



Implementation of Aptitude Treatment Interaction (ATI) in *Nahwu* Learning: Identification of Student Ability Characteristics

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Abstract

Aptitude Treatment Interaction (ATI) is used as a learning method that treats differences in student abilities; this is considered appropriate for *Nahwu* learning. The purpose of this study is to elaborate on *Nahwu's* learning activities using Aptitude Treatment Interaction (ATI) through the involvement of lecturers and students. This study uses a qualitative approach; the participants are non-Arabic speaking *Nahwu* students in Indonesia, totaling 40 students. Data collection techniques are using observation, structured interviews, and using questionnaires. The results showed that there were implications for the use of Aptitude Treatment Interaction (ATI) in learning motivation, as indicated by an increase in scores on the evaluation of students' *Nahwu* understanding abilities and perceptions that showed a good assessment of this method. The recommendation of this research is the preparation of teaching materials based on Aptitude Treatment Interaction (ATI) for *Nahwu* learning that can be done at universities in Indonesia.

Keywords: *Arabic, Aptitude Treatment Interaction (ATI), Nahwu*

Introduction

Aptitude Treatment Interaction (ATI) is a learning method or can be explained as a systematic learning technique that seeks to find and find appropriate treatment for individual differences in abilities (Snow, 1991). In the learning concept, Aptitude Treatment Interaction (ATI) is a concept that contains a number of effective learning strategies for students according to their characteristics (Dazrullisa, 2016). In this case, it is focused on the differences of the individual, namely the students who become the perspective by moderating the treatment (Kieft, 2008; Münzer, 2012; Stulz, 2014). It is concluded that the outline is that Aptitude Treatment Interaction (ATI) is a systematic

learning methodology as an evaluation treatment as an effort to find and find appropriate treatment with different abilities (Snow, 1991; Hidayat, 2013).

Most of the rituals, teachings and practices related to Islam are carried out in Arabic (Alsharbi, 2021). The role of Arabic today as the branch of the most widely spoken language in the United Nations of the six United Nations languages is not just a religious language (Wekke, 2015; Alwehaibi, 2021). Arabic has a complex grammar between learners and non-speakers (Madi & Al-Khalifa, 2018), These two things have an impact on the development of learners (anxiety) (Nassif, 2019). Complex cases, one of which comes from Arabic syntax or grammar known as *Nahwu*, errors in attaching the right vowel at the end of each letter of each word is a substantial error because it affects the meaning of a word (Ghani et al, 2012; Mahmoud & Abo El-Hamayed, 2016).

In the old view of the *nahwu* teaching method, students are required to memorize the rules, even if they do not understand them. As a result, they do not succeed in applying them in the real world, the rules they have memorized. This happens a lot in Islamic boarding schools in Indonesia, as well as in several Arab countries. This is where the idea arose to find a solution on how to overcome this problem, of course one of the ways to overcome it is to find the best and easiest method to convey the messages of *nahwu* science to students (Mualif, 2019). Moser (2021) concludes that distance teaching is a matter of concern and instructional change due to weather, war or health crises. and this requires sophisticated learning design. The role of the teacher must be creatively explained that there is general agreement that learning to teach is a lifelong process. Therefore, in the professional development of language teachers, there must be continuity. However, there are controversial beliefs about how teachers should develop themselves in their profession (Yurtsever, 2013).

The Aptitude Treatment Interaction (ATI) approach used in learning Arabic has been done before, as was done (Hwu & Sun, 2012) about the study of the effectiveness of Aptitude Treatment Interaction (ATI) in teaching and learning grammar, other research on individual differences in learning foreign languages (language aptitude is one of the main individuals) studied by Artieda & Muñoz (2016). Regarding human cognitive development, it is related to teaching and learning activities taught to students in class (Cook, 2017). From the results of previous studies, it can be concluded that in order to achieve learning outcomes in language learning, motivation alone is not enough but requires continuity with learning techniques (Syawal et al, 2017).

The urgency regarding the importance of developing Arabic learning in cognitive achievement, the participation of accommodating differences in the abilities of participants, this study aims to find, explore and examine the identification of *Nahwu* learning by using the Aptitude Treatment Interaction (ATI) approach in the realm of learners at the university level in Indonesia.

Method

The research method used is a qualitative approach. The goal is that research activities can emphasize the observation of phenomena and explore deeper into the substance of the context under study.

Identify Subsections

The context of the research flow studied is:

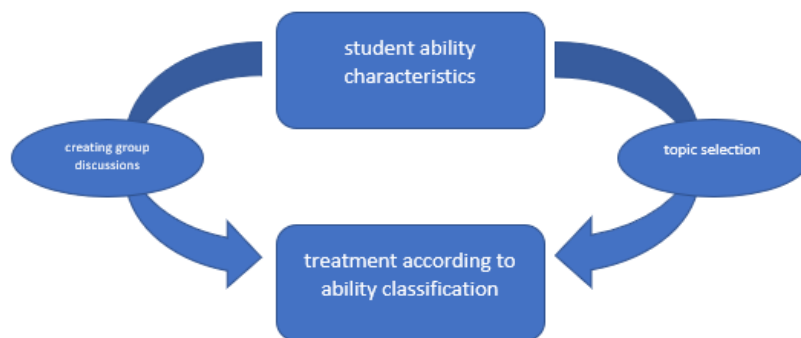


Figure 1. research framework

This research focuses on the use of the Aptitude Treatment Interaction (ATT) model by involving several continuous activities, namely student ability characteristics, this is the foundation for arranging discussion groups and distributing material, until finally the treatment can be carried out.

Participant (Subject) Characteristics

Participants in this study were students who contracted *Nahwu* courses at the Department of Arabic Language Education, Universitas Pendidikan Indonesia. The sample of the study was taken using purposive sampling, namely choosing one class as a participant, totaling 40 students.

Table 1. Demographic Characteristics of Participants

<i>Characteristics</i>	<i>N</i>
Male	12
Female	28
Experience	
Public schools	25
Madrasah	11
Others	4

Research Design

The research was conducted through several steps, including; *First*, the researcher compiled field observation indicators, in this case learning activities consisting of the selection of teaching materials, material characteristics, notes on the characteristics of students' abilities in *Nahwu* learning, learning activities in the form of group discussions, feedback from learning activities. Observations are carried out naturally, this is to reveal the state of the field as it is.

Second, the researcher conducted structured interviews with several students from various ability categories. The selection of interviews is expected to obtain honest

and candid perceptions of learning activities using the Aptitude Treatment Interaction (ATI) model.

Table 2. Demographics of interview indicators

Participant	Coding	Indicator Data
Az #1	<i>The method used by the lecturer by dividing groups of students based on ability, I think is very helpful, especially the Nahwu material is one of the subjects whose material is difficult to understand, while I am a graduate of a public school, it is very difficult. However, with the approach I'm taking, I'm not inferior either</i>	Perception of ability characteristic sharing
Isn #8	<i>Discussions with peers are mediated by lecturers, we really need this. The group leader who comes from the high ability category I think is fair. However, the lecturers are also not picky and always provide motivation.</i>	Learning treatment

Third, the researcher distributed questionnaires to the participants, this as a judgment validity from the acquisition of observation and interview data. Data processing uses descriptive statistics with the use of a Likert scale questionnaire.

Result and Discussion

The urgency of involving the social and personal characteristics of students, seeing that this narrow and normative definition of academic language has been described and linguistic competence is often not tested in research on academic language. Particularly relevant to today's study are two (often mutually reinforcing) ideologies that have a long scientific conceptualization of information from academic language: the ideology of intellectual ability and the ideology of social appropriateness (Corella, 2020).

From the explanation of the paragraph above, it becomes the basis for the application of learning methods or models that focus on the diversity of students' abilities.

Condition

1. Student Background

Students who attend lectures have diverse backgrounds, the classification of the diversity of student backgrounds is:

- a) Students from public schools who have never studied Arabic
- b) Students learn Arabic in school but in general it is not discipline-specific
- c) Students learn Arabic but cannot read the text without *syakal*
- d) Students come from schools and Islamic boarding schools who are already proficient in the discipline of syntax

2. Learning method

The content of *Nahwu's* material is quite fat and stratified, theoretically, *Nahwu's* mastery is a provision to be able to translate, read bare Arabic, and compose essays. However, this is also related to how to teach and learn so that fat and complex material content can be conveyed and understood.

Classification of learning method problems are:

- a) The learning method is too much lecture
- b) Learning time and methods are not enough to do a lot of practice diving into the text
- c) Learning methods tend to be conventional, relying on source books or books
- d) Uneven in providing learning treatment to all student abilities

Results Analysis

Pre-Treatment Ability Analysis

Participants	Score	Notes
1.	75	Understand but be fooled by the question
2.	60	Trying to practice
3.	45	Lots of confusing material
4.	50	Lots of confusing material
5.	50	Lots of confusing material
6.	50	Lots of confusing material
7.	50	Lots of confusing material
8.	50	Lots of confusing material
9.	50	Lots of confusing material
10.	50	Lots of confusing material
11.	50	Lots of confusing material
12.	50	Lots of confusing material
13.	50	Lots of confusing material
14.	50	Lots of confusing material
15.	50	Lots of confusing material
16.	50	Lots of confusing material
17.	50	Lots of confusing material
18.	50	Lots of confusing material
19.	50	Do not understand
20.	70	Difficult but doable
21.	80	Understand
22.	55	Lots of confusing material
23.	65	Lots of confusing material
24.	50	Lots of confusing material
25.	55	Lots of confusing material
26.	50	Lots of confusing material
27.	70	Lots of confusing material
28.	75	Lots of confusing material

29.	80	Have experience outside of study
30.	85	Have experience outside of study
31.	90	Have experience outside of study
32.	60	
33.	40	Do not understand
34.	20	Don't understand and only do 5 questions
35.	35	Do not understand
36.	40	Do not understand
37.	60	confusing
38.	65	Quite difficult
39.	70	Troublesome
40.	70	Troublesome

Post-Treatment Ability Analysis

Participants	Score	Notes
1.	70	Pretty fun
2.	75	Learn to understand the easy way
3.	75	Learn to understand the easy way
4.	75	Learn to understand the easy way
5.	70	Learn to understand the easy way
6.	75	Learn to understand the easy way
7.	70	Learn to understand the easy way
8.	80	Learn to understand the easy way
9.	65	Learn to understand the easy way
10.	60	Learn to understand the easy way
11.	70	Learn to understand the easy way
12.	80	Learn to understand the easy way
13.	75	Learn to understand the easy way
14.	70	Learn to understand the easy way
15.	75	Learn to understand the easy way
16.	75	Learn to understand the easy way
17.	70	Learn to understand the easy way
18.	80	Learn to understand the easy way
19.	60	Learn to understand the easy way
20.	65	Learn to understand the easy way
21.	65	Peers become teachers
22.	60	Peers become teachers
23.	60	Peers become teachers
24.	60	Peers become teachers
25.	70	Peers become teachers
26.	70	Peers become teachers
27.	70	Peers become teachers
28.	80	Peers become teachers

29.	85	Have experience outside of study
30.	85	Have experience outside of study
31.	95	Have experience outside of study
32.	70	Not inferior
33.	55	Increased learning ethos
34.	50	Increased learning ethos
35.	55	Increased learning ethos
36.	55	Increased learning ethos
37.	60	Increased learning ethos
38.	65	Increased learning ethos
39.	70	Increased learning ethos
40.	80	Increased learning ethos

Survey Results

Based on the results of survey data about the ease of learning *Nahwu* after using the Aptitude Treatment Interaction (ATI) approach, 22.7% of participants rated strongly agree, 45.5% agreed, 4.5% disagreed, and 22.7 % being neutral.

Then, the results of a survey on the attitude of lecturers who provide equal opportunities to students obtained the results of 4.5% of participants assessing strongly disagree, 13.0% in the assessment strongly agree, 77.3% gave an assessment of agree, and 4.0% be neutral.

The results of the survey on the treatment carried out by the lecturers were adjusted to the ability of each individual to obtain the results that 13.0% of participants rated strongly agree, 4.0% strongly disagreed, 31.8% gave a neutral assessment, and 4.0% disagreed.

Then, the results of a survey about the ease of recording portfolio assignments to see the progress of *Nahwu's* ability obtained results of 4.5% of participants rated strongly disagreeing, 59.1% in agreeing assessment, and 13.0% being neutral.

Then, the results of a survey on the effect of group formation for students obtained the results of 4.5% of participants assessing strongly disagree, 50.0% in the assessment strongly agree, 36.4% gave an assessment of agree, and 9.1% were neutral.

Treatment Aptitude Treatment Interaction (ATI)

1. Treatment 1

- a) ATI learning techniques in *Nahwu 2* learning, students who have high abilities are given treatment in the form of self-learning through a source book, namely *Silsilah Mustawa 4 (Li Nahwi)*.
- b) Students who have the ability are being given conventional learning.
- c) Meanwhile, groups of students who have low abilities are given treatment in the form of regular teaching and tutorials.

2. Treatment 2

- a) ATI learning techniques in *Nahwu 2* learning, students who have high abilities are given treatment in the form of self-learning through a source book, namely *Silsilah Mustawa 4 (Li Nahwi)*.
- b) Students who have the ability are being given conventional learning.
- c) Meanwhile, groups of students who have low abilities are given treatment in the form of regular teaching and tutorials.

3. Treatment 3

- a) ATI learning techniques in *Nahwu 2* learning, students who have high abilities are given treatment in the form of self-learning through a source book, namely *Silsilah Mustawa 4 (Li Nahwi)*.
- b) Students who have the ability are being given conventional learning.
- c) Meanwhile, groups of students who have low abilities are given treatment in the form of regular teaching and tutorials.

4. Treatment 4

- a) ATI learning techniques in *Nahwu 2* learning, students who have high abilities are given treatment in the form of self-learning through a source book, namely *Silsilah Mustawa 4 (Li Nahwi)*.
- b) Students who have the ability are being given conventional learning.
- c) Meanwhile, groups of students who have low abilities are given treatment in the form of regular teaching and tutorials.

Broadly speaking, the implementation is carried out by elaborating:

1. Initial treatment

Giving initial treatment to students using aptitude testing, this first treatment is intended to determine and determine the classification of student groups based on their level of ability (aptitude/ability).

2. Grouping of students

Grouping of students based on the results of aptitude testing. Students in the class are classified into three groups consisting of high, medium and low ability students.

3. Giving treatment (treatment)

Students with "high" abilities are given treatment in the form of self-learning through modules. Students who have "medium" ability are given conventional learning or regular teaching. Meanwhile, the group of students with "low" abilities were given treatment in the form of regular teaching accompanied by re-teaching and tutorials.

4. Achievement Test

At the end of each cycle, an assessment of learning achievement is carried out after being given learning treatments to students with the classifications that have been formed (high, medium and low), of course referring to the previously designed research action procedures.

Student Perception of Aptitude Treatment Interaction (ATI)

Arabic is unique in terms of text, phonemes, and vocabulary structure, which ultimately results in the need for many methods (Alsayat, & Elmitwally, 2022). The complexity of the uniqueness of the Arabic language is agreed upon by learners, although adapting the method is an important topic but is often overlooked (Yeh, 2007). As stated by the participants

“Starting from the letters (hijâiyah letters) then from scientific branches, Arabic is very rich in material, but also this becomes homework for non-speaking learners” (Az, July 2021, WhatsApp).

This also illustrates that Arabic is not only claimed as a religious language (Wekke, 2015). Departing from this, Arabic has become a matter of concern in the development of learning in the world.

Claims of difficulties related to learning *Nabwu* are a serious part of the substance of the Arabic language learning material. Various innovations were made to cover the shortcomings in this problem, one of which was the use of the Aptitude Treatment Interaction (ATI) model. Using a model with a needs analysis that in the context of non-speaking Arabic learners, different abilities of learners are found. Meanwhile, the theory explains that the quality or impact of classroom teaching cannot be assessed without reference to individual differences among students in talent or achievement (Snow, 1989). Thus, a method is needed in which groups or categories of students can be taught most effectively based on specific diagnostic patterns on weaknesses and strengths in behavior, talents and abilities (Ysseldyke, 1977). And one of the keys to the success of language teaching and learning is that content is presented according to the level of learners (Nassiri et al, 2021).

Peer Group

In a language system, learners may be at different stages (Skehan, 2006), and teachers still have to carry out assessments, because teacher assessments of students' talents and abilities are important (Kriegbaum et al, 2019). This is always a debate in second language learning (Hwu & Sun, 2012). In learning foreign languages, differences in individual abilities are basic things that need to be known, as explained that knowing individual differences in learning foreign languages (language aptitude) is one of the main things (Artieda, G., & Muñoz, 2016).

Learning conflicts often occur, one of which is based on socio-cognitive. That's why peer learning is so important, it happens that peers are more likely to understand each other's ways of thinking, challenge each other's ideas, and feel more comfortable (Lialikhova, 2019).

Making peer groups aims to group students with peer leaders who have more or superior abilities, so that peer discussions can be carried out. From these results obtained data and determination of how to teach teachers in treating students according to the development of their abilities. It is believed that the involvement of learning development is important (Markhamah, 2012).

Some participants rated this as a positive value that helped them in pursuing theoretical understanding as well as being able to discuss with their peers.

“Personally, I find it helpful to have a peer group created by the lecturer, because when there is material that I don't understand but I'm embarrassed to ask the teacher in front of the class, then with a peer group I feel free to ask” (Rz, July 2021, WhatsApp)

“I became the leader in the class peer group, at first I was surprised, but when the lecturer explained that this was processed from our pretest results, I accepted, at first I also felt heavy, but apparently the lecturer also gave special teaching for us as leaders, and now it's This is fun, because outside of class we have the opportunity and reason to have a comfortable discussion” (And, July 2021, WhatsApp).

“At first, I thought maybe I could study more skillfully with my friends. However, it turned out to be much more fun and comfortable because when they wanted to ask there was no awkwardness and the rest of the other group friends encouraged them to motivate them to always be enthusiastic” (Az, July 2021, WhatsApp).

“For me there is a challenging impression, because I don't want to lose competitiveness with other groups, this has an impact on cooperation in our group learning” (Mt, July 2021, WhatsApp)

Not much different from previous findings, namely teachers always find problems in teaching and learning English, one of which is the provision of treatment for students who get low and high ability scores (Bulukumba, 2016). This applies in teaching and learning activities of Arabic as a foreign language, giving behavior to students who get low and high grades or abilities is a special concern, then through Aptitude Treatment Interaction (ATI) a strategy of making peer groups is carried out which contains no more than 5 people.

“Tasks that are indeed considered difficult but get encouragement from group friends, because the lecturer system requires that assessments be taken from all group members, so there is motivation for myself to give my best and ultimately have an impact on myself who is increasingly willing to practice” (Is, July 2021, WhatsApp).

“Quite positive impact, but when the group does not fulfill the task on time just because of one member of the group, still the one who is punished is one group. This spurred us to know that there were group mates who didn't understand the material, we'd give them an understanding, taught or there was a little coercion to want to practice, hebe “ (Frh, July 2021, WhatsApp).

“I was one of the students who got low grades, obviously this made me insecure and pessimistic about learning. However, by making this peer group little by little eroded my self-confidence, there is motivation to always want to practice and get lots of opportunities to ask my peers in the group. And thank God, my friends in the group were very supportive and always motivated me to be confident and slowly learn so I wouldn't be left behind from other colleagues who scored much higher than me” (Rsm, July 2021, WhatsApp).

Teaching Material

Arabic is no longer claimed to be a classical language, the status of Arabic is a special concern in its teaching as well, superdivisity and non-Arabic motivational languages have been specifically implemented in the UK curriculum in the UAE (Calafato & Tang, 2019). Likewise in Indonesia, this special attention is carried out in the methods and learning models in the practice of delivering Arabic language material in this research, namely *Nahwu* being the focal point. In the practice of delivering

material, the lecturer determines different media and strategies, the differentiating focus is on the point of ability of each individual student. Aptitude Treatment Interaction (ATI) refers to the concept that teaching and learning techniques depend on individual characteristics (Hwu & Sun, 2014).

The learning materials are adjusted to the curriculum prepared by the relevant parties, namely the Ministry of Arabic Language Education. For *Nahwu*, it starts from basic, intermediate, and advanced levels. However, the situation that students come from various backgrounds such as students who have never studied Arabic, or who are weak and high in cognitive learning, this causes the need for innovative strategies by teachers to be done.

Aptitude Treatment Interaction (ATI) is used to be done in science lessons that use calculation formulas, but this time it is practiced in Arabic syntax, namely *Nahwu*. Lecturers emphasize that learning methods and models in the classroom do not focus on one activity or one pattern, but vary according to the abilities of the students in each meeting.

This applies not in the delivery of material, but also in the provision of values, rewards, or punishments for individuals or groups who are not punctual in carrying out their duties, the goal is to be disciplined and there are no differences in treatment in giving punishments and rewards for each individual.

In delivering the material, demonstrations of the results of group assignments were also carried out by each individual from the group. Another group conducts assessments and responses or questions so that there is discussion between groups in the class. Exchange ideas with their respective tasks so that each individual can enrich the mastery of the material obtained from the work or assignments of other groups. Self-assessment or response aims to apply objective values between individuals not seeing as friends or foes.

Regarding the learning process through Aptitude Treatment Interaction (ATI), several students gave various opinions, with an outline it can be concluded that the learning process through Aptitude Treatment Interaction (ATI) has a positive impact on the learning ability of each individual in the class.

“I don't like Nahwu, when asked the reason is that Nahwu's material is very complex, has many theories and involves other disciplines such as sharaf, the shape of the letters without the vowels makes it difficult. However, after the lecturer changed his approach to learning, I personally believe that Nahwu can be understood easily” (Ev, Juli 2021, WhatsApp)

“Nahwu requires a lot of practice and practice, but I myself have difficulty in the exercise, with the pattern that is done by the lecturer, I honestly find it helpful because I get many opportunities to do exercises and practice” (Rh, July 2021, WhatsApp).

Based on the findings and discussion described, it can be concluded that this research has implications for providing solutions to *Nahwu* learning problems involving the diversity of student abilities. Furthermore, the recommendation from this research is that it can be done in writing textbooks that can be used as a learning guide based on Aptitude Treatment Interaction (ATI).

Conclusion

The success of learning is seen from several aspects and elements of the learning itself, many things must be reviewed in addition to the *Nabwu* material itself, the role of the teacher is very important. the use of the Aptitude Treatment Interaction (ATI) learning model as a teaching strategy. Learning with the Aptitude Treatment Interaction (ATI) model is expected to be a solution in accommodating and developing students' *Nabwu* abilities. The findings obtained in general are obtained descriptive descriptions of learning problems in the classroom and developed as a way of doing treatment. This applies not in the delivery of material, but also in the provision of values, rewards, or punishments for individuals or groups who are not punctual in carrying out their duties, the goal is to be disciplined and there are no differences in treatment in giving punishments and rewards for each individual. This research has implications for providing solutions to *Nabwu* learning problems involving the diversity of student abilities. From the results of the treatment, it was found that students' assumptions about the use of ATI received a positive response, this was indicated by the results of the questionnaire which showed significant results so that further recommendations could be proposed for development towards the preparation of ATI-based textbooks.

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