

An Analysis on the Relationship of Thinking and Learning Styles with Communication Style

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Abstract

The study focuses on identifying and describing (1) the communication style, (2) the thinking style, (3) the learning style of the postgraduate (graduates and postgraduates) students of Nusa Cendana university (Universitas Nusa Cendana (Undana), (4) the level of relationship of thinking style and communication style of the students, (5) the level of the relationship of learning style and communication style of the students, (6) the level of the relationship of both, thinking and learning styles with the communication style, and (7) the level of the difference between thinking style, learning style and communication style of the students. The study applies the correlation design of quantitative research involving 203 samples of 306 student population. The study reports the following main findings. (1) In general the students vary in their communication style according to listeners, creator, doers, thinkers. (2) To be in detail, whatever type of communication style (listeners, creators, initiators, and thinkers) is not determined by any type of thinking style (synthetic, idealistic, pragmatic, analytic, and realistic). (3) Then, whatever type of communication style performed by the students (listeners, creators, active doers, and thinkers) is not determined by learning style variations (visual, auditory, reading/writing, and kinesthetic). (4) Another finding is there is no significant relationship shown by the three variables studied, thinking, learning, and communication styles, as is shown by correlation coefficient at 0.010. (5) Finally, there is difference in thinking style, learning style, and communication style performed by the students, male and female students.

Keywords: Analysis; Relationship; Thinking style; Learning style; Communication style

Introduction

The current study was conducted from September to November 2016. It was motivated and begun by observing unsatisfied communication style, an intellectual-based style, performed by S2 and S3 students of postgraduate program of university of Nusa Cendana (Undana) Kupang, East Indonesia. The unsatisfied communication performance was clearly seen during their asking questions, having discussion, or dialogue, or debate. Such performance does not support the university's vision and mission that is, producing global competitive graduates in science and technology and values which are only seen by the way they communicate and they way they act. Such phenomenon has made the researcher to assume that the communication style of the students is dependent on situations tied by a number of factors, to mention two are thinking style and learning style.

Different people has different definitions of thinking style [1]. For example, contends that thinking style is an element of cognitive style, while others claim that cognitive style and cognitive thinking are the same. Meanwhile [2] seems to argue quite differently. He claims that thinking style deals with what someone is thinking. To make clear he illustrates, when someone is eating he knows not only what he is eating at the moment, but also what he is thinking about the food in his mind.

The thinking style in this study deals with the one of [3] that is a preference to manage information in the brain. Such management is very much determined by one's personality structure to consistently interact towards environment and to adapt towards new information. The students' thinking strategy in this study is a main concern to be studied dealing with how the students investigate and manage information, how they argue about what they manage, how they solve problems they face, and how they evaluate and reflect what they have managed and solved out. Thus, these variables have relationship with thinking style. Another research dealing with learning achievement is the one done by [4] looking at the relationship of thinking style and

students' achievement in Ahvaz. By involving 320 students in their correlational quantitative research they wanted to find out whether thinking style categorized as variables of legislative, executive, oligarchi, monocratic, anarchi, hierarchi, and judiciary have significant relationship with academic achievement. They found that there was significant relationship between the variables and achievement of the students. Another interesting study relevant with this study is about the effects of thinking style on design strategies done [5] in Taiwan. They involved 101 senior high school students as respondents differentiated according to their thinking style tendencies, that is, those of executive thinking style, legislative thinking style, judicial thinking style, and global or local thinking style. The researchers wanted to know whether the thinking style of the students of different tendencies affects different strategies in how to design bridges using WPBD2007 computer simulation free ware. The research showed six findings, to present two interesting ones in brief are: thinking style showed positive correlation with frequency of substantial change in structure and goal of strategy, meaning judicial thinking style affects the design strategy different from those of other thinking style strategies. Differently from that finding, the local thinking style showed negative correlation with the frequency of component tool list usage, showing that those under the local thinking style affect different ways they design the bridges.

The above studies are on purpose presented in this study just to show the difference from this one as well as to claim that this is not the only

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research on thinking style concentrating on the relationship of thinking style with other variables. Meanwhile this study concentrates on the relationship of thinking style and learning style with communication style. The hypothesis is that the thinking and learning styles have relationship with communication style showed by positive or negative correlation of correlational formula of Pearson Product Moment. This means different thinking styles and different learning styles affect different communication styles.

Another variable to investigate in this study is learning style. According to Sarabdeen [6], one's learning style also affects his or her communication style. So, learning style deals with one's easy and effective way of learning, and he prefers it the most to that of others. One for instance is easier and more effective to use visual style rather than auditory or kinesthetic one.

The learning style concept has been studied since the 19th century concentrating on the relationship between memory and spoken or visual learning object [7]. Then, the focus of study shifted to cognitive style and to strategy to determine a modus of how learners accept, remember, think, and solve problems [8]. Then [9] did study looking at the effect of learning style on education and teaching process, that is teaching and learning methods used in any learning environments. The study reports that the learning style in the study affects the education to raise individuals who are able to see world from different perspectives. For such purpose, differences of individuals are used as basis for the process of education and instruction. One interesting that is also worth noting is that learning style should be clearly described first in terms of their differences in personality, perception, ability and intelligence to develop better way to learn on the part of the individual students. The other research previously done is the effect of learning styles on achievement in different learning environment [10]. It is also interesting that the learning style type was not significantly effective on the achievement of the students in different learning environments. This means that every learning environment does not always contribute to any type of learning style for better achievement.

It is very clear then that this study is different from those ones although they all deal with learning style. Based on the research reports and the communication phenomenon clearly seen from the graduates and postgraduates at Nusa Cendana university in Kupang Indonesia, the researcher of this study did a research under the title: "Analysis on the Relationship of Thinking Style and Learning Style with Communication Style of the Postgraduate Students of University of Nusa Cendana, Kupang, Indonesia".

Research Questions

The study is to answer whether there is relationship between thinking and learning styles and the communication style of the postgraduate students of Undana. In brief, the students communication style during communication activities is assumed to have relationship with both thinking style and learning style. To be more specific, the question is elaborated as follow: (1) how is the communication of the postgraduate students of Undana? (2) how is the thinking style of the postgraduate students of Undana? (3) how is the learning style of the postgraduate students of Undana? (4) to what extent is the relationship of thinking style and communication style of the postgraduate students of Undana? (5) to what extent is the relationship of learning style and communication style of the postgraduate students of Undana? (6) to what extent is the relationship of thinking and learning styles and the communication style of the postgraduate students of Undana? (7) to what extent is the difference between thinking style, learning style and communication style of the postgraduate students of Undana?

Research Aims

The study is done to identify, to describe, and to analyze: (1) the communication of the postgraduate students of Undana, (2) the thinking style of the postgraduate students of Undana, (3) the learning style of the postgraduate students of Undana, (4) the level of relationship of thinking style and communication style of the postgraduate students of Undana, (5) the level of the relationship of learning style and communication style of the postgraduate students of Undana, (6) the level of the relationship of thinking and learning styles and the communication style of the postgraduate students of Undana, and (7) the level of the difference between thinking style, learning style and communication style of the postgraduate students of Undana.

Literature Review

This study is founded by concepts of variables clearly stated in research questions or research aims of the study including (1) thinking style, (2) learning style, and (3) communication style. These are framed as the theoretical base in (4), to be in sequence presented next.

Thinking style

De Bono [11] gives broader concept of thinking style than those of previous ones by other experts. According to him, thinking style is an exploration of one's experiences intentionally done for a purpose dealing with comprehension, decision making, planning, problem solving, evaluation, action, and so on. This shows wide scope of thinking style.

Quite specifically, a good thinking style according to Swartz and Perkins [12] deals with an activity of thinking about something one already knows. The activity is followed by the use of important and acute skills as well as creative exploration towards all recalled information. The thinking style according to Grigorenko and Sternberg [13] sounds very personal. They say that thinking style deals with one's way he or she prefers the most to express one or more abilities to form his or her mental model.

Very technically, Golian [14] says that thinking style is an approach as well as tips that are helpful for someone to solve and analyze problems he or she is facing. Besides, Golian adds that thinking style is also beneficial when accompanying someone else in thinking, in organizing actions, in extending relations, in adapting with different environments or situations. Such thinking style according to Harrison dan Bramson [14] has been present before the brain processes or starts to work, where everyone tends to see the world differently. This is similar with what Jones [1] says that thinking style deals with how someone collects and processes information and how the information is used to make decisions [15].

A number of previous researchers, like Churchman [16], Jung [17], Kelly [18], Kolb [19] and Neisser [20], Harrison and Bramson [15], have identified five different approaches that everyone uses to see and make meaning of something in different situations. The five approaches are: (1) synthesis style, (2) idealism, (3) pragmatism, (4) analysis, and (5) realistic. Every individual has his own certain level of order of the five approaches which is independent from one another but depending on the number of data faced by the individuals, on understanding the problems and making decision about the data. It needs to highlight again what Jones [1] says above that thinking style can be a technique that someone uses to identify problems, to make use information in selecting solution in everyday process.

Learning style

The learning style so far has been developed by researchers

to classify students based on the approach to understand and to process information [21]. Campbell [22] define learning style as a certain behavior pattern, or a display of individuals in their learning. Meanwhile, Dunn [7] define learning style as a new way of how an individual obtains a new information and all at once develop a new skill. Then Kolb [23] defines learning style as a process where an individual keeps information and new skills. Meanwhile, Jawahitha [6] says that learning style is an approach or a way applied in learning. He adds that every individual has their own way of learning that he prefers the most compared to that of others. It is important therefore that trainers and educators should understand learning style for them to have a precise method to transfer knowledge and skills.

This study applies the model proposed by Fleming’s VAK/VARK [24] an extension of previous model, that is sensoric modality similar with the VAK model of Barbe and Milone [25], which was then called representation system in neuro-linguistic programming. There are four sensoric modalities of Fleming Model. The first model is visual learning model. According to Fleming the students who use visual model to learn have preference to see something through visual aid tools. What they are seeing during the learning are ideas represented by words, graphics, diagrams, symbols, and so on. The *second* model is *auditory* learning model. Those of auditory learning model prefer to learn by listening, like listening to lecture, discussion, and radio, cassettes, ponsel, and web chat. They find it easier to comprehend information by just actively listening to what is being said or to the electronic facilities. The *third* is *reading-writing* learning model. The students of this model prefer to learn by using written language that is reading or writing words. The students need to do reading information like power points, internet, books, dictionaries etc before they write what they have read in the form of reports, essays, and other assignments. The *fourth* is *kinesthetic* or *tactic* learning model. Those of this model prefer to learn through experience, where they are helped by movement such as touching, active exploration, project work, experiment, and so on [26,27].

Communication style

Communication style deals with one’s way to communicate with others using language, behavior, gestures, etc to make what the speaker is thinking and saying understood by his or her listeners. One for example uses language with more body gestures while others with less body gestures. The purpose is to make the speaker accepted by his or her listeners during interaction.

Many references report that communication style is viewed as accumulation of spoken and illustrative communication elements. The one’s verbal messages is communicated to others in words including suprasegmentals (tone, stress, intonation) as the main characteristic of communication style [27-31].

Communication style is personal, meaning the way one communicates is different from that of others. That is the reason why learning communication style is learned, that is to compare among a number of communication styles. The knowledge about the communication style is basic for someone to be a communicative leader.

This study uses communication style approach quoted from the book entitled “*How to Become a Better Negotiator*” written by James G Patterson, discussing about four categories of communication style: listener, creator, doer and thinker [32].

Theoretical framework

The study uses the theoretical framework of thinking style proposed by Harrison and Bramson [33] including: synthetic, idealistic, pragmatic, analytic, and realistic thinking style. The *synthetic* thinking style refers to assumptions or abstract ideas on which the style is based on; the *idealistic* one is based on process, aspirations, and values; the *pragmatic* focuses on examining problems in certain context; the *analytic* style refers to a thinking style of an individual focusing on thinking method that shows prescriptive and logical behavior; and *realistic* style deals with one’s thinking style about the available human resource. Meanwhile, the learning style applied in this study is the model proposed by Fleming [26], that is: (1) visual learning, (2) auditory learning, (3) reading-writing learning, and (4) kinesthetic or tactile learning, used as theoretical framework.

The communication style deals with: (1) how one collects and processes information to make decision, and what type of information one should reserve; (2) how one tends to behave conditionally appropriate; and (3) how one faces a certain situation, organizes actions, makes relations, solves problems, and adapts with different environments and situations. This study uses categories of communication style by James G Patterson [34,35] including: (1) listener style, (2) creator style, (3) doer style, and (4) thinker style. Thus the conceptual framework of this study is presented by the Figure 1 below.

Research Method

This is a descriptive correlational quantitative research applying survey design to analyze relationship of the variables studied: thinking style, learning style and communication style. Thinking style deals with the way the students think based on the way they prefer the most, agreeing with the learning environment. The indicators of the thinking style are the content of instruments made by Harrison and Bramson [15], classified into synthetic, idealistic, pragmatic, analytic and realistic styles. Then, learning style deals with the way the students learn based on what they prefer the most, agreeing with the environment and situation. The indicators are the substance of the model proposed by Fleming [33], classified into visual, auditory, reading-writing, and kinesthetic learning styles. Meanwhile, communication style, the third variable, deals with the way the students practice communication based on what they prefer the most, agreeing with the environment and situation. The indicators are those of James G. Patterson [34], classified as listener, creator, doer, and thinker styles.

The samples are 203 students of 306 students of postgraduate program of Nusa Cendana university as population. They are selected by applying stratified random sampling from ten study programs as the respondents of the study. The research was done from September to November 2016.

The data are classified as primary and secondary data. The primary data are about thinking style, learning style, and communication style directly obtained from the respondents using questionnaire as

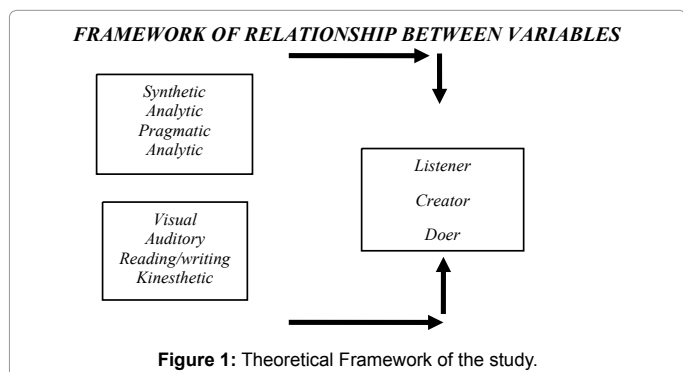


Figure 1: Theoretical Framework of the study.

instrument. Meanwhile, the secondary data are those obtained from documents and data base of the postgraduate program. For verification or triangulation for certain information, interviewing heads of study programs and some students purposively selected from students who had done their result report evaluation was also done.

The hypothesis of the study is about the relationship of the variables. The data are in ordinal type after the scores have been converted into interval scale by using successive interval for Pearson Correlation test. To determine the degree of relationship among the variables the strength interval by Sarwono [36] was used, as shown by Table 1.

Research Findings

It needs to describe first about the students and lecturers of postgraduate program before presenting and discussing the research findings. The total students of postgraduate program of Nusa Cendana university are 3006 in 2017. Around 75% of them are partimer students, meaning they have permanent jobs working in governmental office or private office in Kupang Indonesia. 20 of them are those of General Election Comission from Jakarta, 14 others from governmental office in Nusa Tenggara province, and another 20 are form Timor Leste country. All of them are spread over the ten study programs: English Language Education, Linguistics, Animal Husbandary (S2 and S3), Public Administration Science (S2 and S3), Law (S2), Society Health Science, Social Science Education, and Environmental Science.

Meanwhile the lecturers are 171 in total selected from S1 study programs of faculties. All are of S3 qualification and 15 of them are professors spreading over the following study programs: Animal Husbandry (6), English Language Education (3), Linguistics (2), Law (1), Public Administration Science (1), and Soocial Education Science (2). 142 lecturers are teaching S2 students, and 29 others S3 students. Among the study programs, the Animal Husbandry and Environmental Sciences have more lecturers compared with others since both study programs have the so called "concentration" programs of which students are free to select for their specification.

The research findings are discussed under the variables studied, (1) students' commnication style, (2) students' thinking styles and communication style, (3) students' learning style and communication style, and relationship of the thinking style and learning style with communication style, to be sequentially presented.

Students' communication style

The discussion deals with four types of communication styles,

Coefficient Range	Level of relationship
0.00	There is no relationship
0.01-0.09	Less significant relationship
0.10-0.29	Weak relationship
0.30-0.49	Moderate relationship
0.50-0.69	Strong relationship
0.70-0.89	Very strong relationship
>0.90	Approaching perfect relationship

Table 1: The coefficient of strength interval.

Rank	Criteria	Y1	%	Y2	%	Y3	%	Y4	%
1	Very weak	15	7.38	13	5.9	14	5.41	8	3.94
2	Weak	37	18.22	39	19.21	37	17.73	25	12.31
3	Average	62	30.54	68	33	76	36.94	70	34.48
4	Strong	64	31.52	54	26.08	59	29.06	76	36.94
5	Very strong	25	11.82	29	13.3	17	7.88	24	11.82

Table 2: The spread of the respondents' answers about communication style.

No.	X1 Score Range	Criteria	F	%
1	18-32	synthetic	0	0
2	33-47	idealistic	8	3.94
3	48-62	pragmatic	36	17.73
4	63-74	analytic	84	41.37
5	75-90	realistic	75	36.94

Table 3: The spread of the respondents' answers about the thinking style.

that is as listener, creator, initiator, and thinker. Table 2 is necessary to present the research data about the communication style and its variants as shown.

Listener type: This research shows that 43.34% of respondents perform as strong listeners in communication in functioning as communicators or communicants; the 25.60% acknowledge that they belong to very weak listeners in communication in functioning as communicators and communicants; and the 30.54% others acknowledge they are in between very strong and very weak listeners.

Creator or creative type: This study shows 39.38% of the respondents acknowledge that they belong to very strong creator or creative in functioning as communicators and communicants; 25.11% perform as very weak creator or creative in functioning as communicators and communicants; and 33% others perform in between very strong and very weak creator or creative in functioning as communicators and communicants.

Doer or initiator type: This study shows 36.94% of the respondents acknowledge that they belong to very strong doers or initiators in functioning as communicators and communicants; 23.14% perform as very weak doers and initiators in functioning as communicators and communicants; and 36.94% others perform in between very strong and very weak doers or initiators in functioning as communicators and communicants.

Thinker type: This study shows 48.76% of the respondents acknowledge that they belong to very strong thinkers in functioning as communicators and communicants; 16.25 of them perform as very weak thinkers in functioning as communicators and communicants; and 34.48% others perform in between very strong and very weak thinkers in functioning as communicators and communicants.

The relationship between thinking style and communication style

The spread of the the thinking style of the students can be seen in Table 3.

The Table 3 shows that a big part, that is 41.37% of respondents belong to analytic thinking style, 36.94% belong to realistic thinking style. Meanwhile, 17.73% of them acknowledge they belong to pragmatic thinking style, and 3.94 others belong to idealistic thinking style. It is interesting that no respondent (or students) belongs to syntetic style.

The hypothesis testing of the relationship between thinking style and communicayion style (X1Y)

The relationship is shown by correlation coefficient at 0.006096. This means there is no relationship between thinking style and communication style. It was clearly seen that the students' communication style whether as listeners, creators (creative), doers (initiators), or thinkers is not determined by the variation of thinking style, whether it is synthetic, idealistic, pragmatic, analytic, or realistic styles. The hypothesis therefore can be in detail formulated as follow.

1. There is no relationship between thinking style and communication style as listeners shown by correlation coefficient at 0.033771.

2. There is no relationship between thinking style and communication style as creators (creative) shown by negative correlation coefficient at (-0.10987). This means that the stronger the thinking style, the weaker the communication style as creator (creative) is.

3. There is no relationship between thinking style and communication style as doers (initiators) shown by correlation coefficient at 0.003065. This means that the strength of communication among individuals is not influenced by the thinking style at all.

4. There is no relationship between thinking style and communication style as thinkers shown by correlation coefficient at 0.041653. This means that the strength of communication style as thinker is not determined by thinking style.

The relationship between learning style and communication style

The Table 4 shows that the spread of the answers of the respondents about learning style.

The Table 4 in general shows that the majority of the students, that is 45.72%, in average belong to visual thinking style, 28.17% to auditory thinking style, 19.24% to reading or writing style, and 11.39% others to kinesthetic style.

The hypothesis testing of the relationship between learning style (X) and communication style (Y): The hypothesis testing of learning style and communication style (X2Y) shows that the correlation coefficient of the two variables is at 0.088398. This shows that there is no relationship between learning style (X2) and communication style (Y), meaning whatever type of communication style performed, that is, as listeners, creators (creative), doers (active), or as thinkers, is not determined by variation of learning styles, that is, visual, auditory, reading-writing, or kinesthetic style. If the learning styles mentioned are hypothesized as having relationship with various communication styles as stated, this study presents data contradictory to that relationship hypothesis, as presented next.

1. There is no relationship between learning style and communication style as listeners performed by the students as is shown by coefficient 0.038732. This means that the students communication style as listeners is not affected by their learning style at all, that is visual, auditory, reading-writing, and kinesthetic styles.

2. There is no relationship between learning style and communication style as creators (creative) as is shown by coefficient

Item	Visual (people)	%	Auditory (people)	%	Reading/writing (people)	%	Kinesthetic (people)	%
1	60	29.5	77	37.9	64	31.52	2	0.98
2	119	58.62	60	29.5	7	3.44	17	8.37
3	9	4.43	44	21.67	9	4.33	61	30.04
4	114	56.15	43	21.18	33	58.62	13	6.4
5	119	58.62	71	34.9	10	29.4	3	1.47
6	86	42.36	66	32.51	27	13.3	24	18.82
7	121	59.6	21	10.34	27	13.3	34	16.47
8	60	29.5	56	27.58	73	31.05	14	6.89
9	134	66.09	46	22.66	15	7.38	8	3.94
10	99	48.76	63	31.06	12	7.38	29	12.84
11	119	58.62	26	12.8	17	16.25	41	19.7
12	123	60.59	36	17.6	38	18.71	6	2.95
13	43	21.52	43	21.52	77	37.9	40	19.3
N=203		45.72		28.17		19.24		11.39

Table 4: The spread of the respondents' answers about learning style.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.099 ^a	0.01	0	41.39582

^a-Predictors: (Constant), VAR00011, VAR00010

Table 5: Bivariate correlation test of thinking and learning styles with communication style.

at 0.004213). This means communication style as creators (creative) is not affected by the students' learning style at all, that is visual, auditory, reading-writing, or kinesthetic styles.

3. There is no relationship between learning style and communication style as doers (active), as is shown by coefficient at 0.003065. This means that the communication style of the students, that is as doers (initiative and creative) is not affected by their learning style at all, that is visual, auditory, reading-writing, or kinesthetic style.

4. There is no relationship between learning style and communication style of the students as is shown by coefficient at 0.031626. On the contrary, it can be said that the communication power between and among the individual students as a thinker or considerer is not affected by their learning style at all, that is visual, auditory, reading-writing, or kinesthetic style.

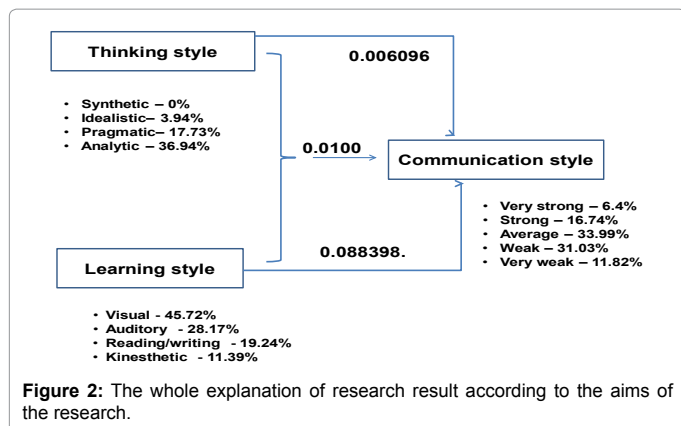
The findings presented above have led to conclude that there are other factors predicted to have affected the communication style. To take one example is the interaction between teachers' teaching style and students' learning style. Such interaction affects the students' way of learning as argued by for example, Saracho [37]. Another research is about relationship of students' learning style and their preference on learning environment. The students' learning environment is in fact various as argued by for example Dunn, Dunn, and Price [7]. Then learning method applied by the students could be also another factor affecting the communication as argued by for example Sadler-Smith [38]. The last one is learning media used during the classroom lecturing that seems not to support the students' communication style to develop, as argued by for example Campbell, Campbell, and Dickinson [22]. These factors have made the students's learning style have no relationship with their communication style.

In terms of learning achievement of the students, Felder [39] argued that beside the factors mentioned above, the students' learning motivation, students' attitudes towards the teaching and learning process, and the like vary a lot that can affect the students' learning achievement. Further he said that if the instructors or lecturers so far have taken care of those factors, the students could have learned successfully in various situations, at least by (1) the way the students access information during learning, (2) the approach the students apply their learning style, and (3) the level of intellectual development in terms of knowledge and how the knowledge is obtained and evaluated.

Correlation between thinking and learning styles with communication style

Table 5 presents the bivariate relationship of thinking style and learning style with communication style.

The Table 5 shows that the partial correlation between the variables of thinking style and learning style with communication style is at the coefficient of 0.010. This means there is no relationship between the partial variables. The coefficient can also be interpreted that simultaneously the thinking style and learning style give impact only at 1% to cause communication style to change while other variables at 99% to make communication style to change. The Figure 2 below explains the whole research findings according to the aims of the study.



Variables	Variable details	Research Results	Criteria
X1	Thinking styler	0.588984	Different
X2	Learning style	0.96702	Very different
Y1	Communication style of listeners	0.889156	Very different
Y2	Communication style of creators	0.165275	Considered indifferent
Y3	Communication style of active actors	0.057785	Considered indifferent
Y4	Communication style of thinkers or considerer	0.892655	Very different
Y	Communication style	0.302123	Little different

Table 6: The spread of respondents' answers about the thinking style.

The differences between thinking and learning styles and communication style among the students

The research finding shows that there are differences between thinking style, learning style, and communication style between male and female students as presented in Table 6.

As shown by Table 6, (1) there is difference in thinking style, learning style, and communication style between the male and female students; (2) there is no difference between female and male students in communication style particularly as creative creators and active doers.

The research results shown in Table 6 have resulted with the following critical questions about gender communication [26]: (1) is there any difference in communication experience between males and females?; (2) who tends to speak more, males or females?; (3) who can do interruption, males or females?; (4) is there any different communication patterns in group formal meeting between males and females?; (5) is there any difference of communication patterns in group informal meeting between males and females?; (6) is language of females always meaning uncertainty if compared to that of males?; and (7) is there any difference in communication dealing with the power between males and females?

The following theory of gender communication could answer the questions that: (1) there are a lot of differences in communication style between males and females; (2) The differences are due to communication contexts; (3) there is connotation difference about who speaks more than the others; (4) males speak more than females in formal groups or in meetings of males and females; (5) males always let females to speak more in informal meetings or when formal meetings have changed to informal ones; (6) males and females who have similar expertise, will perform differently when speaking in front of public (audience), that is males tend to speak more and longer than females,

and (7) males initiate more interaction and create more communication than females do [26].

Theoretical and practical implication

This study seems to show very interesting theoretical implication. The previous studies report the relationship between thinking styles (X1) and communication styles (Y), and the relationship between learning style (X2) and communication style (Y). Meanwhile this study shows no relationship between X1 and Y as well as X2 and Y. Thus, the hypothesis that there is relationship between X1 and Y as well as X2 and Y tested in the previous studies is not accepted in this study. To conclude, in practice, the thinking style and learning style of the students do not affect change of their communication performance.

Conclusion and Sugestion

Conclusion

1) Brief detail of communication style of postgraduate students of Undana. Students' communication performance varies according to the types of communication style as presented next.

I. Listeners. 43.34% of the students perform as very strong listeners, 25.60% as very weak listeners, and 30.54% others in average in between very strong and very weak listeners in communication.

II. Creators (creative). 39.38% of the students perform as very strong creators, 25.11% as very weak creators, and 33% others perform in average in between very strong and very weak creators.

III. Doers (initiators). 36.94% of the students perform as very strong initiators, 23.14% performs as very weak initiators, and 36.94% others perform in average in between very strong and very weak initiators.

IV. Thinkers. 48.76% of the students perform as very strong thinkers, 16.25% of them perform as very weak thinkers, and 34.48% others in average perform in between very strong and very weak thinkers.

2) The rationship between thinking style and communication style.

There are 41.39% students acknowledge that they belong to realistic thinkers, 36.94% to analytic thinkers, 17.73% to pragmatic thinkers, and 3.94% others to idealistic thinkers. No students belongs to synthetic thinkers. It is interesting that there is no relationship between thinking style and communication style. This is shown by correlation coefficient of the two variables at 0.006096. This means that whatever type of communication style (listeners, creators, initiators, and thinkers) is not determined by any type of thinking style (synthetic, idealistic, pragmatic, analytic, and realistic).

3). The relationship between learning style and communication style. A research result shows that the correlation coefficient of the two variables is at 0.088398. This means that there is not relationship between learning style and communication style. In other words, whatever type of communication style performed by the students (listeners, creators, active doers, and thinkers) is not determined by learning style variations (visual, auditory, reading/writing, and kinesthetic).

4). The symultaneous relationship of thinking style and learning style with communication style. The research result shows that there is partial correlation between thinking and learning styles with communication style at 0.010. This means there is no significant relationship shown by the three variables. The correlation coefficient can be interpreted also that only 1% of the communication style change can be explained by thinking style and learning style spontaneously, while 99% can be explained by other variables.

5). The difference between thinking style, learning style, and communication style performed by the students. This research result shows that there is difference between thinking style, learning style, and communication style performed by the students, male and female students.

Suggestion

1. As shown by the data, most students perform as listeners and very few perform as active and creative speakers in communication. Such condition does not support the vision of Nusa Cendana as university, in preparing global graduates in terms of science and technology and characters. It is suggested therefore, to the institution leaders in particular, to motivate creating communication culture by all sides such as, director or director assistants, and the heads of study programs to create academic situations for scientific communication, the lecturers to create open interaction during the classroom lecturing, and the students themselves by joining any scientific events.

2. The research findings show also that most students tend to be realistic rather than synthetic in the way they think. The institution, however, prefers the students to be both realistic and synthetic in thinking. This study therefore suggests the institution staff to create moments or events to grow and develop a culture of thinking synthetically on the part of the students, for example during classroom lecturing, or by inviting outside professors to give general lectures, or planing special moments every year for the students to do cross-campus visitations.

3. The findings also show that most students prefer to listen the most, compared with reading-writing learning style. This means the students are not creative to learn independently by for example browsing in internets or visiting libraries. It is suggested therefore that the lecturers place independent learning as the main way to prepare the students with habit of reading and assign the students to hand in reports or papers of what they have read. In other words, the institution staff create and develop the so called reading-writing culture to prepare the students with excellent academic competence.

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