GREEK UNIVERSITY STUDENTS' PREFERRED LEARNING STYLES IN THE CONTEXT OF DISTANCE EDUCATION

G. Aretoulis[1], E. Aretouli[2], P. Digkoglou[3], D. Manou[1], J. Papathanasiou[3], G. Tsaples[3]

[1]Aristotle University of Thessaloniki (GREECE)
[2]University of Ioannina (GREECE)
[3]University of Macedonia (GREECE)

Abstract

Nowadays the educational process is being redefined and reorganized in order to adapt to the new environment. It should be mentioned that a pivotal moment was the COVID 19 pandemic. It was then that the urgent need for distance education programs was realized. It is true to mention that distance education must be able to reach remote areas. This should be realized without extreme costs for new infrastructure. Within the context of the online class, available electronic communication systems replace the face-to-face classroom. Distance education provides the capability to improve interactive classrooms which in turn strengthen learning communities. The critical quality reviewers of such distance education programs are the students. It is imperative to organize a system that provides satisfaction to the end user, in this case the student. The current study has as a goal to firstly present a number of learning styles and then define the ones that appear to be preferable by Greek students. In addition, the study associates students' profile with their learning preferences and the ones of their fellow students. Research focused on Greek university students and has taken place during 2023. The main tool of the study is a structured questionnaire survey along with interviews. Students from Greek universities participated in the research and 311 responses were collected. The answers were appropriately processed into categorical data. The number of questions that the survey participants answered was equal to 124. The survey was based on google forms and the language of the survey was Greek. The questionnaire survey and interviews collected a plethora of data ranging from participants' profile to distance education experience, learning preferences, and the students' personality characteristics. A corresponding database was created in SPSS 29, including 124 variables (columns) and 311 responses (lines). A following descriptive statistics analysis has taken place and in addition a correlation analysis. The analyses succeeded in identifying the dominant learning preferences as stated by the Greek university students and also recorded what students prefer in their fellow students regarding learning preferences. Moreover, research discovered correlations among students' profiles and learning preferences. Highlights of the current study include the fact that students better discern the material through watching a demonstrative presentation of the information. Moreover, the study identified as one of the most decisive factors in learning, participation within the educational process. In this context, survey participants mention that they can better conceive the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real). The research discovered that students prefer to decide what to do and how to do it rather than to be told. It is also worth mentioning that undergraduate students don't have preference for tasks, projects, and situations that allow creation of a hierarchy of goals to fulfil. They tend to avoid making lists of tasks. Finally, the current study explains how the profile of the students associates with their stated learning preferences.

Keywords: Distance Education, Students Characteristics, Students' learning Preferences, Questionnaire Survey.

1 INTRODUCTION

In the current paper the focus is on the the learning style preferences. Literature identifies a number of learning styles which are usually being understood through a number of statements. Firstly, Arbabisarjou et al. have defined four basic learning styles. These are "VARK" Learning Styles, namely Kinesthetic, Auditory, Read/Write, Visual and Multiple styles [1]:

- **Visual style**: I can better discern the material through watching a demonstrative presentation of the information.

- **Auditory style**: I can understand the material better through listening and oral teaching methods.
- **Reading-writing style**: I can better learn the teaching materials through taking notes and reading the written contexts and texts.
- **Kinesthetic sensory-movement styles**: I can better conceive the instructional material through performing the practical, experimental and object manipulation via something more of a physical process. The perceptual preference related to the use of experience and practice (simulated or real).

In addition, there are three functions of government in the theory: legislative, executive, and judicial. These functions are presented and clarified within the following statements [2]:

- ***Legislative:*** *I have preference for tasks, projects, and situations that require creation, formulation, planning of ideas, strategies. I like to decide what to do and how to do it, rather than to be told.*
- ***Executive****: I have preference for tasks, projects, and situations that provide structure, procedures, or rules to work with, and can serve as guidelines to measure progress. I often prefers to be told what to do, and I will then give it my best shot at doing it well.*
- ***Judicial:*** *I have preference for tasks, projects, and situations that require evaluation, analysis, comparison–contrast, and judgment of existing ideas, strategies, projects. I tend to like evaluative essays, commenting on other people's ideas, and assessing others' strengths and weaknesses.*

The following different forms of mental self-government provide an additional description of the students. In this context, there are four different forms of mental self-government in the theory, that include monarchic, hierarchic, oligarchic, and anarchic. The following statements describe the forms of mental self-government [2]

- ***Monarchic****: I have preference for tasks, projects, and situations that allow focusing fully on one thing or aspect at a time, and staying with that thing until it is complete.*
- ***Hierarchic****: I have preference for tasks, projects, and situations that allow creation of a hierarchy of goals to fulfill. I will often make lists, and sometimes even lists of lists.*
- ***Oligarchic:*** *I have preference for tasks, projects, and situations that allow working with competing approaches, with multiple aspects or goals that are equally important. I like to do multiple things within a given time frame, but I have trouble setting priorities. I adapt well if the competing demands are of roughly equal importance, but I have more trouble if the things are of different importance.*
- ***Anarchic:*** *I have preference for tasks, projects, and situations that lend themselves to great flexibility of approaches, and to trying anything when, where, and how I please. I tend to be asystematic or even antisystematic.*

Then a number of statements where included that describe different levels of mental self-government as a student. There are two levels of mental self-government: local and global. These are described in the following [2]:

- ***Local:*** *I have preference for tasks, projects, and situations that require engagement with specific, concrete details. I tend to enjoy tasks that require to keep track of details and to focus on concrete specifics of a situation*
- ***Global:*** *I have a preference for tasks, projects, and situations that require engagement with large, global, abstract ideas. I like to deal with big ideas, but sometimes I can lose touch with the details.*

The following statements describe different levels of mental self-government as a student. There are two scopes of mental self-government: internal and external

- ***Internal.*** *I have a preference for tasks, projects, and situations that allow me to work independently of others*
- ***External.*** *I have a preference for tasks, projects, and situations that require activities that allow working with others in a group or interacting with others at different stages of progress. I do not enjoy working alone.*

How much do the following statements describe yourself as a student: There are two leanings of mental self-government: liberal and conservative

- ***Liberal.*** *I have a preference for tasks, projects, and situations that involve unfamiliarity, going beyond existing rules or procedures, and maximization of change. I like new challenges and I thrive on ambiguity.*
- ***Conservative.*** *I have a preference for tasks, projects, and situations that require adherence to and observance of existing rules and procedures. I like to minimize change and avoid ambiguity.*

Learning Style is considered as "…the set of cognitive, emotional, characteristic and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment [3]. Therefore, knowing your Learning Style and matching it with the correct teaching strategies can result in more effective learning and greater academic achievement [3]. In this context, several studies have identified students' attributes that contribute to the learning experience. It is true that the individual learners' personality improves the expertise / skill through self-learning [4]. Furthermore, student characteristics according to Bağrıacık Yılmaz and Karataş include: Personality structure, Study habits, Age, Self-suitability, Academic background, Un/consciousness [5].The current paper is presenting in the next section its methodology. Following that, are the findings and results of the study. Finally, conclusions, limitations, further research and proposals are presented.

2 METHODOLOGY

The current study focuses on highlighting a number of learning styles and then defining the ones that are adopted by Greek students. A questionnaire survey has taken place during the last year (2023) to collect data regarding students and distance education in Greek Universities. Responses were collected through a structured questionnaire survey and interviews. The sample of the Greek University Students is equal to 311 responses. Responses were organized in an SPSS database. Data were classified either as quantitative or qualitative data. The number of questions that the Greek students responded to was equal to 124.

The survey was disseminated mainly through email. Interviews have also taken place. The language of the survey was Greek. The questionnaire survey collected a plethora of data regarding distance learning experience, learning styles and preferences, learning styles of fellow students, preferred instructors and the participants' personality characteristics based on the big five personality traits and facets. The structured questionnaire includes 124 questions, as mentioned earlier and also includes a number of discrete parts:

- Students' Profile (attributes and characteristics)
- Students' Distance Education Experience
- Students' Preferred Learning Styles
- Fellow Students' Preferred Learning Styles
- Preferred teaching style of Instructors
- Students' Personality Characteristics based on big five personality traits and facets

The questionnaire survey in the current study included a number of statements, where the students were called to suggest how much those statements described their preferred learning styles and how they describe themselves as students.

All the collected data were recorded and an SPSS Database was created. Corresponding variables were introduced for the data to be incorporated in the SPSS database. The sample of the Greek University Students is equal to 311. Considering the students who participated in the research survey the following data is true for the research sample. From the total 311 Greek students who participated in the current research survey 31,8% were female and 67,5% were male, while 0,6 didn't wish to answer. The following figure 1 is presenting these data:

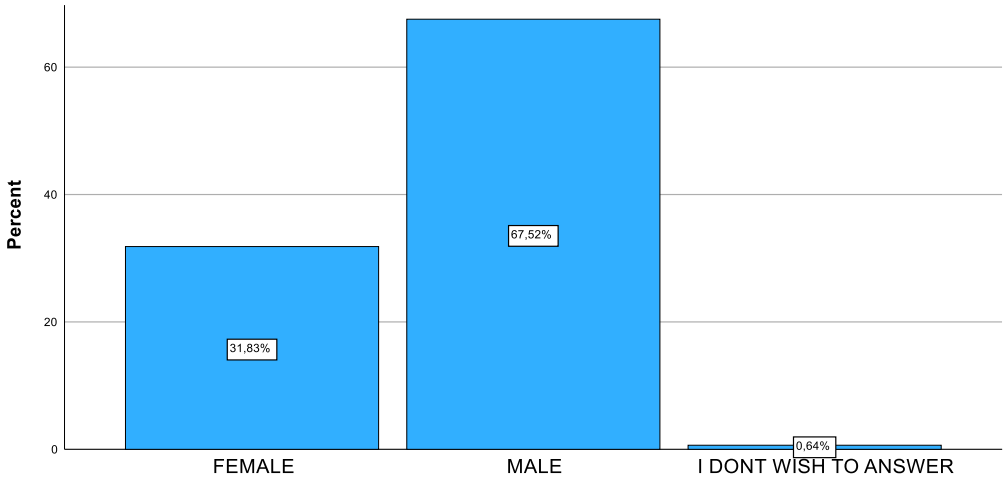

Figure 1. Gender of the Participating Students

The average age of the participants is 31 years old. From the total sample of 311 students, 33,8% are married, 65,6% are single and 0,6% preferred not to respond to the question. As far as the participants' family profile is concerned the following Table 1 presents the number of children:

Table 1. Number of Children

Number of Children	Number of Responses	Percentage %
0	216	69,5%
1	28	9,0%
2	46	14,8%
3	18	5,8%
5	1	0,3%
6	1	0,3%
Missing System	1	0,3%

Regarding the level of education of the respondents the following are recorded:

- Participants doing Post Doctoral Studies: 1,3%
- Participants doing their PhD: 1,3%
- Participants doing Master of Science: 37,3%
- Undergraduate Students: 58,5%
- Lack of responses: 1,6%

As far as the occupational status is concerned the following are stated in the following Table 2:

Table 2. Occupational Status of Participants

Occupational Status of Participants	Number of Responses	Percentage %
Student	137	44,1%
Unemployed	5	1,6%
Employed in Private Sector	66	21,2%
Employed In Public Sector	103	33,1%

The participants' monthly income is presented in the following figure 2:

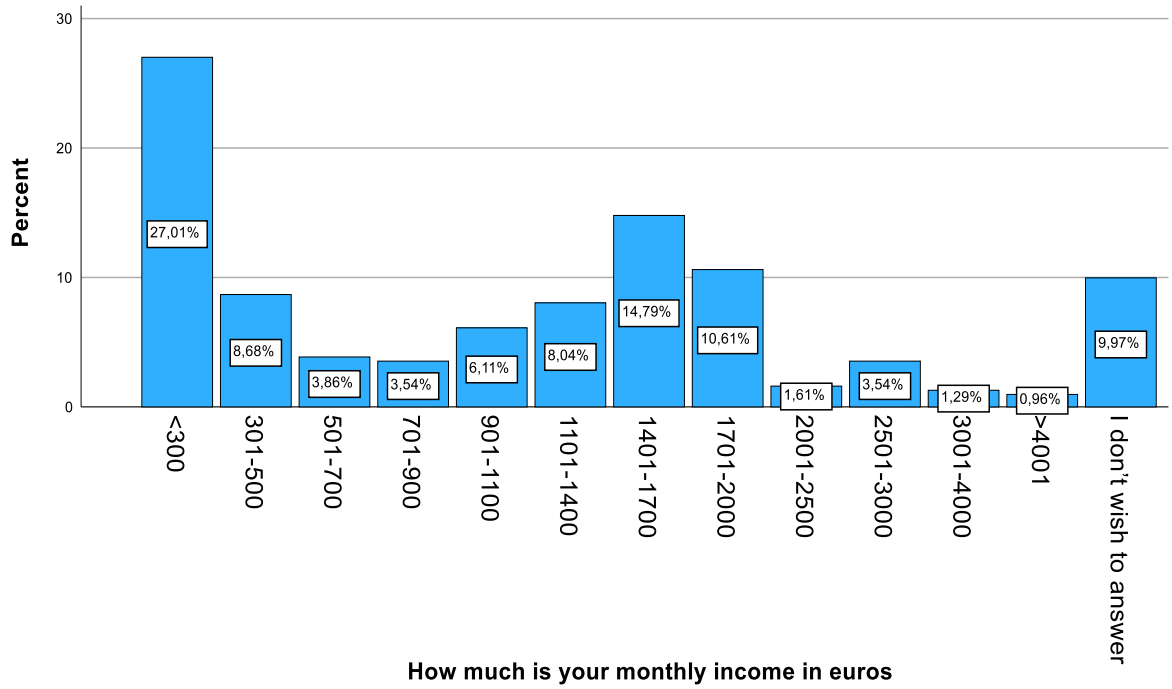

Figure 2. Participants' Monthly Income

Regarding the organization type of the university, 94,9% of the students study at state government university and just 0,6% study at private colleges. Only 13,5% have attended courses in a foreign university being physically present abroad. Finally, the majority of the participants stated that the level of computer expertise is among average and good with a percentage reaching 70,7%.

3 RESULTS

The questionnaire survey managed to identify the preferred learning styles of the students. Research participants presented their views, on the efficiency of distance learning, as a method of education. Figure 3, highlights the opinions on the specific matter:

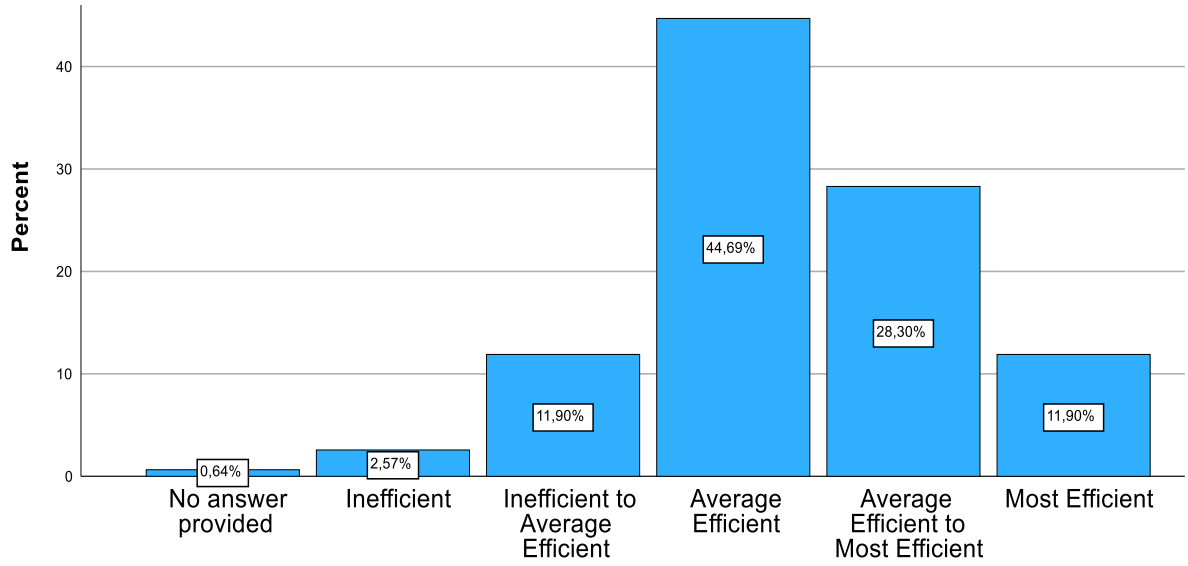

Figure 3. Efficiency of Distance Learning as an Educational Method

It seems that participants feel that distance learning has the potential to promote knowledge and education. It is very interesting to note that 72,7% prefer face to face education while only 26,4% prefer distance education. During online courses 79,1% keep their camera off and 78,5% prefer courses with smaller than 30 students.

According to the questionnaire survey and the descriptive analysis the study highlighted the following responses that received the greatest percentages and correspond to the above-mentioned teaching preferences. The findings are presented in the following Table 3:

Table 3. Major Responses per Learning Style

Learning Style	**Preferred Response**	**Greater Percentage**
I can better discern the material through watching a demonstrative presentation of the information **(Visual Style)**	Very	38,3%
I can understand the material better through listening and oral teaching methods **(Auditory Style)**	Very	31,5%
I can better learn the teaching materials through taking notes and reading the written contexts and texts **(Reading-writing style)**	Very	35,4%
I can better conceive the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real) (**Kinesthetic sensory-movement styles**)	**Completely**	**51,1%**
I have preference for tasks, projects, and situations that require creation, formulation, planning of ideas, strategies. I like to decide what to do and how to do it, rather than to be told **(Legislative)**	**Completely**	**30,2%**
I have preference for tasks, projects, and situations that provide structure, procedures, or rules to work with, and can serve as guidelines to measure progress. I often prefer to be told what to do, and I will then give it my best shot at doing it well **(Executive)**	Very	35,7%

Table 3. Major Responses per Learning Style (continued)

Learning Style and Characterization	Preferred Response	Greater Percentage
I have preference for tasks, projects, and situations that require evaluation, analysis, comparison–contrast, and judgment of existing ideas, strategies and projects. I tend to like evaluative essays, commenting on other people's ideas, and assessing others' strengths and weaknesses **(Judicial)**	Moderately	34,4
I have preference for tasks, projects, and situations that allow focusing fully on one thing or aspect at a time, and staying with that thing until it is complete (**Monarchic**)	Very	34,1%
I have preference for tasks, projects, and situations that allow creation of a hierarchy of goals to fulfill. I will often make lists, and sometimes even lists of lists **(Hierarchic)**	Moderately	29,9%
I have preference for tasks, projects, and situations that allow working with competing approaches, with multiple aspects or goals that are equally important **(Oligarchic)**	Moderately	35,4%
I have preference for tasks, projects, and situations that lend themselves to great flexibility of approaches, and to trying anything when, where, and how I please (work asystematic or even antisystematic) **(Anarchic)**	Moderately	35,4%
I have preference for tasks, projects, and situations that require engagement with specific, concrete details. I tend to enjoy tasks that require to keep track of details and to focus on concrete specifics of a situation **(Local)**	Moderately	35,7%
I prefer tasks, projects, and situations that require engagement with large, global, abstract ideas. I like to deal with big ideas, but sometimes I can lose touch with the details **(Global)**	Moderately	33,4%
I have a preference for tasks, projects, and situations that allow me to work independently of others **(Internal)**	Moderately	29,3%
I have a preference for tasks, projects, and situations that allow working with others in a group or interacting with others at different stages of progress. I do not enjoy working alone **(External)**	Moderately	33,4%
I have a preference for tasks, projects, and situations that involve unfamiliarity, going beyond existing rules or procedures, and maximization of change. I like new challenges and I thrive on ambiguity **(Liberal)**	Moderately	30,9%
I have a preference for tasks, projects, and situations that require adherence to and observance of existing rules and procedures. I like to minimize change and avoid ambiguity **(Conservative)**	Moderately	34,7%

4 CONCLUSIONS

Distant learning has revolutionized the current educational environment. Critical participants are the students. The goal is to make learning and education in general, efficient, inclusive and available for everyone without limitations of time, place, etc. The current research focuses on the learning preferences of students and tries to identify the best approaches to deliver knowledge. In this context, Seventeen learning styles were presented to a corresponding structured questionnaire to instructors with sufficient experience. The most preferred learning styles could be summarized in the following statements:

- *I can better conceive the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real).*
- I have preference for tasks, projects, and situations that require creation, formulation, planning of ideas, strategies. I like to decide what to do and how to do it, rather than to be told.

In other words, the two preferred learning styles, could also be stated as follows:

- **Kinesthetic sensory-movement styles**
- **Legislative**

The above-mentioned learning styles are the ones receiving most of the attention of the students.

The learning styles that follow in the preference of students include the following:

- *I can better discern the material through watching a demonstrative presentation of the information (Visual Style)*
- *I can understand the material better through listening and oral teaching methods (Auditory Style)*
- *I can better learn the teaching materials through taking notes and reading the written contexts and texts (Reading-writing style)*
- *I have preference for tasks, projects, and situations that provide structure, procedures, or rules to work with, and can serve as guidelines to measure progress. I often prefer to be told what to do, and I will then give it my best shot at doing it well (Executive)*
- *I have preference for tasks, projects, and situations that allow focusing fully on one thing or aspect at a time, and staying with that thing until it is complete (Monarchic)*

The teaching style "*I can better conceive the instructional material through performing the practical, experimental and object manipulation via something more of a physical process (simulated or real) (**Kinesthetic sensory-movement styles**)*" is the one receiving the most impressive response (Completely) along with an amazing percentage of 51,1%.

It seems that students like to participate actively in the subject taught and at the same time enjoy to have the initiative and the in the educational process. In the current paper, thirteen specific teaching styles were presented to students. The responses collected were equal to 311. The questionnaire survey has taken place during the period from May 2023 to November 2023. Responses mainly originated from university students. Regarding future research, additional learning styles could be considered, and the sample of responses could also increase. At the moment, the questionnaire survey is still ongoing and collecting responses. Data which is collected and processed could enable the more efficient organization of online courses. Knowing the students' preferred learning styles could help create better online classes that promote cooperation among students. Furthermore, based on the learning preferences of the students, it is possible to better organize the educational material and assign the most appropriate instructors. This approach could be adopted by all levels of education to facilitate learning and knowledge.

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