Exploring Perceived Fits, Attitudes, and Self-Efficacy: A case of Digital Natives’ Online Learning Behavior

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Abstract. Some pre-service teachers who are studying give less effective perceptions regarding the implementation of online learning during the Pandemic period. Pre-service teachers today belong to a generation of digital natives (DNG) who are very familiar with technology and have unique characteristics, so it is very important to analyze their online learning behavior to design effective online learning. The purpose of this study was to analyze the online learning behaviors of digital natives reviewed from perceived fits, attitudes, and self-efficacy. Survey research was used to analyze the phenomenon of DNG’s online learning behavior and identify the factors that influence it. The instrument in the form of a questionnaire consists of 49 statement items on a scale of 5. Of the 152 polls collected, only 148 were valid. Quantitative and qualitative descriptive analysis was used for data analysis. The results of this study showed that all components of DNG’s online learning behavior had relatively high average scores except the interaction component through online discussion forums. The causes of low interaction through online discussion forums were DNG less active, lack of enthusiasm, easy to give up, difficult to move on, and network constraints. The conclusion of this study was an in-depth analysis related to perceived fits, attitudes, and self-efficacy producing phenomena and are variables capable of explaining the variables of DNG online learning behavior. The results of this study can be used as the basis for further research, namely related to the development of online learning models for the DNG.

1. Introduction
The covid-19 pandemic presents a major challenge for the education world, as the learning process must be done online [1]. Various problems arose during the online learning process during this pandemic [2], such as network constraints, relatively large internet quotas, and learning only the transfer of learning materials. This led to the emergence of the perception that online learning becomes relatively boring learning. Many obstacles are encountered during online learning, demanding the creativity of educators in designing their learning.

The first step in designing learning is performance analysis [3] One of its activities is to analyze the real conditions of online learning implementation and the factors that influence it. Performance analysis in this study analyzed the real conditions of student behavior in online learning and the factors that influence it. Why are student learning behaviors important to review? Students who are currently in the lecture class are classified as Digital Natives (DNG), a generation that has unique behavior, in contrast to previous generations. DNG since birth is close or familiar with technology has a unique behavior in utilizing technology to support its learning activities. However, other phenomena show that they are still struggling in the face of modern technology that surrounds them. This is supported by research suggesting that the use of technology by digital natives does not conform to its stereotype. Therefore,
the behavior of this generation needs to be reviewed more deeply, especially their behavior in following online learning for the content and learning methods to be designed according to their characteristics.

Online learning behavior is a frequency of participation and interaction in three dimensions, namely peer engagement, LMS interaction, and instructors’ interaction. An in-depth review of digital natives’ behavior during online learning in this study refers to the Theory of Planned Behavior (TPB) [9] which focuses mainly examines individual intentions as a motivating factor that influences behavior. Three factors that can predict an individual’s intentions in conducting certain behaviors, namely attitudes (individual evaluation of certain behaviors), subjective norms (perceptions of social pressure to perform certain behaviors), and perceived behavioral control (perception of control concerning certain behaviors). This study integrating perception of social pressure into perceived fits variables and control perceptions into self-efficacy variables.

Perceived fits are related to utility terms, usability, and likeability [10]. Perceived fits refer to The Technology Acceptance Model (TAM) consisting of three dimensions, namely perceived ease of use (PEU), perceived usefulness (PU), perceived playfulness (PP) [11]. TAM theoretical framework that examines the relationship between PEU, PU, PP, attitudes (AT), and actual behavioral performance. Perceived fits will affect a person's attitude to using technology. Attitudes will increase and eventually affect actual behavioral performance when users have positive and subjective ideas in the use of social network sites, users believe that it is easy to use social network sites, and when users of social network sites feel more concentrated, have curiosity and enjoyment. Besides, students’ attitudes are very influential in learning behavior. Students who have a positive attitude will succeed in their learning and self-efficacy. Self-efficacy (SE) is concerned with people's beliefs in their ability to motivate themselves and their perseverance in the face of difficulties and adversity that affect their lives. Strong self-efficacy is shown to be the assumption that difficult tasks are challenges, setting strong goals and commitments, concentrating on success, quickly restoring the sense of efficacy if they fail in the task, as well as not easy stress and depression [15].

The results of interviews with some pre-service teachers of Universitas Sebelas Maret, online learning during the pandemic period felt boring because most lectures use the WhatsApp group as a learning medium. Besides, the number of assignments given by lecturers makes students feel depressed, especially for students whose parents' economic condition is affected by the pandemic. Based on the preliminary study results, we then conducted an empirical survey of DNG’s online learning behavior. The purpose of this study is to analyze the digital natives’ online learning behavior reviewed from perceived fits, attitudes, and self-efficacy during online learning in times of pandemic.

2. Methodology
Survey research was used to examine the meaning and context of digital natives' online learning behavior and processes that occur in the pattern of the interconnectedness of various factors as well as related measurement and numerical problems. Participants in this study were a generation of digital natives, namely students of the Faculty of Teacher And Educational Sciences of Universitas Sebelas Maret who are 20-21 years old. Data was collected through online surveys using a google form, 152 data collected but only 148 were valid.

Instruments in the form of questionnaires designed using 5 Likert scales, consisting of 49 statements divided into 6 sections, namely part (1) analyzing perceived fit reviewed from perceived usefulness (PU), section (2) analyzing perceived fit reviewed from perceived playfulness (PP), section (4) related to analyzing attitudes (AT) students in using internet/learning platform, section (5) analyzes students' self-efficacy (SE) in online learning and section (6) analyzes online learning behavior (OLB) related to social interaction, academic interaction, LMS interaction, lecturer interaction.

The data were analyzed using the quantitative descriptive analysis to describe the current phenomenon of digital natives’ online learning behavior and qualitative descriptive analysis to describe the meaning, context, and processes that occur in the pattern of the interconnectedness of various factors.
3. Result and Discussion

3.1. Digital Natives’ Online Learning Behavior

The digital native's generation is a generation very close to technology, so their daily activities are inseparable from the utilization of technology, especially in online learning. The results of this study show that all components of the online learning behavior of the digital native's generation have relatively high average scores except lecturer interaction. The average social interaction score was 20.68 out of 25, academic interaction was 23.32 out of 30, LMS interaction was 23.37 out of 30, and lecturer interaction was 15.78 out of 25.

Table 1. Average Digital Natives' Online Learning Behavior Components

| Indicators     | Statement Item                                                                 | Mean |
|----------------|-------------------------------------------------------------------------------|------|
| Social Interaction | Initiation of social interactions with classmates online | 3.96 |
|                | Respect for other students when interacting                                    | 4.70 |
|                | Develop friendships with classmates online                                     | 4.29 |
|                | Apply different social interaction skills depending on the social situation online | 3.98 |
|                | Pay attention to the social actions of other students                          | 3.74 |
| Academic Interaction | Actively participate in online discussions                                    | 3.59 |
|                | Communicate effectively with classmates                                       | 3.96 |
|                | Express opinions to classmates politely                                        | 4.25 |
|                | Respond to quick classmates online                                            | 3.71 |
|                | Provide help to classmates when help is needed online                         | 4.03 |
|                | Ask classmates for help when help is needed online                            | 3.78 |
| LMS Interaction | Download learning materials                                                    | 4.63 |
|                | Post a new message in the discussion forum                                     | 3.31 |
|                | Reply to another student's message in a discussion forum                       | 3.37 |
|                | Submit tasks in an internet-based learning platform                            | 4.62 |
|                | Open files in a cloud-based learning platform                                  | 4.35 |
|                | Send an email to a friend/lecturer with or without an attachment file           | 3.09 |
| Lecturer Interaction | Ask lecturers clearly online                                                  | 3.08 |
|                | Misinform the lecturer when unforeseen situations arise at the right time online | 3.26 |
|                | Initiation of discussions with lecturers online                                | 2.85 |
|                | Express opinions to lecturers politely online                                  | 3.55 |
|                | Ask lecturers for help when needed online                                      | 3.03 |

Table 1. shows that the scores of digital generation natives in adapting to various technologies are relatively high, but their scores when interacting through online discussion forums are relatively low. This indicates the activeness of the digital native's generation in online discussion forums is relatively low. Based on observations also showing the same phenomenon, almost all online learning is done using video conferences and few students interact with lecturers during learning. This is due to time constraints and network constraints when students want to ask questions or express their opinions. Students from the suburbs had difficulty following online learning during the pandemic. Students are often in and out of forums, and intermittent voices due to unstable internet connections make them rarely interact with
lecturers while online learning takes place. Therefore it is very important to create a learning space that can minimize these obstacles. Lecturer Interaction

3.2. Exploring Perceived Fits, Attitudes, and Self-Efficacy

3.2.1. Perceived Fits. PU’s average score is 14.40 out of 20 (see table 2), this indicates that in online learning, DNG has not made the most of the internet/online learning platform. The table also shows that only 55.4% or 82 of the 148 DNG scores are above average, they have a perception that the use of internet/internet-based platforms (1) can increase their competence, (2) useful in lectures, (3) helps to complete learning effectively, (4) easier in carrying out the tasks provided by lecturers, while 44.6% of DNG has the perception that internet use/online learning platforms do not provide much benefit, arguing that most lecturers in online learning use video conferences. Learning using this video conference makes some students who are network constrained, less feel the benefits of online learning because they can't follow well and often miss the material.

Table 2. Average of Perceived fits, Attitudes and Self-Efficacy

| Components | Average | Maximal Score | Percentage of DNG With Score Above Average |
|------------|---------|---------------|------------------------------------------|
| PU         | 14.70   | 20            | 55.40                                    |
| PEU        | 22.95   | 30            | 57.43                                    |
| PP         | 6.68    | 10            | 54.05                                    |
| AT         | 24.83   | 35            | 56.76                                    |
| SE         | 31.74   | 40            | 56.08                                    |

PEU’s average score is 22.95 out of 30, it shows in online learning, DNG has no difficulty in using internet/online learning platforms. The digital natives should play an active role in the use of technology in the class [17], however, based on this study, only 57.43% or 85 of the 148 DNG scores are above average, their perception is (1) learned by using the internet/online learning platform relatively easily, (2) easy to use the internet/online learning platform to do what it wants, (3) skilled in using the internet/online learning platform, while 42.57% DNG still has to improve its skills in using the ever-evolving online learning platform.

Table 2. also provides information that PP’s average score is 6.68 out of 10, the average of these scores shows that DNG is less than happy with today's online learning platforms, also, there are only 54.05% or 80 of the 148 DNG whose scores are above average, their perception among them (1) can enjoy the use of internet/platform in online learning, (2) the use of internet/platform in online learning is fun, while 45.95% of DNG feel less interested in online learning implemented today, as most lecturers use expensive platforms. For students of platforms such as zoom, meet and other video conferences require a very large quota, especially during learning there is often a network interruption, sometimes students can not participate in lectures because they can not join in the learning. The results of the analysis of PU, PEU, and PP show that some DNG consider online learning today to be less effective and less enjoyable, so they are less active in online discussion forums. The perceived value of playfulness, ease of use, and usefulness are linked to task-technology fit [18], therefore, if the technology used in learning does not conform to the characteristics of DNG then it will affect their behavior in online learning so that it cannot achieve the competency it wants.

3.2.2. Attitudes. AT’s average score is 24.83 out of 35, this indicates that online learning today, has not been able to foster the motivation of DNG online learning. The table also showed that only 56.76% or 84 of the 148 DNG scores were above average, they stated that with online learning (1) being able to learn better, (2) making learning more interesting, (3) more motivated to learn, (4) more independent
while 43.24% of DNG stated that internet use/online learning platforms today tend to be boring so are lazy to participate in online learning activities. Analysis results of AT during online learning in part DNG show less enthusiastic behavior, whereas AT will affect actual behavioral performance when users think positively, are skilled, and have curiosity in the use of social network sites [19,20,21].

3.2.3. Self-Efficacy. SE’s average score is 31.74 out of 40, this indicates that some students have not been able to motivate themselves when faced with difficult tasks and have failed in completing tasks. The table also showed that only 56.08% or 83 of the 148 DNG scored above average, they stated that internet use/internet-based platforms (1) were able to complete lectures using the internet with good value, (2) understand complex concepts, (3) facing new learning challenges, (4) completing all the needs of online activities, (5) making plans to complete lecture tasks, (6) following my learning style to meet the expectations of lectures, while 43.92% DNG is less quick to recover the sense of efficacy if it fails in the task and easily gives up. SE is a key component of online learning success [22], but based on analysis of SE during online learning, some DNG shows easy behavior to give up when faced with difficult tasks and difficult to move on when experiencing failure. This indicates that online learning during this pandemic period has not met the needs of DNG.

4. Conclusion
All components of the online learning behavior of the digital native's generation have relatively high average scores except the interaction component through online discussion forums, showing relatively low scores compared to other components. An in-depth analysis of variables related to online learning behaviors (perceived fits, attitudes, and self-efficacy), is used to identify the causes of low interaction through online forums. These include some DNG considering online learning today to be less effective and less enjoyable, so they are less active in online discussion forums; exhibit less enthusiastic behavior; easily give in when faced with difficult tasks and difficult to move on when experiencing failures and network problems causing them to be unable to follow the course of discussion well. Thus it can be concluded that perceived fits, attitudes, and self-efficacy are variables that can explain the variables of DNG's online learning behavior. The results of this study can be used as the basis for further research, namely related to the development of online learning models for the digital native's generation.

5. Limitation and Study Forward
The limitation of this study is that it uses only quantitative descriptive and qualitative descriptive analysis so that the results of this study cannot be generalized. Therefore, future research is expected to empirically test those variables and add other variables related to the behavior of digital natives online learning to obtain in-depth and extensive information.

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7. Author’s Contribution
The first and second authors contributed to the presentation of ideas, developed the research framework, data collection, and data analysis. The third and fourth authors contribute to the verification of the analysis methods and findings of this study. All authors contributed to the discussion and final manuscript.

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