia in 1999 introduced several environmental proposals under 'Measures for a Better Environment'. The proposal staged implementation of Euro 2 and Euro 3 for petrol vehicles and Euro 2, Euro 3 and Euro 4 for diesel vehicles. Figure 7 represents the Australian emission standard for petrol-fueled cars from 1972 to 2016 [8].

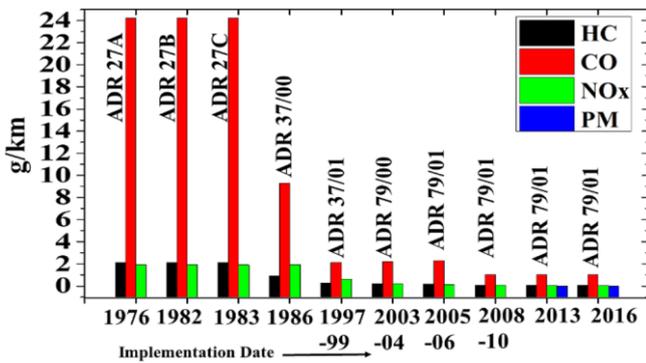


Figure 7 – Emission standard of pollutants for petrol-fueled PCs [8]

Vehicular Emission Standards in China

China attaches great importance to controlling the urban environmental pollution caused by vehicles. Statistics show that the number of diesel trucks in China increased from 14.272 million in 2012 to 16.909 million in 2017, with an average annual growth rate of 3.45% [13]. While heavy diesel vehicles bring economic benefits, there are also cases of environmental pollution caused by emissions. Therefore, China has formulated automobile emission regulations to control the emission of pollutants from motor vehicles. The limits of pollutants discharged and strictness on exhaust emissions under three different national standards are shown in Figure 8 [1]. The lower the value, the more stringent the emission limits. It can be seen that the National VI standard is the strict standard.

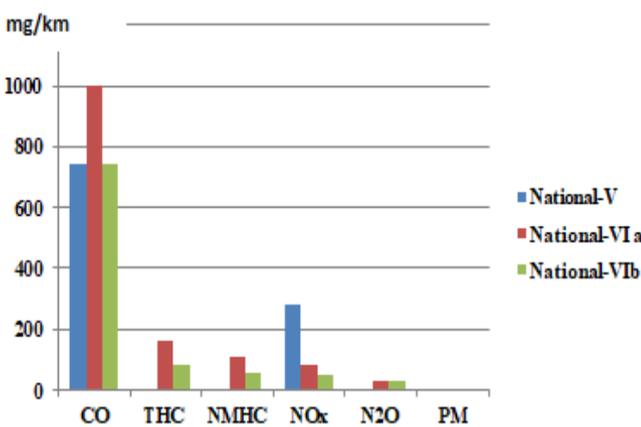


Figure 8 – Histogram of China's pollutant emission limits [1]

The Chinese Ministry of Industry and Information Technology finalised the new energy vehicle (NEV) mandate policy. NEVs include plug-ins and full-battery electric and fuel-cell vehicles.

The approach expands on California's ZEV credit system. In this regard, auto manufacturers are required to generate 10% of NEV credits in 2019 and 12% in 2020. It is a five-year Plan titled "New progress in ecological civilisation construction, continuous improvement of ecological environment and living environment, and continuous reduction of pollutant emission". To comply with this standard, automobile enterprises adopt effective emission control technology to reduce the harmful gas emitted by vehicles from the root [1]. With the joint efforts of all of us, the target could be achieved quickly.

Vehicular Emission Standards in India

As in other countries, The Air Act 1981 and Environment Act 1986 gave the right to the Indian government to form and regulate automobile emission standards. India has established its emission standards parallel to European vehicular emission standards for 4-wheeled LDVs and HDVs and has its own set of standards for 2- and 3-wheeled vehicles [15]. Vehicle categories in Indian emission standards were similar to Euro standards. 2000 the first emission stage, India 2000 (BS-I), was implemented Nationwide. It's equivalent to Euro 1. BS-II emission standards were implemented in 2001 in four metro cities, then nationwide in 2005. The next series, BS-III emission norms, were executed for M and N1 categories of vehicles in 2005 in NCR and 11 other cities, then nationwide in 2010 [16].

Further in the series, BS-IV emission standards were implemented in 2017 nationwide, which is analogous to Euro 4 emission standards. BS-V emission standards were skipped to provide updated technologies in meeting previous norms at affordable costs so that the nation would be at par with countries like Europe and USA regarding vehicular emission norms and improving the overall ambient air quality. BS-VI emission norms, a derivative of Euro 6, were implemented in April 2020 nationwide with a similar framework. These steps for controlling India's vehicular emissions are depicted in Figure 9 [1]. The implementation of BS-IV is to keep up with the G-20 countries. The standards apply to light and heavy-duty vehicles and two and three-wheeled vehicles.

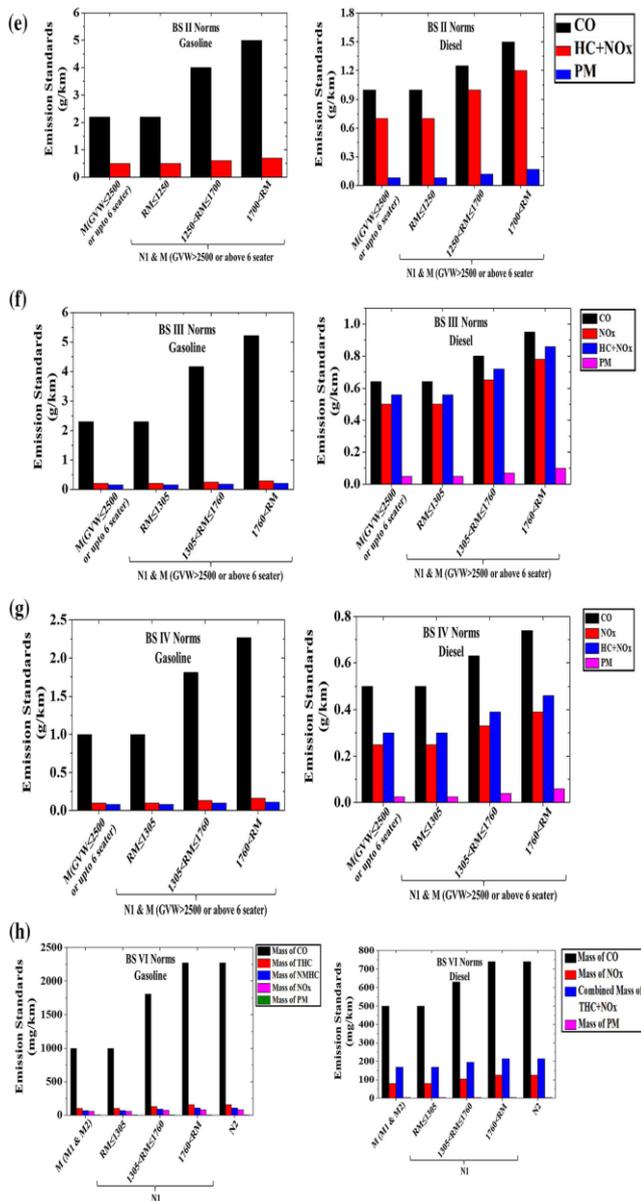


Figure 9 – Steps for Controlling Indian's Vehicular Emissions [1]

Vehicular Emission Standards in Nigeria

Transport-related pollution in Nigeria is significant, with possibly severe health consequences. Authors [17] reported that pollution at traffic intersection is threatening and that motor vehicle remains the dominant sources of urban air pollution. Unfortunately, much attention is given to general industrial pollution and pollution in oil industries, with little reference to damage of pollution caused by mobile transportation sources of air pollution. Author [18] added that the increase in portable transportation sources is propelling, thus resulting in high congestion on Nigerian city roads and an increase in the concentration of pollutants in the air, which may likely offset a portion of the expected reductions. A result from a comparative study of emission figures for two major cities in Niger Delta and Lagos revealed that the concentrations of total suspended particulates, NOx, SO₂, and CO in those areas were above the FEPA recommended limit [18]. This has drawn the attention of researchers, policymakers and stakeholders to contribute significantly to air quality in Nigeria. National Environmental (air quality control) regulations, 2021 under National Environmental Standards and Regulations Enforcement Agency has set up rules to improve the nation's air quality to an extent that would enhance the protection of flora and fauna, human health, and other resources affected by air quality deterioration. It stated that Emissions from road vehicles should be by the provisions of the Vehicular Emissions from Petrol and Diesel Engines Regulations depicted in Table 2 [19].

Table 2 – Nigerian Vehicular Petrol and Diesel Engine Emissions Regulation

Mobile Source	Emission Standard									
	Tailpipe Concentration (%)					Emission Factor (g/km)				
	PM	Soot	CO	NOx	VOC	PM	Soot	CO	NOx	VOC
Gasoline	-	-	-	-	-	-	-	13	1.6	1.2
Gasoline with catalysts	-	-	-	-	-	-	-	3.5	0.6	0.3
Diesel	-	-	-	-	-	0.4	-	0.9	1.0	0.3
Light Duty Truck, LDT (Gasoline)	-	-	-	-	-	-	-	15	1.8	2.0
LDT (Gasoline with Catalysts)	-	25	-	-	-	-	-	10	1.0	0.8
LDT (Diesel)	-	40	-	-	-	0.5	-	8.0	1.2	0.45
Heavy Duty Truck, HDTB	-	40	-	-	-	0.9	-	9.0	12	2.0
Motorcycles/Tricycles	-	45	-	-	-	0.3	-	14	0.6	2.6

CONCLUSIONS

Tailpipe emissions regulation for gasoline and diesel engines (focuses on carbon monoxide (CO),

oxide of nitrogen (NOx), hydrocarbon (HC) and particulate matter (PM). Tailpipe emissions from gasoline and diesel engine pose several health

concerns. Once in the atmosphere, nitrogen oxides react with volatile organic compounds (VOCs) in sunlight to form ozone. Ozone is a harmful, reactive, corrosive gas contributing to many respiratory problems, particularly for children and older people. Developments of regulatory standards have dramatically reduced a reasonable percent of these emissions from uncontrolled levels. The emission standards of the United States and Europe were considered the primary standards, later followed by several other countries. USA vehicular emission standards are analogous to Californian emission standards consisting of 3 phases, i.e., Tier 1, Tier 2 and Tier 3 – the European vehicular emission standards comprised six stages of stringent emission norms. The initial stage was Euro 1 emission levels based on the universal application for gasoline vehicles, followed by Euro 2 standards for NO_x control in some larger cars and light commercial vehicles. Cold start emission control become the main focus of pollutant control for Euro 3-compliant vehicles. Gasoline standards change little from Euro 4 to Euro 5, with only a 25% reduction in NO_x, and Euro 6 is identical to Euro 5. Euro 5 and 6 emission control technologies are strongly influenced by CO₂ emission standards that aim to reach a target of 95 grams per kilometre in 2020. Japanese vehicle emission standards

were based on European emission standards and regulated LDVs and HDVs.

Australia had adopted the Euro standards as their base. Though, USA and Japanese emission standards were also taken into account. India and China have established their emission standards parallel to European vehicular emission standards. The emission standards have been applied in five stages: BS-1/I, BS-2/II, BS-3/III, BS-4/IV and BS-6/VI (skipping the BS-5/V stage). Nigerian National Environmental Standards and Regulations Enforcement Agency also introduced Petrol and Diesel Engines Regulations standard in 2021. Generally, the US, Japan and Europe have been proven and concluded to have the most comprehensive vehicle emission standards. Though compliance with stricter emission standards usually involves higher initial and operating costs, more stringent emission standards should be developed to achieve a reasonable percent reduction in overall tailpipe emissions to meet up with the European Union's laid plan on greenhouse gases drop to 40, 60, and 80% by 2030, 2040, and 2050. Furthermore, the optimal level of emission standards varies among countries, which causes market disruption. As such, universal standards should be set at a level nearly all vehicles can meet, even though this worldwide harmonisation is challenging based on the dynamics of road conditions, driving patterns and environmental conditions.

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Performance Evaluation of Tamarindus Indica Seeds Powder in the Treatment of Dye Wastewater

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Abstract. A large amount of dye wastewater is generated after the local dyeing process. It contains high concentrations of organic and inorganic contaminants. Furthermore, the composition of the wastewater varies according to the type and number of textiles and the water requirements of the process. Hence, its treatment before discharge is necessary to protect the environment. This study investigated the use and effectiveness of Tamarindus indica seeds powder from agricultural waste for removing some recalcitrant target compounds in the dye wastewater. A batch test was performed to examine the use of this adsorbent as a potential replacement for the advanced treatment methods. Varying adsorbent dosages determined the maximum adsorption capacity at 30, 35, 40, 45, and 50 g and at 24, 48, 72, 96 and 120 hr reaction times. The optimum dosage, reaction time and percentage removal of various parameters were found to be; Turbidity (no significant effect), TDS (40 g/l, 72 hrs, 54.42%), EC (35 g/l, 72 hrs, 4.46%), Phosphate (35 g/l, 24 hrs, 38.49 %), Total suspended solid (no significant effect), Nitrate (30 g/l, 96 hrs, 15.26%), COD (no considerable impact) and BOD (30 g/l, 48 hrs, 63.38%) respectively. The results showed that adsorption efficiency increased with decreased adsorbent dosage, even at different reaction times. Hence, low-cost adsorbents such as Tamarindus indica seeds can treat dye waste water to a certain level for safe disposal.

Keywords: Dye Wastewater; Tamarindus Indica Seeds; Agricultural Waste; Physio-Chemical Analysis.

INTRODUCTION

Many factors can cause water contamination. Industrial waste and sewage from cities dumped into the rivers are the most polluting [1]. Waste produced by manufacturing or industrial activities is called industrial waste [2]. The dye business uses a lot of water [3]. Water is needed Throughout production to clean the raw materials and perform many flushing operations [3]. The wastewater produced throughout the various production phases must be cleaned of fat, oil, colour, and other chemicals [4]. The type of wastewater and the amount of water utilised affect the cleansing process [3]. Textile dye extraction from wastewater has become a major global

environmental problem. Water contamination poses a severe ecological and human health hazard [5]. It can also lead to some chronic disorders. By examining dye side effects such as toxicity and mutagenicity, bacteria and other living things embedded a prelude to releasing metals into the environment.

The dye business uses raw materials, equipment, and methods to manipulate the finished product's shape and qualities [6]. The primary source of this industry's strength is its robust production, which is based on various fibres and yarns, including both natural and synthetic/man-made ones, including polyester, viscose, nylon, and acrylic [7]. Textile mills and their wastewater

have been growing proportionally with the rise in textile product demand, which has led to a significant increase in global pollution [8]. Dye wastewater contains various compounds, and dyes are one of those chemicals [9]. The majority of the environmental issues that the textile industry causes on a global scale have to do with water contamination brought on by the release of untreated wastewater and, therefore, by using hazardous chemicals, particularly during processing [10]. If dye wastewater is released into the environment without adequate treatment, it may cause significant environmental damage. Thus, removing colours from textile effluents before disposal becomes essential to prevent ecological harm.

Pre-treatment, dyeing, finishing, and other technologies are used in textile printing and dyeing processes [11]. Desizing, scouring, washing, and other procedures are included in pre-treatment [12]. To produce coloured fabric under specific circumstances, dyeing seeks to dissolve the dye in water [13]. A branch of dyeing known as printing is localised dyeing or dyeing restricted to a specific area of the fabric that makes up the design. It is dying in which the fundamental chemical processes are identical [8, 14]. Significant environmental issues are being created by some enterprises' improper and unmanaged wastewater discharges [15]. Dye, metal, and other contaminants are present in the effluents released from textile manufacturing [16]. Natural and artificial dyes can be used as colourants [17]. The ease of production, availability in various colours, and fastness of synthetic dyes make them more popular than natural dyes [18]. According to their chemical makeup (e.g., azo, anthraquinone, sulfur, phthalocyanine, and triaryl methane) and method of use (e.g., reactive, direct, disperse, essential, and vat dyeing), synthetic dyes are divided into various classes [19].

The dye effluents have high levels of salts, metals, temperature, pH, suspended solids (SS), chemical oxygen demand (COD), and biological oxygen demand (BOD) [20]. Therefore, before releasing the appropriate effluent to the receiving water body during the treatment procedures, it is crucial to check and compare these values with the standard concentrations. It is also necessary to monitor the treatment's effectiveness concerning additional measures, including total organic carbon (TOC), ammonia-nitrogen (NH₄-N), nitrate-nitrogen (NO₃-N), and ortho-phosphate-phosphorus (PO₄-P) [22]. Without a doubt, hu-

manity's future largely depends on the importance of pollution control and treatment. The loss of dissolved oxygen caused by high COD and BOD levels, particulate matter and sediments, and oil and grease in the effluent hurt the aquatic biological system [23]. Chromium, which has a cumulative effect and increased chances of getting into the food chain, is also present in dye effluent [24]. The turbidity of the water body is increased by the effluents' dark colour, which is caused by using dyes and chemicals [25]. The organic contaminants, colour, and heavy metal ions should be considered when dyeing wastewater [26]. Recently, the recovery of wastewater should be taken into consideration due to the lack of water. As a result, the dyeing wastewater's decolourisation was significantly enhanced.

Tamarind (*Tamarindus indica*, Fabaceae), a tropical fruit in Africa and Asia, is highly valued for its pulp [27]. The tamarind fruit pulp has a sweet acidic taste due to a combination of high contents of tartaric acid and reducing sugars [28]. The pulp is used for seasoning, in prepared foods, to flavour confections, curries and sauces, and as a significant ingredient in juices and other beverages [29]. Several nations produce commercial tamarind-based drinks [28]. A by-product of the tamarind pulp business is tamarind seed [29]. The whole seed cannot be consumed directly due to the testa's presence of tannin and other colouring material [28]. However, after soaking and boiling in water to remove the seed covering, the seeds are then edible [29]. Even now, sources that might be processed into palatable cattle feed have been wasted in the past [30]. The tamarind kernel powder (TKP), a significant sizing material used in the textile, paper, and jute industries, is the leading industrial product of tamarind seed [29].

Additionally, tamarind seeds are used as a raw material to produce tannin, glue, and polysaccharide (jellos) [30]. Two Indian scientists reported that decorticated kernels contained 46-48% of a component that forms gels in 1942. A stabiliser for ice cream, mayonnaise, and cheese, as well as an element or agent in several medicinal goods, has been suggested for usage as this polysaccharide (pectin) with carbohydrate character and gelly forming capabilities, known as "jellose" [31]. Cake and bread may be produced using seed flour [32]. It is asserted that roasted seeds' flavour is superior to groundnuts [28].

Given the overall nutrient and chemical composition, tamarind seeds may be adopted as an inexpensive alternative protein source to alleviate protein malnutrition among traditional people living in developing countries. The powdered seed of *Tamarindus Indica* has adsorption properties that have been used in various aspects of Turbidity, PH, Total Dissolved Solids and Total Suspended Solids removal [33]. Consequently, the use of these low-cost *Tamarindus indica* seeds forms the main focus of the study. To reduce the risk of pollution problems from such effluents, it is necessary to accurately treat them before discharging them into the environment. This research focuses on determining the physical and chemical composition of pollutants present in industrial wastewater, metallic content and using *Tamarindus indica* seeds powder as an adsorbent. To treat and minimise the effect of hazardous contaminants present in dye wastewater, it becomes necessary to treat them accurately before discharging them into the environment.

MATERIALS AND METHODS

The following materials were used; wastewater sample, *Tamarindus indica* seeds powder, distilled water, Sulphuric acid, Potassium permanganate, Hydrochloric Acid, Sieves of different sizes, PH/EC/TDS meter MODEL HI 9813-5, Colorimeter HACH MODEL DR/890, 753N UV-Visible Spectrophotometer, and Titration Apparatus.

Preparation of adsorbent. The *Tamarindus indica* were soaked in water for two days and washed with water to remove dust and pulp, and the clean seeds were dried in the shade for 24 hours and then removed from the coat. Afterwards, the seeds were powdered with the grinder and sieved through a size 402 micrometre standard BS sieve, which takes up to 210 grams of the powdered natural adsorbent.

Collection of wastewater. The sample dye wastewater was collected from the Dansokoto Local Dye Industry in Bauchi, Bauchi State, Nigeria. The collected wastewater was kept as a stock solution, and the sample used for studies was prepared by diluting some of the stock solutions to avoid fault results.

Batch Adsorption Study and Procedure. Batch adsorption studies were performed at a temperature range of (24–27 °C) to obtain the equilibrium data required for the design and operation

for treatment of the wastewater/effluent. For equilibrium studies, a series of 2 Litre containers were employed. Each container was filled with 2000 ml of effluent and was placed in a flocculate-controlled assembly. A known amount of adsorbent (30, 35, 40, 45 and 50 g/l) was added into each container except for the blank solution/sample or control (effluent sample without adsorbents) with all well labelled. The containers were covered and agitated intermittently for the desired periods (24, 48, 72, 96, and 120 hr). The contact time and other conditions (e.g. adsorbent dosage) were selected based on preliminary experiments. The solutions of the specified tubes were separated from the adsorbent and analysed to determine COD, BOD, pH, dissolved solids, Suspended solid, Electric conductivity, Nitrate, Phosphate, and Turbidity.

RESULTS AND DISCUSSION

The initial test was performed on the raw wastewater before applying any adsorbent, as shown in Table 1.

Table 1 – Initial concentration of dye wastewater

No	Parameter	Initial Concentration
1	PH	12.2
2	Turbidity (NTU)	5200
3	Total Dissolved Solids, ppm	37300
4	Electric Conductivity, Siemens/m	8.09
5	Chemical Oxygen Demand, mg/l	27.61
6	Biochemical Oxygen Demand, mg/l	609
7	Phosphate PO ₄ , mg/l	408.4
8	Total Suspended Solid	9
9	Nitrate	0.511

Effect of Adsorbent on measured parameters. The highest pH reduction was found at 120 hrs at an optimum dosage of 30, 35, 45, and 50 g/l, having an initial value of 12.2 to a final value of 11.6 (Figure 1).

A reduction rate of 5.74% was recorded. pH is a measure of the acidity or alkalinity of a solution. In dye wastewater treatment, pH is crucial in determining the efficiency of various treatment processes.

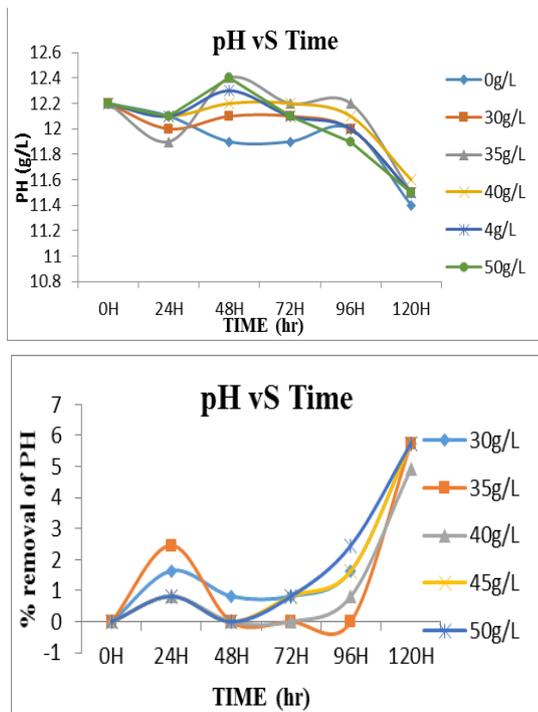


Figure 1 – PH measurement and percentage removal by TISP

PH modification is frequently required to maximise the effectiveness of the coagulation, flocculation, and biological treatment procedures.

Electrical Conductivity. 4.21% was the highest removal percentage at 48 hrs, and the optimum dosage of 45 g/l had an initial value of 8.09 Ms/m to a final value of 7.73 Ms/m (Figure 2).

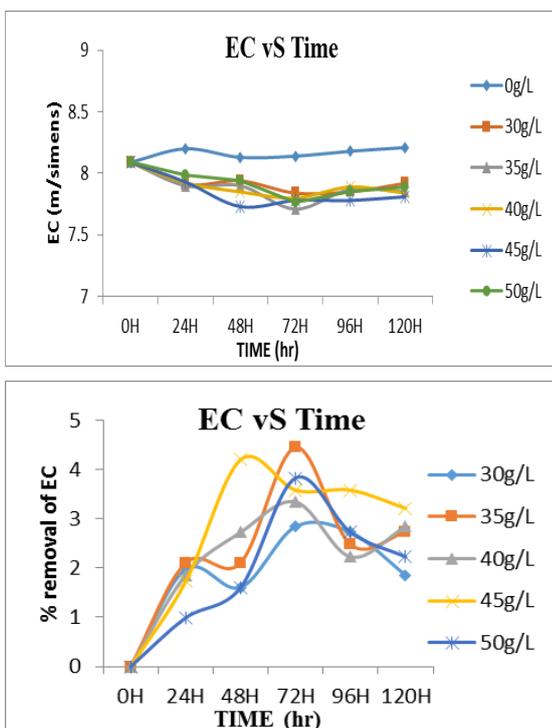


Figure 2 – EC measurement and percentage removal by TISP

Electrical conductivity gives a clue as to the overall concentration of dissolved pollutants in dye wastewater treatment. A high concentration of dissolved salts or other ionic contaminants may cause high electrical conductivity levels, affecting treatment effectiveness and calling for particular treatment strategies.

Total Dissolved Solids. 54.42% was the highest percentage of removal at 72 hrs and an optimum dosage of 40 g/l, having an initial value of 37300 ppm to a final value of 17000 ppm. TDS measurement aids in determining the overall concentration of dissolved pollutants in dye wastewater.

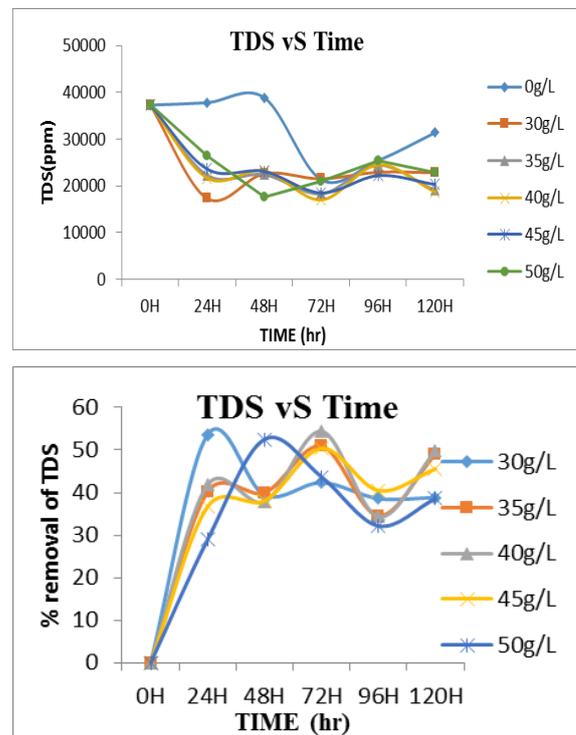


Figure 3 – TDS measurement and percentage removal by TISP

High TDS levels can hinder the effectiveness of treatment procedures and necessitate using particular treatment techniques, like membrane filtration or evaporation, to produce the appropriate water quality.

Temperature. 6.99% was the highest percentage of removal at 120 hrs and an optimum dosage of 50 g/l, having an initial value of 27.7 to a final value of 25.5. The measurement of temperature is essential because most wastewater treatment schemes include biological processes that are temperature dependent. In treating dye wastewater, temperature impacts the speed of chemical reactions and physical activity.

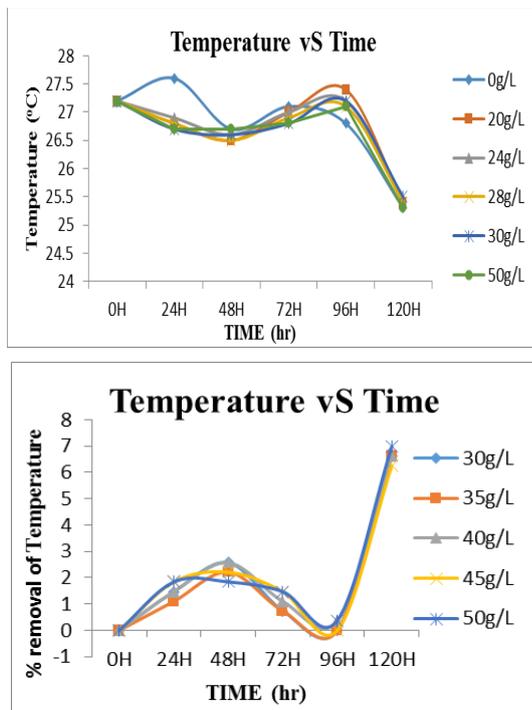


Figure 4 – Temperature measurement and percentage removal by TISP

Higher temperatures typically speed up reactions and boost microbial activity, which can improve the efficacy of treatment methods).

Biochemical Oxygen Demand. 63.38% was found to be the highest percentage of removal at 48 hrs and an optimum dosage of 30 g/l having an initial value of 609 ppm to a final value of 223 ppm.

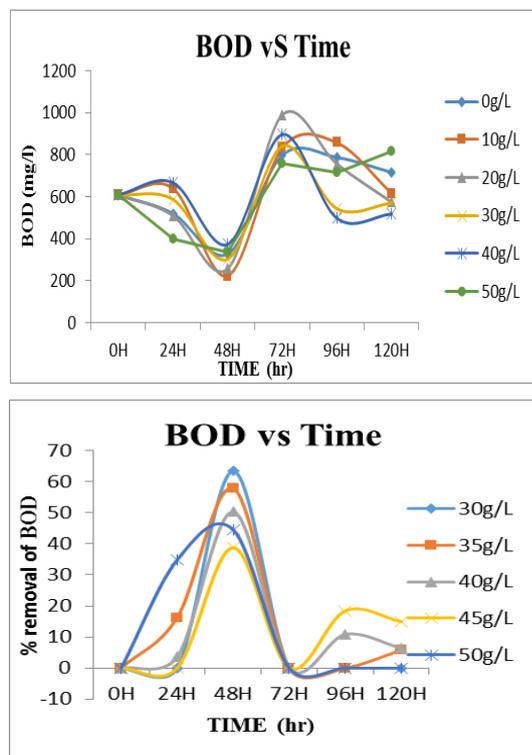


Figure 5 – BOD measurement and percentage removal by TISP

Over the years, several tests have been developed to determine the organic content of wastewater. BOD is the most widely used parameter to quantify the organic pollution of water. BOD measures the dissolved oxygen microbes' use in the biochemical oxidation of organic matter.

Phosphate. 38.49% was found to be the highest percentage of reduction at 24 hrs and an optimum dosage of 30 g/l, having an initial value of 408.4 mg/l to a final value of 251.2 mg/l. Phosphates are phosphorus and oxygen chemical compounds.

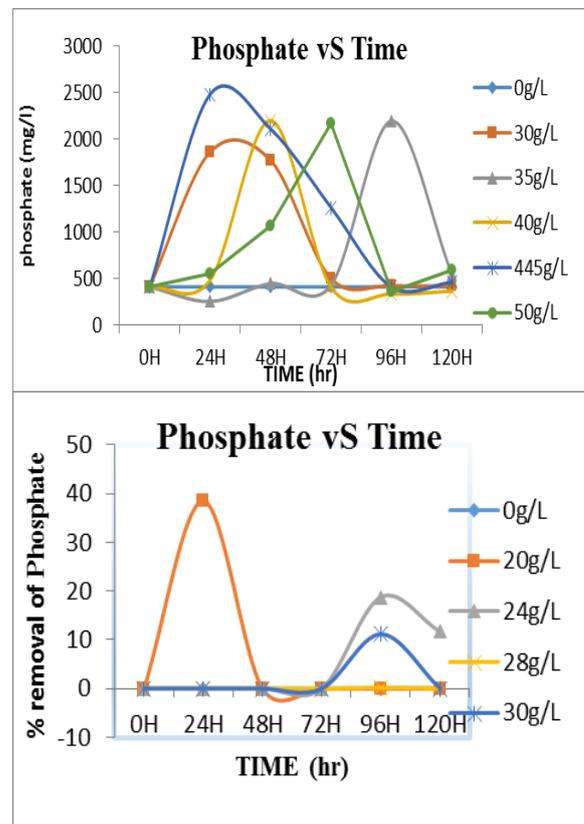


Figure 6 – Phosphate measurement and percentage removal by TISP

Phosphates are regarded as contaminants in the dye wastewater treatment process and, when released into aquatic bodies, can cause eutrophication. To reduce the environmental impact of phosphates in dye effluent, phosphorus removal techniques, such as chemical precipitation or biological nutrient removal, may be necessary. Using TISP may be a viable option for removing phosphates in wastewater based on its performance.

Nitrate. 15.26% was found to be the highest percentage of removal at 96 hrs and an optimum

dosage of 30 g/l, having an initial value of 0.511mg/l to a final value of 0.433 mg/l.

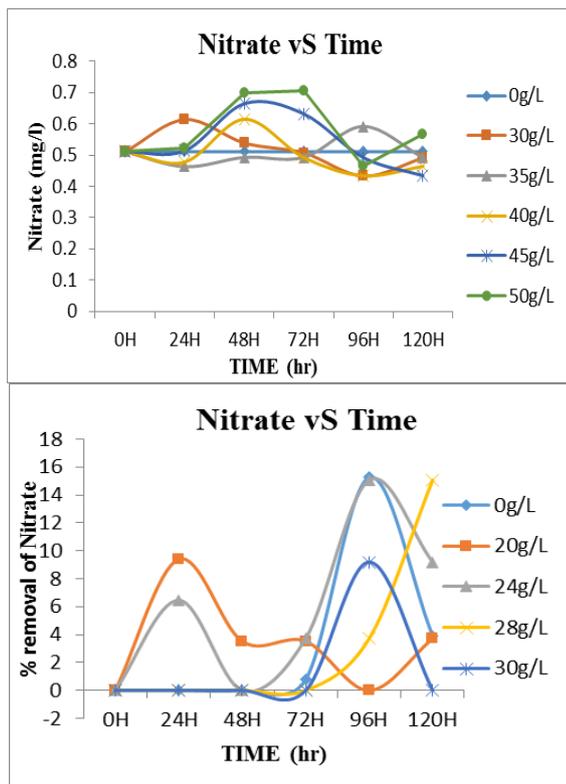


Figure 7 – Nitrate measurement and percentage removal by TISP

Nitrogen and oxygen are the two elements that makeup nitrates. They are frequently discovered in effluent from dyeing processes or other industrial sources. Water pollution and environmental concerns, including groundwater contamination and algal blooms, can result from wastewater with high nitrate concentrations.

Turbidity, Chemical Oxygen Demand and Total Suspended Solids. Though the tests for these parameters were carried out, it was found that the adsorbent did not affect any of them.

Based on the result, the TISP was partially effective in treating dye wastewater to a certain level for safe disposal. Physical and chemical parameters of the dye wastewater were tested for 24, 48, 72, 96 and 120 H at different adsorbent dosages of 30, 35, 40, 45, and 50 g/l. The results of the parameters were found to be undulating at other times and dosages. Varying adsorbent dosages determined the maximum adsorption capacity at 30, 35, 40, 45, and 50 g and at 24, 48, 72, 96 and 120 hr reaction times. The optimum dosage, reaction time and percentage removal of each parameter are presented in Table 2.

Table 2 – Summary of the effect of TISP on measured parameters

No	Parameter	Optimum dosage, g	Contact time, hrs	Percent removal, %
1	PH	50	12	5.74
2	Temperature	50	96	6.99
3	EC	45	48	4.21
4	TDS	40	72	54.4
5	Phosphate	30	24	38.49
6	Nitrate	30	96	15.26
7	BOD	30	48	63.38

CONCLUSIONS

In this study, the physicochemical parameters of the dye wastewater were determined. The results showed that the percentage removal of the various parameters measured even though sometimes sinusoidal increases with an increase in *Tamarindus indica* seeds powder dosage. Considering the results obtained from the investigation, it is clearly found that powder from *Tamarindus indica* seeds was influential in treating dye wastewater to a certain level before safe disposal. Though, the results obtained for each parameter tested were found to be dependent on the time and dosage of the adsorbent. But almost all the target parameters like EC, BOD₅, NH₃-N, PO₄, TDS and pH had higher removal efficiency at a relatively lower adsorbent concentration (i.e. 30g). Therefore, the optimum amount of 30g of TISP was more effective in dye wastewater treatment.

The approach used in this study has given a promising result. To improve the adsorption capacities of the studied low-cost adsorbent of *Tamarindus indica* seeds powder, the following recommendations are made; less adsorbent dose needs to be employed in further research to improve adsorption capacity. The reaction time can be kept constant since there is variation in determining the optimum reaction time for adsorption capacity. Experiments need to be conducted on other parameters, like heavy metals not measured in this research, to know and record their adsorption capacity. It could also be of particular interest to study the adsorption performance of *Tamarindus indica* seeds powder from different sources and use a different preparation mode like the activated carbon technique.

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Embedded Way of Responsible Innovation in ChatGPT

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Abstract. In the era of artificial intelligence, ChatGPT, as an advanced language model technology, has the potential for radical innovation. Despite its significant advantages, ChatGPT poses specific potential social and ethical issues. Therefore, we need responsible innovation to mitigate these risks and enable ChatGPT to benefit the global community truly. By embedding responsible innovation throughout the various stages of ChatGPT, we can ensure the practical realisation of public trust in governments and expectations from enterprises, thus achieving compliance and successful implementation. Through such a healthy development approach, we can ensure that ChatGPT positively impacts society and continues to foster its healthy growth.

Keywords: responsible innovation; ChatGPT; ethical issues.

INTRODUCTION

ChatGPT is considered an innovative "next-generation technological revolution". Within just two months of its release, it has garnered over 100 million active users, making it one of the fastest-growing applications in history. We can observe two distinct trends: a comprehensive disruption of the entire industry chain and ecosystem in which it operates and a fundamental transformation of various societal institutions. Given that artificial intelligence has become an irreversible force, the pressing issue we face is how to transition from old paradigms to new ones smoothly. Responsible innovation emerges as a novel concept in the 21st century, aimed at mitigating risks in the research, development, and innovation processes. In this regard, this paper seeks to explore how responsible innovation can be embedded within the entire process of ChatGPT, from its development to its application, providing a reference framework for its sustainable development. The key objective is ensuring that ChatGPT evolves responsibly by addressing ethical considerations and potential biases and minimising harmful consequences. This necessitates a multidimensional approach that encompasses transparency, accountability, and inclusivity. By incorporating responsible innovation principles, ChatGPT can be guided towards a positive and beneficial impact on society while fos-

tering public trust and confidence. The proposed exploration of responsible innovation in the context of ChatGPT acknowledges the significant challenges posed by the rapid advancement of artificial intelligence. It recognises the importance of proactively addressing ethical concerns and societal implications, thereby facilitating the development of a responsible and sustainable AI ecosystem.

RESULTS AND DISCUSSION

ChatGPT's risk environment minutes

As a form of Artificial Intelligence Generated Content (AIGC), Chat GPT has brought "super-simulated" delightful experiences to humans while raising ethical considerations regarding technological advancements [1]. Many countries have adopted a cautious approach towards introducing Chat GPT, with some implementing restrictive regulations. Undeniably, Chat GPT has become the tipping point in the development of artificial intelligence, transitioning from specialised AI to general AI and shifting from niche applications to widespread adoption [2].

The Origin and Development of the Concept of ChatGPT. Before delving into the research on ChatGPT, it is necessary to have a clear understanding and definition of the concept. ChatGPT is an abbreviation for "Chat Generative Pre-

Trained Transformer," which refers to a generative pre-trained transformer model designed explicitly for chat-based interactions [3]. As mentioned earlier, ChatGPT was developed and launched by OpenAI and is a large-scale language model based on the GPT-3.5 architecture. ChatGPT is a machine learning system based on artificial intelligence technology, specifically a large-scale language model implemented in the internet domain using a Transformer architecture [4]. It leverages AI-generated content (AIGC) to generate code, engage in text-based question-answering, and produce digital content. It combines various technical models, including machine learning and neural networks, to train a massive pre-trained language model that learns from human feedback [5]. While ChatGPT can be understood as a software tool, its conceptual definition should transcend the limitations of a chat tool or software enabling chat functionality.

The development of ChatGPT can be traced back to advancements in natural language processing, pre-trained language models, the evolution of the GPT series, as well as the demands and challenges of dialogue systems. Firstly, deep learning and neural network progress have driven significant advancements in natural language processing. Researchers have started utilising large corpora and powerful computational resources to train models capable of generating more accurate and fluent natural language. Secondly, pre-trained language models have gained significant attention in the natural language processing community. By pre-training models on a vast amount of unlabeled data, they can learn rich language representations and semantic understanding, paving the way for more natural and coherent conversations. The evolution of the GPT series, introduced by OpenAI, is another contributing factor. The GPT (Generative Pre-Trained Transformer) models are a series of pre-trained language models based on the Transformer architecture. From GPT1 to GPT3, the models have increased in size and performance, demonstrating exceptional capabilities in various natural language processing tasks and attracting widespread attention and applications. Lastly, the demands and challenges of dialogue systems have played a role. With the proliferation of intelligent assistants and chatbots, there is a growing need for more intelligent and interactive dialogue experiences. However, existing dialogue systems still face challenges in generating high-quality, logically consistent, and naturally interactive responses. In response to

these factors, ChatGPT emerged to explore how advanced natural language processing and pre-trained models can build systems that generate coherent and logically consistent dialogues. The focus is optimising training methods, data processing, and user feedback mechanisms to provide better dialogue experiences while ensuring responsible innovation by adhering to ethical, legal, and safety guidelines throughout the system's usage.

Risk Types and Characteristics of ChatGPT. Artificial intelligence (AI) is widely adopted through various algorithmic applications and is in the stage of overcoming challenges to achieve higher levels of development. During this stage, we face two main issues: the difficulties in technological breakthroughs and the incomplete state of ethics, morals, and legal systems. These social factors significantly impact the development of science and technology. Therefore, before evaluating its potential risks, it is necessary to assess the inherent risks of ChatGPT. These risks primarily include technological, industry, ethical, and government risks.

Regarding technological risks, ChatGPT is trained on large datasets from the internet, which may contain biased or controversial content. As a result, ChatGPT may generate responses that reflect or amplify the biases present in the training data. Additionally, ChatGPT cannot self-assess the quality or accuracy of its responses. It may generate answers that sound plausible but are incorrect or absurd without recognising its errors. This could mislead users or provide false information without any evident signs of uncertainty. Like other machine learning models, ChatGPT is susceptible to adversarial attacks. Malicious actors can intentionally input specific phrases or word sequences to manipulate or exploit the model's behaviour, leading to unfavourable or harmful outputs.

Industry risks refer to the impacts on the labour market and the overall economy caused by technological advancements. The birth of new technology is like a double-edged sword. While we desire the convenience it brings, we must also face its harmful effects. Some adverse effects can be anticipated, such as the disappearance of traditional jobs like customer service and telemarketing in the era of ChatGPT.

On the government front, there are a series of risks and challenges. On the one hand, there is widespread capital optimism towards new tech-

nologies. On the other hand, governments must pay closer attention to the societal impacts of ChatGPT. If ChatGPT is widely deployed globally, it will likely conflict with existing urban management systems. However, the development process of ChatGPT is characterised by decentralisation, secrecy, and difficulties in interpretation. Governments cannot implement pre-existing regulations as swiftly as before. When the pace of technological progress surpasses the improvement of government governance, technology can influence the political system and threaten government authority.

Ethical risks mainly involve issues of responsibility attribution and allocation. ChatGPT is a system based on automated algorithms. It may make incorrect judgments or provide inaccurate information in certain situations. In such cases, the determination and allocation of responsibility are not decided by ChatGPT itself but by the algorithms written by the developers. Therefore, the attribution and assignment of responsibility become highly complex, potentially leading to dilemmas where fault cannot be determined. More urgently, there is no consensus on allocating certain ethical risks at the societal level.

Pre-regulation is advocated to mitigate the risks and ensure responsible innovation in the accelerating era of AI. Responsible innovation involves pre-emptively preventing and controlling product risks during the design stage. For ChatGPT, responsible innovation needs to be embedded throughout all stages to maximise its service to society and enhance social well-being rather than the opposite. Such measures will effectively manage the risks of the AI era.

Responsible Innovation Provides Legitimacy for ChatGPT Implementation

As ChatGPT is widely adopted, the public's expectations for artificial intelligence continue to rise. However, concerns about its negative impacts have also emerged, leading to questions about the responsibility attributed to this innovative technology. "The most influential policy impact in this trend is the concept of Responsible Research and Innovation (RRI) proposed at the European Union level" [6]. Currently, there is no unified and precise definition of responsible innovation. Still, Schomberg's report provides a comprehensive perspective: "Responsible research and innovation is a transparent interactive process in

which societal actors and innovators mutually respond, fully considering the (ethical) acceptability, sustainability, and societal desirability of the innovation process and its market products, to embed technological developments into our society appropriately" [7]. In the European Commission's Horizon 2020 framework program, it is defined as an approach that "anticipates and assesses the potential implications and societal expectations of research and innovation, aiming to help design inclusive and sustainable research and innovation" [8]. Its characteristics involve incorporating more elements into the responsibility system, considering human rights more, and pursuing the greening and democratisation of innovation outcomes to manage (technological) innovation practices and strive to maximise the benefits of innovation for society [9]. From a developmental perspective, it is crucial to integrate ethical factors into the entire innovation process and determine whether researchers have the necessary moral knowledge to meet societal and public requirements, ultimately enabling the public to make responsible choices with informed consent. In the long run, "governing issues of technological innovation design and analysis urgently need to be introduced into a more systematic innovation paradigm framework while promoting industrial innovation, creating growth opportunities, and guiding social transformation" [10].

Embedding Responsible Innovation into the Path of ChatGPT. The future direction of ChatGPT cannot be solely determined based on its inherent characteristics. Companies like OpenAI use this new technology to establish a technological barrier and maintain a distance from traditional companies. However, scientific research and development have also entered a relatively unfamiliar exploration domain. As a technology with a complex architecture, ChatGPT bears complex ethical responsibilities. Therefore, the following requirements must be met during the design and development stages. Firstly, the research and development personnel involved in the design and development must be proactive and responsible for the products they design. This responsibility should be shared among the entire team involved in the design and development stages. Secondly, responsibility standards should be integrated into the technical systems of designers and R&D personnel at all levels.

When responsible innovation is integrated into the technical aspect of ChatGPT, several key con-

siderations should be addressed. Firstly, it is essential to define the usage scenarios and target user groups of the chatbot. This helps to consider relevant responsible innovation issues during the development process and ensures that specific user needs are met. Secondly, it is crucial to train the ChatGPT model using diverse datasets. This means collecting user data from different groups and cultural backgrounds to avoid biases and discrimination. Thirdly, introducing transparency and interpretability mechanisms helps to increase user trust in ChatGPT. Users want to know how the chatbot generates answers and makes decisions. By explaining the model's workings, the data used, and the algorithms employed, more understandable answers can be provided to users. Fourthly, protecting user privacy is an essential aspect of responsible innovation. Measures should be taken to safeguard user's personal information and privacy when using ChatGPT. Fifthly, establishing a robust review mechanism is critical to ensuring the responsible use of ChatGPT. Manual review can help identify and filter out inappropriate content, ensuring that responses align with ethical and legal requirements.

Additionally, establishing a mechanism for handling complaints and addressing user concerns enables timely detection and resolution of potential risks and violations. Lastly, promoting the responsible use of chatbots is paramount. Providing user guidelines and educational training helps users understand how to interact with ChatGPT, and feedback mechanisms can be implemented to collect user opinions and suggestions. At the same time, advocating for ethical use and actively disseminating relevant information can guide users in maintaining appropriate behaviour and expectations when interacting with chatbots.

The Four Dimensions of Responsible Innovation Implementation. Applying the framework of responsible innovation can effectively regulate the development of ChatGPT, reducing future uncertainties and risks. Two prerequisites are necessary to achieve accountable innovation. Firstly, "responsible innovation" is a multidisciplinary concept that requires in-depth discussions among researchers, humanities and social sciences scholars, governments, and businesses, among other stakeholders, regarding the direction of technological development. Secondly, proactive research should be conducted at the early stages of technology development to pro-

vide more alternative options for the technology, facilitating its improvement. British scholar Owen pointed out that "responsible innovation, as a technological management approach, should have the basic cognitive characteristics and consists of four dimensions: anticipation, reflection, inclusiveness, and responsiveness" [11]. Based on these four dimensions, ChatGPT can be analysed regarding how they will play a role.

In the dimension of anticipation, designers should continuously consider their design goals to ensure clarity and avoid potential social harm. Conversely, if they assume known and unknown risks, the risks associated with new technologies will significantly reduce. In reflection, as this approach is a developing research method, it requires third parties to objectively and professionally evaluate the researchers' research objectives, motivations, and decisions. Such evaluations act as a mirror for researchers, enabling them to gain a clear understanding of whether their goals comply with regulations. In the dimension of inclusiveness, in addition to seeking expert advice, extensive public comments and consultations should be conducted to bridge the understanding gap among relevant stakeholders. This ensures the broadness and universality of the research outcomes and facilitates their application in social contexts, effectively addressing societal concerns. In the responsiveness dimension, responsible innovation requires developers to maintain sensitivity and promptly respond to customer feedback, suggestions, and risks, promptly adjusting technical solutions and research priorities. This feedback process involves a two-way interaction where companies or developers provide guidance and input to government agencies when formulating policies to enhance the quality of policy-making.

In the practice of responsible innovation, corresponding measures can be proposed from these perspectives to address better the various challenges that may arise during the development of ChatGPT. It is essential to integrate the needs of multiple stakeholders comprehensively. Only through such decentralised moral distribution can responsible innovation achieve its goals.

Responsible Innovation Mechanisms for ChatGPT

The implementation of responsible innovation involves three key issues. First, it requires the involvement of relevant professionals and stake-

holders, along with appropriate adjustments to ensure information transparency and rights constraints. Second, throughout the entire process of technological innovation, it is essential to leverage the expertise and engagement of experts and various societal actors to overcome the limitations of traditional "narrow innovation responsibility." Third, it involves using policy and legal enforcement measures to standardise the development process of science and technology. "In the field of technology and innovation politics, authoritative decisions made by law enforcement, legal, and administrative departments through orders, prohibitions, and the allocation of functions are the normative guidelines that must be followed" [12].

Therefore, several aspects should be considered regarding responsible innovation mechanisms for ChatGPT. Firstly, establishing monitoring and filtering mechanisms to identify and prevent inappropriate or harmful content is crucial. This can be achieved through content filtering algorithms, human moderation, and user feedback mechanisms. It ensures that the generated responses by ChatGPT align with ethical, legal, and societal norms, avoiding disseminating misinformation, discriminatory speech, or other objectionable content. Secondly, providing transparency and interpretability is critical to achieving responsible innovation. Users need to understand how the ChatGPT model works and how it generates responses. This can be accomplished through technical documentation, public disclosure of model architecture, and explanatory features in the user interface. Transparency and interpretability help users comprehend the decision-making process of ChatGPT and reduce potential misunderstandings or mistrust. Thirdly, encouraging user engagement and feedback is a meaningful way to promote responsible innovation. Users can participate in the improvement process of ChatGPT by providing ratings, reporting inappropriate behaviour, or suggesting enhancements. Such user involvement helps identify potential issues and biases, prompting the technical team to improve and optimise the functionality and performance of ChatGPT continuously. Lastly, continuous monitoring and updates

are crucial to ensure ongoing responsible innovation. The technical team needs to stay abreast of the latest ethical guidelines and societal expectations, incorporating them into the development and updating process of ChatGPT. This may involve regular reviews of model performance and impact, necessary corrections and improvements, and ensuring that ChatGPT adapts to the evolving social and technological landscape.

Through these responsible innovation mechanisms, ChatGPT can provide high-quality services while proactively addressing ethical, legal, and societal risks, ultimately achieving the goal of responsible innovation.

CONCLUSIONS

The launch of ChatGPT will trigger a significant social transformation. However, if we adhere to past innovation models, new technologies represented by ChatGPT are likely to cause social panic and potential risks. This is because it involves a unique collaboration mechanism and value orientation. Therefore, as a new paradigm, responsible innovation should be integrated throughout the entire process, from production to consumption, and the allocation and matching of responsibilities become inherent in purposeful innovation. This requires us to incorporate the concept of responsible innovation throughout the entire process of ChatGPT and leverage the power of government and society to guide and supervise its development. Companies should also assume corresponding corporate responsibilities. This article provides suggestions on how technology can participate in the responsibility-sharing mechanism. Only with awareness and collaboration from all parties can ChatGPT have a bright future, ensuring that new technologies provide benefits to society rather than risks.

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The Influence of Trust, Military Leadership and Organizational Environment on Organizational Citizenship Behavior with Mediator Organizational Commitment First Officers at Koarmada-I, Indonesia

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Abstract. This research delves into the analysis of various factors affecting the organisational citizenship behaviour of First Officers within Koarmada-I. Specifically, the study explores the impact of trust, leadership, environment, and organisational commitment on this behaviour. The research sample consists of 143 First Officers based in Jakarta's Koarmada-I. The study uses descriptive analysis, validity and reliability tests, and Structural Equation Modeling for hypothesis testing. The study findings indicate that trust significantly impacts Organizational Commitment, whereas its effect on Organizational Citizenship Behavior is not statistically significant. Military leadership, on the other hand, does not demonstrate a substantial influence on Organizational Commitment, but it does have a considerable effect on Organizational Citizenship Behavior.

Additionally, the environment impacts Organizational Commitment but not Organizational Citizenship Behavior significantly. The study also reveals that Organizational Commitment influences Organizational Citizenship Behavior. Furthermore, there is an indirect effect of Trust on Organizational Citizenship Behavior through Organizational Commitment. However, no indirect effect of Military leadership on Organizational Citizenship Behavior through Organizational Commitment is observed. Finally, the environment indirectly impacts Organizational Citizenship Behavior through Organizational Commitment.

Keywords: Trust; Military Leadership; Organisational Environment; Organisational Commitment; Organisational Citizenship Behavior.

INTRODUCTION

Effective collaboration and adaptability are essential for all employees to meet the organisation's demands in today's fast-paced and ever-changing work environment. Operating an organisation necessitates personnel with positive attitudes and behaviours, including actively assisting fellow team members, willingly taking on additional tasks, maintaining harmonious relationships with colleagues to prevent conflicts, adhering to established rules, and displaying resilience in handling workloads and occasional disruptions. Thriving organisations consist of individuals surpassing their formal job responsibilities and willingly dedicating their time and energy to succeed in their assigned roles. The behaviour in question is not explicitly defined but

plays a significant role in facilitating the seamless operation of the organisation [1].

As science and technology continue to advance rapidly, Indonesian Navy personnel are expected to enhance their capabilities in line with these advancements. To effectively tackle future challenges, improving the quality of human resources among Indonesian Navy officers is imperative, enabling them to fulfil their duties optimally. The First Officers of the Indonesian Navy, as the next generation and prospective leaders of the Indonesian Navy in the future, must be able to face these challenges.

According to [2], one aspect that determines OCB is that this behaviour is offered freely by employees; they are involved voluntarily. However, for some employees, this behaviour may be seen as

expected or required as part of the job demands of the employee role. This is the case with Soldiers in the United States Army, so in the military world, OCB is not voluntary but an expected and indispensable performance. According to [3], research indicates that employees exhibit varying degrees of Organizational Citizenship Behavior (OCB) depending on whether they perceive OCB as part of their job responsibilities (in-role behaviour) or as additional voluntary contributions (extra-role behaviour). In-role behaviour is commonly linked to rewards and penalties, which enhances the motivation for employees to engage in such behaviour compared to their reason for extra-role behaviour. Due to this factor, it is plausible that individuals might not willingly participate in OCB but instead feel compelled to do so when it is mandated as part of their job responsibilities. This distinction holds significance when comprehending the development of OCB within a military framework. While this conduct might be viewed as optional within civilian organisations, it is generally regarded as anticipated within military culture. In contrast to the civilian business sector, the military entails greater physical and psychological demands, despite these similarities. Within military units, especially combat units, they frequently operate in the circumstances characterised by high uncertainty, challenges, and stress. In such conditions, the contribution of individuals in routine roles may not be adequate for the unit's success, making an OCB warrior indispensable.

In the Navy environment, in a combat-ready scenario, the armed forces must be ready to face threats at any time. Thus, to achieve this lofty goal without the support and cooperation of their team of officers & sailors is not an easy task. Therefore, the Navy always encourages its personnel to behave in extra roles. Although, this condition cannot be demanded at any time. So, this has to be a voluntary movement by them, which again will depend on their behaviour and attitude. According to [4], more than 2000 OCB articles have been published. Although OCB is also called the good soldier syndrome, there is not much publication on soldier OCB itself. Most of them are cases of publication about police officers and issues about prison officers. In the TNI-AL (Indonesian National Navy) setting, new officers joining from diverse backgrounds and re-

gions require coaching or development of extra-role behaviour (OCB) to enhance organisational performance effectiveness while maintaining individual productivity objectives. A variety of factors influence the emergence of OCB. According to [5], some of the factors that contribute to the emergence of OCB are as follows: organisational culture and climate, individual personality and mood, perceptions of administrative support, perceptions of the quality of relationships between superiors and subordinates, length of service within the organisation, and gender.

METHODS

This research was carried out from August 2022 to March 2023 and began with the preparation of planning, implementation, and research results. The study was carried out at Fleet Command-1 (Koarmada-1). Fleet Command-1 is one of the Main Commands of the Indonesian Navy, which oversees the maritime area of western Indonesia, headquartered in Jakarta. This study employed a survey methodology using a questionnaire as the primary data collection instrument. The research sample was drawn from a specific population, and the study design adopted a descriptive quantitative approach. The population of this study were First Officers who had just served and had been on duty for a year at the Koarmada-I Jakarta, totalling 223 people with a total sample of 143 respondents. The researchers employed the random sampling technique for sample collection to facilitate data gathering for the study. The data utilised in this research are primary, consisting of respondents' responses to the questions presented in the research instrument.

For data collection in this study, a questionnaire was utilised as the instrument, employing a Likert scale. The Likert scale consisted of 5 answer choices provided to respondents. Each statement item in the research instrument required respondents to select one answer from the given alternatives. These alternatives were assigned values ranging from one to five, corresponding to the level of the response. As for data analysis, the primary data obtained from research participants were processed using Structural Equation Models (Figure 1) to examine the relationships between latent variables [6].

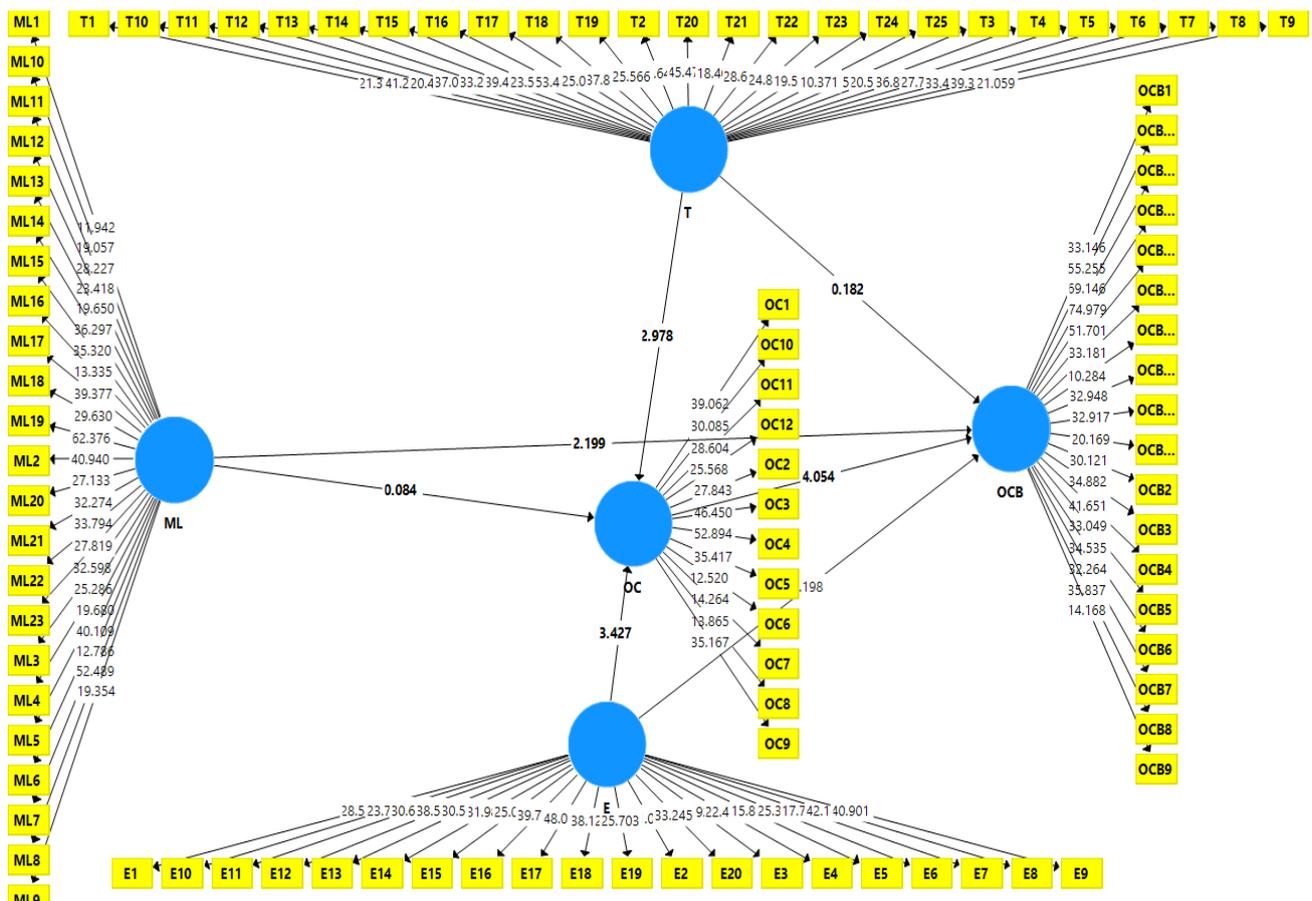


Figure 1 – Research Structural Model

RESULTS AND DISCUSSION

The descriptive characteristics of the respondents in this study describe the frequency of data regarding gender, rank of the respondent, respondent's age, tenure, and work unit. This study's total number of respondents was 143 First Koarmada I officers who served on warships in various departments with the following characteristic details.

Table 1 – Respondents' Profile

Information		Total	%
Gender	Man	136	95.0
	Woman	7	5.0
Rank	Captain	34	23,8
	First lieutenant	23	16.0
	Second Lieutenant	86	60,2
Age	20 to 25 years	101	70.0
	26 to 30 years	31	22.0
	31 to 35 years	11	8.0
Officer Source	Dikcapa	25	17.0
	Sepa PK TNI	21	15.0

Information		Total	%
Service Period	AAL	97	68.0
	1 to 5 years	92	64.0
	6 to 10 years	17	12.0
	11 to 15 years	34	24.0
Work unit	Satkor Koarmada I	37	25.87
	Satfib Koarmada I	21	14.69
	Satban Koarmada I	8	5.59
	Satkat Koarmada I	31	21.68
	Satran Koarmada I	5	3.5
	Satrol Lantamal I	7	4.9
	Satrol Lantamal II	8	5.59
	Satrol Lantamal III	11	7.69
	Satrol Lantamal IV	11	7.69
	Satrol Lantamal XII	4	2.8

The details of the characteristics of the respondents indicate that the questionnaire was distributed proportionally to all research samples and represented from the perspective of gender, rank, and work unit the population of First Officers who had just served and had served for a year in the Koarmada-I Jakarta, totalling 223 people.

In the data analysis phase, algorithm analysis was conducted to assess convergent and discriminant validity. This involved examining the reliability of constructs or latent variables measured by composite reliability values. A construct is considered reliable if its composite reliability exceeds 0.60 [7]. The PLS technique utilised the combined reliability value to assess the consistency of the indicator block in the reflective measurement model. The table below presents the results of the outer model calculations using Smart-PLS.

Table 2 – Table of Construct Reliability and Validity

Parameters	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Trust	0.989	0.990	0.797
Military Leadership	0.988	0.989	0.795
Environment	0.984	0.985	0.769
Commitment	0.964	0.968	0.718
OCB	0.988	0.989	0.829

All research variables demonstrated good reliability, as indicated by Cronbach Alpha values > 0.7 and Composite Reliability values > 0.6. Furthermore, the Convergent validity requirements

were met, with all variables having an Average Variance Extracted value > 0.5.

Table 3 – R² Calculation Table

	R ²
Organisational Commitment	0.762
Organisational Citizenship Behavior	0.791

Table 3 displays the R² values for two models. In the first model, where Organizational Commitment is the dependent variable and Trust, Military Leadership, and Environment are the independent variables, the R² value is 0.762. This indicates that the independent variables influence 76.2% of the dependent variable, while the remaining 23.8% is influenced by external variables not included in the model.

Similarly, in the second model, with OCB as the dependent variable and Trust, Military Leadership, Environment, and Organizational Commitment as the independent variables, the R² value is 0.791. This signifies that the independent variables influence 79.1% of the dependent variable, while variables outside the scope of this model control the remaining 20.9%.

Table 4 – Hypothesis Testing Results Summary

H	Influence	O	M	SD	T-values	P-values	Results
1	T -> OC	0,427	0,444	0,143	2,978	0,002	Proven
2	T -> OCB	0,035	0,028	0,194	0,182	0,428	Not proven
3	ML -> OC	0,014	-0,001	0,172	0,084	0,467	Not proven
4	ML -> OCB	0,408	0,388	0,186	2,199	0,014	Proven
5	E -> OC	0,449	0,448	0,131	3,427	0,000	Proven
6	E -> OCB	-0,038	-0,003	0,193	0,198	0,422	Not proven
7	OC -> OCB	0,524	0,511	0,129	4,054	0,000	Proven
8	T -> OC -> OCB	0,224	0,227	0,094	2,369	0,009	Proven
9	ML -> OC -> OCB	0,008	0,001	0,090	0,084	0,467	Not proven
10	E -> OC -> OCB	0,235	0,225	0,079	2,964	0,002	Proven

Table 4 shows that trust significantly affects Organizational Commitment with a significance of 0.002, less than 0.05. With every increase of one Trust unit, the Organizational Commitment will increase by 0.427 units. This result aligns with [8, 9, 10, 11, 12], which shows trust's effect on organisational commitment.

This implies that trust can stimulate the creation of exemplary organisational commitment. This empirical result can be interpreted that if the trust indicators are applied, there will be an effect on the organisational commitment of First Officers who have just served and have served for a year in the Jakarta Military Command-I. Thus, the trust practices realised a decrease in

the creation of exemplary organisational commitment in First Officers who had just served and had served for a year in Koarmada-I Jakarta. The highest indicator of trust that must be considered is that I acknowledge and respect the values related to the organisational culture in Koarmada-1 (T20), and Koarmada-1 provides sufficient tolerance for the difficulties its employees face (T16).

Table 4 shows that trust has no significant effect on Organizational Citizenship Behavior, with a significance of 0.428 greater than 0.05. This result does not align with the research of [13, 14, 15, 16, 17], which shows that trust affects organisational citizenship behaviour.

This implies that trust cannot stimulate the realisation of good OCB in First Officers who have just served and have served for a year in the Jakarta Military Command-I. This empirical result can be interpreted that if the trust indicators are applied, there will be an effect on OCB. Thus, trust practices can create good OCB. The hand with the highest score that must be considered is I acknowledge and respect the values related to the organisational culture in Koarmada-1 (T20), and Koarmada-1 provides sufficient tolerance for the difficulties its employees face (T16).

Table 4 shows that Military leadership has no significant effect on Organizational Commitment, with a significance of 0.467 greater than 0.05. This result does not align with [18, 19, 20, 21], which shows that leadership influences organisational commitment.

This implies that military leadership cannot stimulate the realisation of a good OC in the First Officer who has just served and has served for a year in Jakarta's Koarmada-I. This empirical result can be interpreted that if the military leadership indicators are applied, there will be an effect on OC. Thus, military leadership practices can create good OCB. The highest-rated hand to watch is My leader gives a positive outlook on the future and is optimistic (ML8). My leader seeks to use the potential abilities of subordinates (ML19) productively.

Table 4 shows that Military leadership significantly affects Organizational Citizenship Behavior with a significance of 0.014, more diminutive than 0.05. Organisational Citizenship Behavior will increase by 0.408 units (total influence) for every increase of one Military leadership team. This result is in line with the research which

shows that leadership influences organisational citizenship behaviour [22, 23, 24].

This implies that military leadership can stimulate the creation of good organisational citizenship behaviour. This empirical result can be interpreted that if the military leadership indicators are applied, there will be an influence on the Organizational Citizenship Behavior of the First Officer who has just served and has served for a year in the Jakarta Military Command-I. Thus, the military leadership practices reduced the creation of good Organizational Citizenship Behavior in First Officers who had just served and had served for a year in the Jakarta Military Command-I. The highest indicator of military leadership that must be considered is that my leader gives a positive view of the future and optimism (ML8). My leader seeks to use the potential abilities of subordinates (ML19) productively.

Table 4 shows that the environment significantly affects Organizational Commitment with a significance of 0.00 (***) , less than 0.05. For every one Environment unit increase, the Organizational Commitment will increase by 0.449 units. This result is in line with research showing the environment's influence on organisational commitment [25, 26, 27, 28, 29].

This implies that the environment can stimulate the creation of a good Organizational Commitment. This empirical result can be interpreted that if the Environment indicators are applied, there will be an impact on the Organizational Commitment of the First Officer who has just served and has served for a year in the Jakarta Military Command-I. Thus, the Environment practices reduced the creation of a good Organizational Commitment for First Officers who had just done and had served for a year in the Jakarta Military Command-I. The highest indicator of the environment that must be considered is that I feel that the friendliness of my colleagues is quite good (E17), and I have the support of my superiors at work (E8).

Table 4 shows that environment has no significant effect on Organizational Citizenship Behavior with a significance of 0.422 greater than 0.05. This result is not in line with the research, which shows an influence of the environment on organisational citizenship behaviour [30, 31, 32, 33].

This implies that the environment cannot stimulate the realisation of a good OCB in the First Officer who has just served and has been serving

for a year in Jakarta's Koarmada-I. This empirical result can be interpreted that if these environmental indicators are applied, there will be an influence on OCB. Thus, military leadership practices can create good OCB. The hand with the highest score to pay attention to is I feel the friendliness of my co-workers is quite good (E17). I have superior support at work (E8).

Table 4 shows that Organizational Commitment influences Organizational Citizenship Behavior with a significance of 0.00 (***) less than 0.05. For every increase of one unit of Organizational Commitment, Organizational Citizenship Behavior will increase by 0.524 units (total effect). This result is in line with the research, which shows an influence of organisational commitment on organisational citizenship behaviour [34, 35, 36, 37].

This implies that Organizational Commitment can stimulate the creation of good organisational citizenship behaviour. This empirical result can be interpreted that if the Organizational Commitment indicators are applied, there will be an influence on the Organizational Citizenship Behavior of First Officers who have just served and have served for a year in the Jakarta Military Command-I. Thus, the Organizational Commitment practices were able to realise a decrease in the creation of good Organizational Citizenship Behavior in First Officers who had just served and had served for a year in the Jakarta Military Command-I. The highest indicator of Organizational Commitment must be considered because I like organisational support from Koarmada-1 (OC4) and need experience working at Koarmada-1 (OC3).

The analysis presented in Table 4 reveals an indirect effect of Trust on Organizational Citizenship Behavior through Organizational Commitment, with a coefficient of 0.224. This implies that for every unit increase in Trust, Organizational Citizenship Behavior is expected to increase by 0.224 units through the mediating factor of Organizational Commitment. These findings are consistent with previous research that has demonstrated an indirect effect of trust on organisational citizenship behaviour through organisational commitment [38, 39, 40]. Organisational commitment plays a crucial role in fostering the development and dissemination of faith, which in turn enhances the capabilities of officers and facilitates the cultivation of positive Organizational Citizenship Behavior (OCB).

The findings presented in Table 4 indicate no indirect effect of military leadership on Organizational Citizenship Behavior through Organizational Commitment. This result contradicts previous research that has demonstrated an indirect effect of administration on organisational citizenship behaviour through organisational commitment [16, 41, 42, 43, 44]. The absence of an indirect impact suggests that organisational commitment does not create the necessary conditions to stimulate the development and dissemination of military leadership effectively, which subsequently fails to enhance the capabilities of officers and contribute to positive Organizational Citizenship Behavior (OCB).

Table 4 shows that the indirect effect of the Environment on Organizational Citizenship Behavior through Organizational Commitment is 0.235. This means that for every unit of Environment, Organizational Citizenship Behavior will increase by 0.235 units through Organizational Commitment. These results align with research showing an indirect effect of the environment on organisational citizenship behaviour through organisational commitment [20, 45, 46, 47]. There is an indirect effect of Environment on Organizational Citizenship Behaviour through Organizational Commitment. Empirically this explains that organisational commitment cannot create situations and conditions that can stimulate the development and distribution of the environment properly and will have an impact on increasing officers' capabilities, which means they can also create good OCB.

Refer to Table 4 regarding the total effect of each independent variable (T, ML, E) and the mediating variable (OC) on the dependent variable (OCB). This phenomenon shows that in the military organisation (KOARMADA-1), the formation of OCB for the First Officer was heavily influenced by the army leadership (ML). When combined with information, leadership serves as a cohesive element within the warfare, integrating various functions such as movement, intelligence, combat, maintenance, protection, and command and control. The role of leadership is to focus and synchronise the organisation while inspiring individuals to exhibit passion and motivation in pursuit of desired outcomes. A military leader can be anyone who inspires and influences others through their assumed role or entrusted responsibility by providing purpose, direction, and motivation to accomplish the mission and improve the organisation.

According to [48], trust can be categorised into interpersonal faith and impersonal beliefs. Interpersonal trust refers to individuals' positive expectations about the competence, benevolence, and reliability of their colleagues and direct managers based on positive past interactions. On the other hand, impersonal beliefs relate to individual expectations about the capabilities and fairness of the employing organisation. The authors emphasise that interpersonal trust is mainly influenced by colleagues and, most significantly, by managers or direct leaders. Therefore, effective military leadership plays a crucial role in shaping individuals' positive expectations concerning competence, virtue, reliability, capability, and organisational justice within the specific context, such as in the case of KOARMADA-1.

When employees perceive that their organisation acknowledges and appreciates their contributions, the work environment concept fosters a sense of commitment and ownership towards the organisation. This understanding encourages employees to develop a strong dedication and attachment to their work and the organisation's overall success. In military organisations, fatigue is the leading factor related to job satisfaction that causes personnel to leave work. Command, i. e., leadership, is one of the most significant factors influencing job satisfaction among soldiers. The opinion of [49] implies that military leadership plays a vital role in creating a work environment through the job satisfaction of First Officers in the KOARMADA-1 environment.

Regarding organisational commitment, the findings of this study indicate that the role of military leadership dramatically influences the creation of organisational commitment of the First Officers in the KOARMADA-1 environment. The previous description implies the vital role of military leadership in forming organisational commitment and organisational behaviour from the First Officer in KOARMADA-1. The findings of this study open opportunities for further research related to military leadership and the factors that influence it.

CONCLUSIONS

In summary, the conclusions drawn from this research are as follows:

1. Trust has a significant positive impact on Organizational Commitment ($p < 0.05$).

2. Trust does not significantly impact Organizational Citizenship Behavior ($p > 0.05$).

3. Military leadership does not significantly impact Organizational Commitment ($p > 0.05$).

4. Military leadership has a significant positive impact on Organizational Citizenship Behavior ($p < 0.05$).

5. Environment has a significant positive impact on Organizational Commitment ($p < 0.05$).

6. Environment does not significantly impact Organizational Citizenship Behavior ($p > 0.05$).

7. Organisational Commitment has a significant favourable influence on Organizational Citizenship Behavior ($p < 0.05$).

8. Trust indirectly affects Organizational Citizenship Behavior through Organizational Commitment with a coefficient of 0.224.

9. Military leadership does not indirectly affect Organizational Citizenship Behavior through Organizational Commitment.

10. Environment indirectly affects Organizational Citizenship Behavior through Organizational Commitment with a coefficient of 0.235.

The researcher offers the following suggestions based on the empirical findings obtained in this study. Firstly, attention should be given to the hypotheses that were not proven significant. It is crucial to investigate whether biased responses from the respondents, a lack of comprehension of the research instrument, or other factors contributed to these outcomes. Secondly, conducting research with a broader population in similar institutions would provide a comparative analysis of Organizational Citizenship Behavior, thereby validating the findings and offering a broader perspective. Additionally, it is advisable to include samples with more diverse characteristics from various agencies and extend the research period in future studies. This approach would enhance the generalizability of the results and allow for a more comprehensive understanding of the factors influencing organisational citizenship behaviour.

Furthermore, exploring additional independent variables potentially influencing organisational citizenship behaviour is essential. While this study focused on trust, military leadership, environment, and commitment, other unexplored factors may play a significant role and should be investigated in subsequent research endeavours.

It is crucial to acknowledge that organisational citizenship behaviour is a complex phenomenon influenced by various factors, some of which have not been studied before or in the present

study. Therefore, further research is warranted to provide a more comprehensive understanding of this phenomenon.

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Правові засади та особливості державної політики у сфері національних меншин (спільнот) в Україні, Болгарії та Китайській Народній Республіці

Legal Basis and Features of State Policy in the Sphere of National Minorities (Communities) in Ukraine, Bulgaria and China

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Анотація. Стаття присвячена дослідженню особливостей та правових засад сучасної державної політики у сфері національних меншин (спільнот) України, а також проблеми обмеження конституційних прав та свобод національних меншин (спільнот) у КНР та Болгарії.

Авторський методологічний аналіз включав низку філософських, загальнонаукових та спеціально наукових методів. Зокрема метод порівняльного правознавства застосовувався для аналізу досвіду КНР та Болгарії щодо обмежень прав національних меншин (спільнот). Компаративний метод сприяв узагальненню знань у сфері державної політики у сфері національних меншин (спільнот).

Репрезентовані позиції науковців та інституційних міжнародних органів щодо державної політики у сфері національних меншин (спільнот), мотивовано позицію казуальним виміром. Авторами розкрито ключові моменти державної політики у сфері національних меншин (спільнот), окрему увагу сконцентровано на проблемі позитивної дискримінації (особливого захисті) національних меншин. Вказано на труднощі реалізації державної політики у сфері національних меншин (спільнот) у КНР та Болгарії, а також піднято питання правового становища болгарської меншості (спільноти) України.

У статті відображено основні напрямки державної політики у сфері національних меншин (спільнот) та основні завдання Державної служби України з етнополітики та свободи совісті. Приклади дискримінації македонської національної меншини в Болгарії, з одного боку, і вільного, рівноправного розвитку всіх націй і народів, що проживають на території України, – з іншого, ні недосконалість міжнародного законодавства, ні слабкість міжнародно-правових інститутів захисту прав людини не є головною перешкодою для вільного національного розвитку народів та окремих індивідів. Як найважливіша умова та об'єктивний чинник такого розвитку виступає державна національна політика, яка може або сприяти національному розвитку, або гальмувати його.

Констатовано, що конституційні засади сучасної державної національної політики України утворюють положення Конституції України, що закріплюють найважливіші цінності конституційного ладу України. Звернено увагу, що національна політика України націлена насамперед на досягнення балансу, паритету інтересів кожної людини окремо та всіх народів (спільнот), що проживають на території України, у сфері національних відносин.

У висновку зазначено, що національна політика України – це правова політика держави у галузі регламентації правового статусу національних меншин, формування нормативної бази, що забезпечує реалізацію

національної політики на рівні органів державної влади та місцевого самоврядування в Україні.

Ключові слова: національні меншини (спільноти); правові засади; етнополітика; державна національна політика; права та свободи; правовий захист.

Abstract. The article is devoted to the study of the peculiarities and legal foundations of modern state policy in the field of national minorities (communities) of Ukraine, as well as the problems of limiting the constitutional rights and freedoms of national minorities (communities) in China and Bulgaria.

The author's methodological analysis included several philosophical, general scientific and specifically scientific methods. In particular, comparative jurisprudence was used to analyse the experience of the People's Republic of China and Bulgaria regarding restrictions on the rights of national minorities (communities). The comparative method contributed to generalising knowledge in state policy in the field of national minorities (communities).

The positions of scientists and institutional international bodies regarding state policy in the field of national minorities (communities) are represented. The work is motivated by a casual dimension. The authors reveal the critical points of state policy in the field of national minorities (communities). Special attention is focused on the problem of positive discrimination (special protection) of national minorities. Difficulties in implementing state policy in the field of national minorities (communities) in China and Bulgaria are pointed out, and the issue of the legal position of the Bulgarian minority (community) in Ukraine is also raised.

The article reflects the main directions of state policy in the field of national minorities (communities) and the main tasks of the State Service of Ukraine on ethnopolitics and freedom of conscience. Examples of discrimination against the Macedonian national minority in Bulgaria, on the one hand, and the free, equal development of all nations and peoples living on the territory of Ukraine, on the other hand, neither the imperfection of international legislation nor the weakness of international legal institutions for the protection of human rights is the main obstacle for the free national development of nations and individuals. State national policy is the most critical condition and objective factor for such action, which can either promote national development or hinder it.

It was established that the constitutional principles of the modern state national policy of Ukraine from the provisions of the Constitution of Ukraine, which enshrine the most important values of the constitutional system of Ukraine. Attention is drawn to the fact that the national policy of Ukraine is primarily aimed at achieving balance and parity of interests of each individual and all peoples (communities) living on the territory of Ukraine in the field of national relations.

The conclusion states that the national policy of Ukraine is the state's legal policy in regulating the legal status of national minorities and forming a regulatory framework that ensures the implementation of national policy at the level of state authorities and local self-government in Ukraine.

Keywords: national minorities (communities); legal basis; ethnopolitics; state national policy; rights and freedoms; legal protection.

ВСТУП

Право кожної людини на власну національну самоідентифікацію, безумовно, є одним із її природних прав, без реалізації якого неможливий повноцінний розвиток та становлення особистості. Офіційне визнання державою особливого правового статусу національних меншин підтверджується наявністю законодавства, спрямованого на забезпечення

схоронності їх самобутньої культури, поліпшення адаптації до сучасних соціальних умов. Підтримуючи раціональну національну політику, держава здійснює превентивні заходи для запобігання національним конфліктам та забезпечує узгодження інтересів національних меншин та суспільства загалом. Забезпечення належної реалізації прав національних меншин спрямоване на подолання

стереотипів у розумінні тієї чи іншої групи, що ґрунтуються на етнічних, релігійних та інших характеристиках, що відрізняють їх від корінного населення.

Проблематиці теоретичного осмислення актуальних питань державної політики у сфері національних меншин (спільнот) України та зарубіжних країн присвячені публікації В. Бондаренка, М. Бучина, Л. Владиченко, В. Дроздова, В. Загурської-Антонюк, В. Єленського, О. Зайця, А. Колодного, В. Луценка, О. Федунь, О. Сагана, В. Токмана, Л. Филипович, У. Хаварівського, В. Ярмоленка та інших. Разом із тим, їх наукові роботи відображають лише окремі аспекти державної політики у сфері національних меншин (спільнот), комплексно не характеризуючи її сучасні виклики, стан і конституційно-правові засади.

Метою статті є аналіз правових засад державної політики у сфері національних меншин (спільнот) в Україні, Болгарії та КНР, визначення її сутності та особливостей, а також обґрунтування пріоритетів удосконалення.

РЕЗУЛЬТАТИ ДОСЛІДЖЕННЯ

Проблематика державної політики у сфері національних меншин (спільнот) в Україні та зарубіжних країнах актуалізується, перш за все, в контексті необхідності запобігання і протидії їх дискримінації.

Доцільно відзначити, що 19 вересня 2005 р. Україна ратифікувала Європейську хартію регіональних мов або мов меншин 1992 р. (далі – Хартія), яка набула чинності 1 січня 2006 р. До мов меншин в Україні належать: білоруська, болгарська, угорська, гагаузька, іудейська, кримськотатарська, молдавська, німецька, польська, російська, румунська, словацька мови. Насамперед цей документ заснований на підході, який повністю поважає національний суверенітет та територіальну цілісність. Хартія призначена для захисту та заохочення регіональних мов і мов меншин, а також для того, щоб носії могли використовувати їх як у приватному, так і у громадському житті. Покладаючи на державу зобов'язання щодо заохочення, Хартія доповнює індивідуальні права носіїв мов меншин, що впливають із національного та міжнародного захисту меншин. Це надає імпульсу здійсненню прав меншин у повсякденній практиці. Держави-учасниці повинні активно заохочувати

використання цих мов в освіті, судах, адміністрації, засобах масової інформації, культурі, економічному та соціальному житті та транскордонному співробітництві [2].

Недемократичний характер національної політики у низці сучасних держав є нічим іншим, як насильницькою асиміляцією культурно, етнічно відмінних груп населення, що виявляється у відмові від офіційного визнання етнічних меншин, і навіть їх соціальної, політичної дискримінації, у заборонах використовувати рідну мову, інші культурні практики та ін.

Безпосередньо саме становище національних меншин у конкретних сучасних державах викликає чимало питань. Незважаючи на те, що в даний час існує спеціальна міжнародна нормативно-правова база, яка націлена на відстоювання прав представників національних меншин, слід констатувати, що у цій сфері досить часто трапляються питання, які важко вирішити.

У деяких державах національні меншини позбавлені державної підтримки розвитку національної культури, мови, більше того, ці держави не гарантують кожній людині, що належить до національної меншини, реалізацію її права на національну самоідентифікацію. Ця нецивілізована ситуація не може бути пояснена та виправдана ні з позицій конституційних країн, ні з погляду загальнолюдських цінностей, а також позитивного досвіду національного розвитку народів та громадян інших країн.

Так, наприклад, у КНР офіційно визнано 55 груп етнічних меншин, що у сукупності становить понад сто мільйонів. Однак у відсотковому співвідношенні дані народності займають лише 8% від чисельності населення країни. Досі деякі етнічні групи в КНР залишаються не визнаними на державному рівні через їх нечисленне представництво або важкодоступні райони проживання. Багато народностей, чисельність яких у сукупності налічує менше одного мільйона чоловік, були асимільовані ханьцями в процесі історичного розвитку китайських земель і більшою мірою вже втратили ознаки національної ідентичності [18].

Аналіз ключових проблем у міжетнічних відносинах у КНР на сучасному етапі історичного розвитку показав, що, незважаючи на зусилля китайських керівників у сфері економічного,

політичного та соціального регулювання ситуації, суперечності досі залишаються невирішеними. Діяльність влади в релігійній та культурній сферах багато в чому не співвідноситься з тезою про рівноправність усіх етносів та обмежує можливості дотримання національних традицій без порушення законодавчих норм. Лінгвістична політика призвела до того, що представники молодого покоління етнічних меншин практично не використовують свою мову, а для досягнення успіхів у роботі та навчанні їм необхідно досконало володіти китайською. При цьому уряд прагне підвищувати ступінь залучення малих народів до керівництва та дозволяє їм пред'являти свої вимоги через систему надання спеціальних квот на виборах до законодавчих та виконавчих органів влади. Так відповідно до регіональної системи етнічної автономії, особа, призначена на чолі автономного регіону, за законом є членом етнічної меншини регіону. Але за системи, за якої партія має верховну владу, політична влада в окрузі належить не голові регіону, а місцевому секретарю партії. Представникам етнічних меншин не надається перевага на посаду секретаря партії, а у всіх п'яти автономних районах Китаю, включаючи Тибет і Сіньцзян, пост секретаря партії займає китайський хань. Для етнічних меншин Китаю домінування партії є синонімом політичної системи, монополізованої китайцями Хань, що посилює невдоволення етнічних меншин [6].

Політика регіональної етнічної автономії та політики преференційного ставлення привнесла позитивні тенденції до підвищення рівня життя представників національних меншин, але саме з реалізацією цієї програми пов'язане збільшення чисельного складу ханського населення в районах історичного проживання національних меншин та поступове впровадження механізмів асиміляції місцевого населення. Важливо розуміти, що в етнічному складі КНР є багатонаціональною державою, що ускладнює як суспільну структуру, так і способи здійснення управління над народностями, кожна з яких має історичну та культурну специфіку. У цьому полягає не лише особливість міжетнічних відносин у Китаї, а й головна складність для здійснення гармонійного курсу в національній політиці: врахувати інтереси всіх 56 офіційно визнаних народів, не обмежуючи права якоїсь із груп, є практично неможливим завданням [18].

У тому ж напрямку розвивається політика ігнорування рекомендацій міжнародних організацій щодо визнання македонської меншості та припинення дискримінації щодо неї, а також щодо серії рішень Європейського суду з прав людини проти Болгарії у зв'язку з порушенням права македонців на створення організацій та проведення зборів (ст. 11, 13 Європейської конвенції). За останні роки Комітет міністрів Ради Європи у Страсбурзі дозволив визнати декілька таких рішень ЄСПЛ виконавчими. Незважаючи на це, жодна македонська організація досі не була зареєстрована [5, 7].

Національна політика Болгарії суперечить ст. 54 Конституції Болгарії, яка наголошує: «Кожен має право користуватися національними та загальнолюдськими культурними цінностями та розвивати свою культуру відповідно до своєї етнічної приналежності, яка визнається та гарантується законом» [16].

Болгарія прагне, щоб Північна Македонія визнала, що її історія, національна ідентичність і мова насправді болгарські. Це, зокрема, поклато б край розмовам про наявність у Болгарії окремої македонської меншини, адже йшлося б про «один народ» [17].

Приклади дискримінації македонської національної меншини в Болгарії, з одного боку, і вільного, рівноправного розвитку всіх націй і народів, що проживають на території України, – з іншого, дозволяють зробити висновок про те, що ані недосконалість міжнародного законодавства, ані слабкість міжнародно-правових інститутів захисту прав людини не є головною перешкодою для вільного національного розвитку народів та окремих індивідів. Як найважливіша умова та об'єктивний чинник такого розвитку виступає державна національна політика, яка може або сприяти національному розвитку, або гальмувати його.

Слід зазначити, що болгарська меншість відповідно до Всеукраїнського перепису населення становила 204,6 тис. осіб, найбільша частина компактно проживала в Одеській та Запорізькій областях, а також у Болградському, Арцизькому та Татутинському районах [15].

20 травня 2020 р. болгарські депутати закликали свій уряд вжити заходів для збереження болгарської громади у Болградському районі Одеської області, який відповідно до адміністративної реформи планується розділити на п'ять громад. Президент Болгарії Р. Радев

закликав Україну при проведенні цієї реформи, в тому числі в Одеській області, врахувати історичний характер статусу Болградського району, оскільки цей поділ загрожує компактному проживанню болгарської меншини і може позбавити їх права навчатися своєю рідною мовою. Болгарія зайняла погоджувальну позицію з Україною щодо її законів «Про освіту» та «Про забезпечення функціонування української мови як державної». В Україні працюють 42 школи, в яких вивчається болгарська як іноземна, та 57 недільних шкіл. У квітні 2018 р. міністри освіти Болгарії та України підписали Декларацію з імплементації мовної статті (ст. 7) Закону «Про освіту» та гарантування прав болгарської меншини. Поряд з вивченням державної мови, болгарська нацменшина матиме необхідні умови для вивчення та навчання рідною мовою. Україна та Болгарія працюватимуть над новим протоколом про співпрацю та обмін між міністерствами освіти обох країн [19]. Болгарська меншість в Україні є «живим мостом» між двома країнами, і вирішення проблем захисту її прав, зокрема мовних, є пріоритетом та національним багатством [14].

Національна політика є одним із основних напрямів політики держави як сфери державної діяльності, пов'язаної з відносинами між класами, націями та іншими соціальними групами, ядром якої є проблема завоювання, утримання та використання державної влади. Як зазначається у літературі [13], національна політика – це цілеспрямована діяльність держави щодо регулювання взаємовідносин між націями, етнічними групами, закріплена у відповідних політичних документах та правових актах держави.

Прикладом демократичних національних політик є сучасна національна політика України, яка з усією очевидністю доводить прямий зв'язок між політикою держави в галузі національних відносин та можливостями народів та окремих осіб щодо здійснення права на національне самовизначення.

Сучасна цивілізована національна політика включає сукупність доктринальних установок, правових, управлінських, соціально-економічних, освітніх, культурно-просвітницьких та інших заходів, спрямованих на забезпечення прав та інтересів громадян, заснованих на їх етнічній приналежності, і навіть прав близьких їм по культурі етнічних меншин за

кордоном. Більшість багатоетнічних держав мають офіційні формули національної політики, наприклад: «єдність у різноманітті» в Індії, політика багатокультурності у Канаді та ін.

Необхідною умовою дієвої, ефективної національної політики є її науковість, що передбачає суворий облік закономірностей та тенденцій розвитку націй та національних відносин, науково-експертне опрацювання питань, пов'язаних із регулюванням міжнаціональних відносин.

Демократична національна політика включає систему заходів, спрямованих на врахування, поєднання та реалізацію національних інтересів, на вирішення протиріч у сфері національних відносин. Важливими її напрямками у демократичних державах є підтримка самоорганізації та культурної діяльності етнічних громад, встановлення мовних та освітніх гарантій, особливих виборчих систем на користь етнічних груп, закріплення їх особливих прав в економічній діяльності, використання природних ресурсів тощо.

Конституційні засади сучасної державної національної політики України складають положення Конституції України, що закріплюють найважливіші цінності конституційного ладу України: визнання людини, її права та свободи – найвищою цінністю; цінність народовладдя; рівноправності та самовизначення народів в Україні; рівності прав і свобод людини і громадянина незалежно від раси, національності, мови; цінність державної цілісності та непорушність державного суверенітету; демократичні принципи побудови державного та суспільного життя та ін.

У ст. 11 Конституції України наголошено, що: «держава сприяє розвитку етнічної, культурної, мовної та релігійної самобутності всіх корінних народів і національних меншин України» [8]. Правові основи інституту національних меншин закріплено у Конституції України. Основний Закон України проголосив нашу державу як гарант дотримання збереження прав усіх націй, які проживають на її території. Гарантійні засади по збереженню прав національних меншин викладено у статтях 23 і 24 Конституції України, у відповідності до яких «людина має право на вільний розвиток своєї особистості, рівність перед законом і відсутність дискримінації щодо представників національних меншин». У ст. 35 Конституції України гарантовано свободу світогляду та

віросповідання, у статтях 36 і 37 Конституції України закріплено «право на політичну діяльність і створення політичних партій». У ст. 53 Конституції України передбачено отримання освіти рідною мовою [8].

Загалом для демократичних законодавств є традиційною позитивна дискримінація (особливий захист) національних меншин. Проте слід розуміти, що релігія не є ознакою належності до певного етносу, оскільки вона, на відміну від мови та культури, не є національним, а є над етнічним, універсальним феноменом [9].

У відповідності до ст. 2 Декларації прав національностей України, «зберігається право національних меншин на традиційне розселення та територіально-адміністративних одиниць». Згідно ст. 3 Декларації гарантовано «вільне користування мовами національних меншин в усіх сферах життя». Декларування охорони пам'яток історії та культури народів закріплено у ст. 5 Декларації, також передбачено дозвіл культурного зв'язку національних меншин з історичною батьківщиною [3].

А у відповідності до Закону України «Про національні меншини в Україні» до національних меншин належать «групи громадян України, які не є українцями за національністю, виявляють почуття національного самоусвідомлення та спільності між собою» [12].

Відповідно ст. 1 нового Закону України «Про національні меншини (спільноти) України» від 13.12.2022 р. № 2827-IX, національна меншина (спільнота) України – це стала група громадян України, які не є етнічними українцями, традиційно проживають на території України в межах її міжнародно-визнаних кордонів, об'єднані спільними етнічними, культурними, історичними, мовними та/або релігійними ознаками, усвідомлюють свою приналежність до неї, виявляють прагнення зберегти і розвинути свою мовну, культурну, релігійну самобутність [11].

Згідно ст. 13 нового Закону України «Про національні меншини (спільноти) України», державна політика у сфері національних меншин (спільнот) має на меті: «сприяння розвитку етнічної, культурної, мовної та релігійної самобутності національних меншин (спільнот); інтеграцію національних меншин (спільнот) в українське суспільство на основі визнання прав і свобод людини і громадянина;

утвердження в українському суспільстві норм міжетнічної толерантності і взаємної поваги; зміцнення загальнонаціональної єдності та забезпечення мультикультурності українського суспільства». Досягнення перелічених цілей державної політики потребує не тільки сучасного адекватного правового регулювання прав і свобод національних меншин (спільнот), але й послідовної правозастосовної та правозахисної діяльності уповноважених державних органів із залученням інститутів громадянського суспільства.

При цьому, держава гарантує захист та забезпечує реалізацію прав і свобод осіб, які належать до національних меншин (спільнот), шляхом здійснення заходів у сфері державної політики, спрямованих на збереження, підтримку і розвиток їх самобутності та ідентичності, інтеграцію в українське суспільство (ч. 3 ст. 13 Закону) [11].

Національні та етнічні меншини загалом вдало пристосувалися до умов української національної політики. Адже держава через відповідні інституції зуміла організувати тісну співпрацю з великою кількістю етнічних груп. За допомогою діяльності дорадчих органів їхні представники мають можливість обіймати найвищі посади на різних рівнях законодавчої та виконавчої влади. Така система розвитку етнічної політики створює позитивний імідж України на міжнародній арені [20].

Державна служба України з етнополітики та свободи совісті є центральним органом виконавчої влади, діяльність якого спрямовується і координується Кабінетом Міністрів України і який забезпечує формування та реалізує державну політику у сфері міжнаціональних відносин, релігії та захисту прав корінних народів і національних меншин в Україні [10].

Основні завдання Державної служби України з етнополітики та свободи совісті полягають у: реалізації державної політики у сфері міжнаціональних відносин, релігії та захисту прав корінних народів і національних меншин в Україні; а також у внесенні на розгляд уряду пропозицій щодо формування державної політики у сфері міжнаціональних відносин, релігії та захисту прав корінних народів і національних меншин в Україні [10]. Вказане дозволяє Державній службі України з етнополітики та свободи совісті безпосередньо впливати на розвиток та вдосконалення відповідної державної політики з урахуванням її конкретних

переваг, прогалин і недоліків, виявлених в рамках правозастосовної діяльності.

Національна політика України націлена насамперед на досягнення балансу, паритету інтересів кожної людини окремо та всіх народів (спільнот), що проживають на території України, у сфері національних відносин. Українська держава не прагне досягти громадянської єдності за рахунок нівелювання національних відмінностей. У зв'язку з цим декларація про національне самовизначення народів органічно доповнюється правом національне самовизначення кожного індивіда, тобто правом людини на національну самоідентифікацію, визначення своєї національної приналежності.

Як зазначається, в Україні гарантії та захист прав національних меншин на законодавчому рівні здебільшого відповідають світовим і європейським стандартам. Створена система органів державного управління у сфері міжетнічних відносин є цьому хорошим прикладом. Проте існує низка проблем, які необхідно розв'язувати на рівні парламенту, органів виконавчої влади та місцевого самоврядування [1]. До прикладу, для розв'язань цих проблем на сучасному етапі необхідно прийняти Закон про «Концепцію державної етнонаціональної політики України», визначити політико-правовий статус корінних народів, зокрема, депортованих національних меншин і етнографічних груп українського етносу, налагодити ефективний механізм реалізації прав національних меншин в Україні та здійснювати моніторинг за дотриманням цих прав [4]. Дієвим механізмом співпраці України з державами-сусідами у сфері правового захисту національних меншин стали двосторонні міжурядові комісії, зокрема: Змішана українсько-угорська комісія з питань забезпечення прав національних меншин (створена 1991 р.); Міжурядова українсько-словацька комісія з питань національних меншин, освіти і культури (1995 р.); Змішана міжурядова українсько-румунська комісія з питань

забезпечення прав національних меншин (1998 р.). Їхня головна мета – координація діяльності міністерств і відомств держав-сусідів щодо забезпечення прав нацменшин (угорської, словацької та румунської на території України та української на території Угорщини, Словаччини і Румунії) [1].

ВИСНОВКИ

У різних країнах світу державна національна політика може мати демократичний або недемократичний характер, істотно відрізняючись обсягом прав і свобод національних меншин (спільнот), їх реальністю, наявністю або фіктивністю відповідних державних гарантій тощо. В Україні організаційно-правові засади державної політики у сфері національних меншин (спільнот) створюють багатонаціональним народам, які проживають на території України, сприятливі умови для розвитку своєї національної ідентичності та культури на основі таких нормативно закріплених принципів, як свобода збереження самобутності, турбота про національні традиції та цінності, компетентність державних інстанцій та їх посадових осіб при вирішенні різних питань національної політики. Національна політика України – це правова політика держави у галузі регламентації правового статусу національних меншин (спільнот), що забезпечує реалізацію національної політики на рівні органів державної влади та місцевого самоврядування в Україні. Вона передбачає об'єднання зусиль усіх ланок державної влади та суспільно-політичних структур для збереження міжнаціональної згоди, затвердження принципу рівноправності громадян різних національних меншин (спільнот), зміцнення солідарності між ними, забезпечення рівних правових, організаційних та матеріальних умов громадянам і національно-культурним формуванням для їхньої участі у суспільно-політичному, культурному житті України.

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