



Learning Styles And Academic Adjustment As Predictors Of Academic Achievement And Self-Efficacy Among Nursing Students

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Abstract: Background: Differences in academic achievement among students are mostly due to different learning styles and academic adaptation, in turn, affecting the student's self-efficacy. **Objectives:** this study aimed to assess learning styles and academic adjustment as predictors of academic achievement and self-efficacy among nursing students. **Design:** A descriptive correlational research design was utilized. **Setting:** The study was carried out at faculty of nursing, Menoufia University, Egypt. **Participants:** A proportional allocation sample of 30% from the second, third, and fourth nursing students. **Methods:** data was collected using learning styles Questionnaire to measure the attitudes and styles of learning among university students, Academic Adjustment Questionnaire to assess the student's adjustment to the academic demands of the university experience and Academic, and Self-Efficacy Scale to measure student confidence levels. **Results:** The most preferable learning styles among nursing students were deep and strategic style. The highest percentage had academic adjustment thus they were good organized to academic demands of the university experience. Moreover, students had highly level of academic self-efficacy. Finally, learning style and academic adjustment had a statistically significant positive correlation with academic achievement and self-efficacy among nursing students. **Conclusion;** Learning styles and academic adjustment considered as predictors of academic achievement and self-efficacy among nursing students. **Recommendation:** Create a comfortable environment in which students can adapt academically, and spend more time participating and collaborating with teachers and colleagues that may facilitate learning, thereby enhancing students' academic achievement.

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Key words: Academic achievement, Academic Adjustment, Learning styles and Nursing Students

Introduction

Students entering universities have a new set of experiences, linked to learning, exploring new roles and interacting with peers and academics. All of them adapting to new environments and introducing self again in all stages of education. Improving teaching and teaching processes was a key issue in higher education ⁽¹⁾.

Learning is a complicated process affected by many factors related with the learning atmosphere and the learner. Learning styles is the most important factors that improve the learning outcomes of all learners. Through "Learning style" the individual arranges the experience and maintains information, and it is an indicator of how a learner perceives new information and reacts to the learning environment ⁽²⁾.

Learning style is a habitual and unique behavior to acquire knowledge, skills, and feedback through study or experience; and it is the most efficient and

effective learning method for every learner ^(3 & 4). Students learning styles are important for instructors, because every learning style needs different educational materials. When students' learning styles and teacher teaching methods are affiliated, this improves undergraduate students' understanding of the course content ⁽⁵⁾.

Learning style classified into deep, strategic and surface approaches. In deep approach attitude towards learning has the ability of the student to search for meaning. The learner generally focuses on the concepts needed to solve the problem. Deep learning approach helps the individual to make a connection between new and previous knowledge, which enables the learners to link course content to real life ⁽⁶⁾.

Additionally, through the deep approach, students actively associate their thoughts with learning

principles, use evidence, examine its logic, and continue to monitor level of understanding. In the strategic approach, the aim of students was to achieve the highest learning level. This includes good time management and more organized in their study. In surface approach, Students' learning is limited to routine memorization because their goal is only to complete the task ⁽⁶⁾. Surface approach, classifies the learner's ability to rely on rote learning. Students usually focus on external signs and the formula needed to solve a problem, as they receive information negatively ⁽⁷⁾.

Academic adjustment means that the positive response of students to the influential pressure of academic needs ⁽⁸⁾. Academic adjustment contains four dimension called Academic Adjustment Which measures the ability of the novice student to meet the educational pressures of the university's experience; Social Adjustment which measures how well students contract with personal experiences at the university; Personal-Emotional Adjustment Which determines whether the student has psychological symptoms of suffering; An institutional link that measures a student's commitment to the university as an institution. ⁽⁹⁾

A student's learning style preference refers to the way students respond to impetuses in a learning environment, and to characteristics way of obtaining and using information. Each student has their own learning styles that may influence academic achievement ⁽¹⁰⁾. Appreciation of variables affecting academic achievement results in better prediction of such variables. Recognition of academic achievement-predicting variables prevents the outcomes of failure in learning and promotes a pleasant learning environment; it can also assist with attaining correct styles and relying on the application of preferences ⁽¹¹⁾.

Self-efficacy is the key constituent for behaving independently in the nursing profession. Self-efficacy is vital to nurses' ability and performance in the clinical setting; nurses with high self-efficacy set proper goals, try different approaches, persevere to complete a task, and will make an easier transition from student to nursing professional ⁽¹²⁾. Self-efficacy considered as the belief in one's abilities to accomplish a goal or positive results. It affects the choices made; it helps persons to decide how much effort will utilize on a task, how long they will continue when facing problems, and how flexible they will emerge in harmful situations ⁽¹³⁾. It is considered a critical factor in accounting for academic aspirations and academic achievement ⁽¹⁴⁾.

Significant of the study

Because the main issue in education is learning and Education is meaningful when associated with learning in learners. Self-directed learning in

education is very important, because learners who are active in learning more things to learn and academic self-efficacy and Achievement Motivation have An important role in learning, for this reason, in this study the relationship between variables was investigated

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Aim of the study

To assess learning styles and academic adjustment as predictors of academic achievement and self-Efficacy among nursing students.

Research Questions

1. What learning styles are preferred among nursing Students?
2. What are levels of academic adjustment among nursing Students?
3. What is degree of academic self-efficacy among nursing students?
4. Are learning styles and academic adjustment considered as predictors of academic achievement and Self-Efficacy among nursing students?

Subjects and methods

Research design

A descriptive correlational research design was utilized.

Setting

The study was carried out at faculty of nursing, Menoufia University, Egypt.

Subjects

A proportional allocation sample of 30% from the second, third, and fourth nursing students enrolled in the above-mentioned setting in the academic year 2017-2018 were included in the study. First year nursing students were excluded because at the time of collected data from first year students did not had

grade point average (GPA) during the first semester, 123 were in second year, 135 were in third year and 125 were in fourth year thus the sample size were (383 student) selected randomly from three years.

Data collection tools: Three tools were used:

Tool I: learning styles Questionnaire: This questionnaire consists of two parts;

Part I: It related to socio demographic characteristics comprised of age, sex, residence, GPA at the previous semester and academic year of the students.

Part II: learning styles Questionnaire was prepared by **Entwistle & Tait (1994)**⁽¹⁵⁾ and modified by the researchers. It consists of (30) questions to measure the attitudes and styles of learning among university students. It contains three sub scales: Deep style (10 items), Surface style (10 items), and Strategic style (10 items).

Scoring system: The participants were asked to indicate their agreement or disagreement with the questionnaire statements by using 5-point Liker scale degrees, starting from (5) strongly agree and ending with (1) strongly disagree⁽¹⁶⁾. Summing total scores from items in each subscale gives a category score. Mean scores for each of the five subscales of the learning style were calculated, and mean overall scores were calculated as well, summing all five subscale gives an overall score for learning style. Higher scores imply preferable learning style among nursing students

Tool II: Academic Adjustment Questionnaire: it was developed by **Baker and Siryk (1999)**⁽¹⁷⁾ and modified by the researchers. It consists of (24) questions to assess the student's adjustment to the academic demands of the university experience. It contains four aspects of adjustment to university are measured: Academic motivation (4 items) Academic Environment (5 items); Social Adjustment (4 items); Personal-Emotional Adjustment (8 items); Institutional Attachment (3 items).

Scoring system: The sum of the above four aspects yields a full-scale score, which is an index of the overall academic adjustment. Thus, the participants were requested to indicate their agreement or disagreement with the questionnaire statements on a 3- point Liker scale (1) disagree, (2) uncertain, and (3) for agree). Therefore, the maximum possible score was 72. If students agreed on 70% or more of items of academic adjustment questionnaire, indicates that nursing students had academic adjustment that expressed as good organized to academic demands of their college and if scores less than 70%. It means that students were poorly organized to academic demands of their college.

Tool III: College Academic Self-Efficacy Scale: it was developed by **Owen and Froman (1988)**

⁽¹⁸⁾ and modified by the researchers. It consists of 33 questions to measure students' confidence level while participating in or completing various tasks, such as communication skills with faculty members and note taking during classes. Each participant rated each item based on a 1 – 5point Liker-type scale indicating their level of confidence, the number 1 means that the student totally disagrees with the statement, and the number 5 means that the student fully agrees with the statement.

Scoring system: Sum of all 33 items yielded a final score with a range of 33 to 165. Students had high level of academic self-efficacy if the percentage was $\geq 75\%$, had moderate level of academic self-efficacy if the percentage score was ranged from 60 to $<75\%$, while nursing students had low level of academic self-efficacy if the percentage score $<60\%$ (**statistician**)

Content validity and reliability

A bilingual group of seven experts was selected to test the content and face validity of the tool. The panel included two experts from nursing administration department, two experts from faculty of education and three experts from Medical Surgical Nursing Departments Modifications of some questions were done to reach the final tool. The tools were considered valid from the experts' perspective. Furthermore, the tools were tested for reliability by measuring their internal consistency using Cronbach's alpha coefficient method. This turned to be $\alpha = 0.97$ for learning style tool, and $\alpha = 0.85$ for academic adjustment and $\alpha = 0.82$ for academic self-efficacy.

Pilot study: was carried out on 10 % of students and before starting the real data collection. Subjects who participated in the pilot study were not included in the study sample. The time required for each student to fill three questionnaires was estimated to be 15-25 minutes.

Field work:

Data was collected upon three month started February 2018 and ended on 30 April 2017. After gaining the acceptance of the selected sample to participate in the study, after the researchers explained the purpose of the tools to students.

Administrative and ethical consideration s:

Written approval was acquired from the deans of the nursing colleges to collect data from the students nursing college. The questionnaire purposes and content were described to the designated sample and they were knowledgeable that they had the right to accept or refuse to contribute in this study and that their information will be treated with confidentiality and for the purpose of research only. The participants were assured that the data will be preserved as severely confidential; furthermore, the respondents'

anonymity was maintained as they weren't required to mention their names.

Statistical design

The data collected were tabulated & analyzed by SPSS (statistical package for the social science software) version 20 on IBM compatible computer.

Table (1) As evident in the table, the mean age of nursing student was 21.14 ± 0.64 while the range of age was 20- 30 years. Moreover, this table revealed that the highest percentage of nursing students (83%) were female and (66.1%) from rural area. Concerning academic years nearly equal number of nursing students selected from second year, third year and fourth year with the highest percentage of them (80%) had good grading.

Figure (1): As illustrated from the figure that the most preferable learning styles among nursing students were deep and strategic style. Moreover; surface style was the least preferable learning style.

Table (2) Shows mean scores of student's academic adjustment to the demands of the university experience among the studied group. As indicated from the table, the highest mean score toward social adjustment (12.58 ± 4.72) with percent (62.9%). While the lowest mean score of the studied subjects were academic motivation (13.52 ± 4.43) with a percent (54.1%).

Figure (2): As indicated from the figure, the highest percentage of the studied subjects (73.4%) had academic adjustment thus they were good organized to academic demands of the faculty experience. While (26.6%) of the studied subjects were poorly organized.

Figure (3) As showed from the table, nursing students had highly (79.6%) self-efficacy while (20.4%) had low self-efficacy.

Table (3) As indicated from the table, learning style had a statistically significant positive correlation with academic achievement and self-efficacy among nursing students. Except surface learning style had a statistically significant negative correlation with academic achievement and self-efficacy.

Table (4) As indicated from the table, there was a statistically significant positive correlation among all academic adjustment dimensions & academic achievement and self-efficacy among nursing students except personal-Emotional Adjustment dimension, there was a statistically significant negative correlation with academic achievement and self-efficacy.

Table (5) As indicated from the table, there was a statistically significant positive correlation among all academic adjustment dimensions & learning style among nursing students except social adjustment dimension had a statistically significant negative correlation with deep and surface learning style.

Table (6) As shown in the table, there was a statistically significant relation between grading of the previous semester of the studied subject's and their academic self-efficacy, learning style and Student's adjustment. also, it was observed from the table that all grading of the previous semester with high and excellent and very good grading had the highest mean score related to deep and strategic learning style. Otherwise pass with failure in subjects grading had the highest mean score of academic adjustment.

Results:

Table (1): Demographic characteristics of the studied subjects. (N =383)

Demographic characteristics	Study group (n=383)	
	NO.	%
Age (years):		
Mean±SD	21.14 ± 0.64	
Range	20.0 – 23.0	
Gender:		
Male	65	17.0
Female	318	83.0
Residence:		
Rural	253	66.1
Urban	130	33.9
Academic years:		
Second year	123	32.1
Third year	135	35.2
Fourth year	125	32.6
Grading of the previous semester:		
Excellent	58	15.1
Very good	225	58.7
Good	3	0.80
Pass	24	6.3
Pass with failure in subjects	73	19.1

Learning styles among the studied group

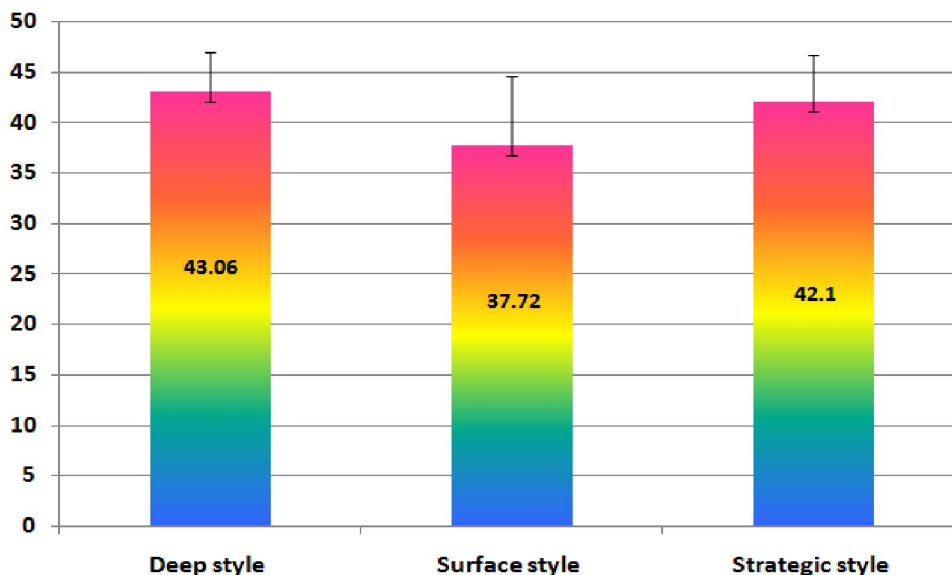


Figure (1): Learning Styles among the Studied Subjects:

Table (2): Mean scores of student’s academic adjustment to the demands of the university experience among the studied group (n=383):

Variable	Mean±SD	Max Mean Score	Total%	Kruskal Wallis test
Personal-Emotional adjustment	26.18±9.90	40	57.8%	76.69
Social Adjustment	12.58±4.72	20	62.9%	
Academic motivation	13.52±4.43	25	54.1%	
Academic Environment	15.24±4.93	25	61%	
Institutional Attachment	8.30±3.46	15	55.3 %	

student’s academic adjustment

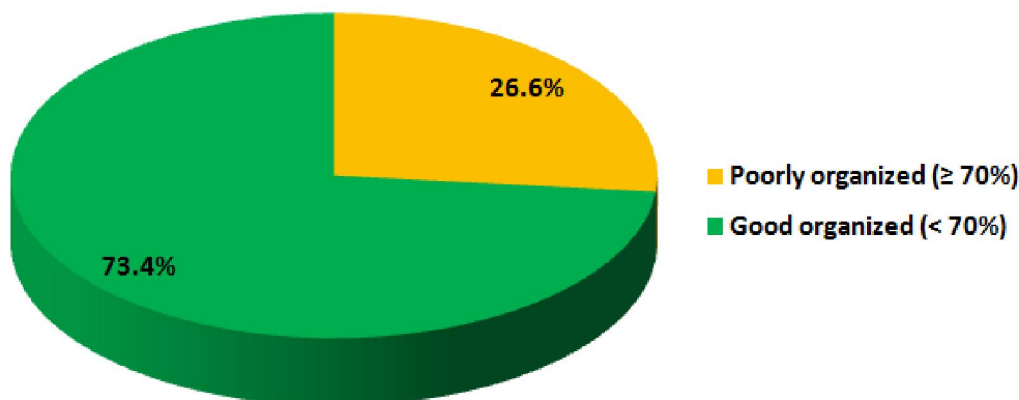


Figure (2): Percentage of academic adjustment to the demands of the university experience among the studied subject's:

Academic Self-Efficacy categories among studied subject's

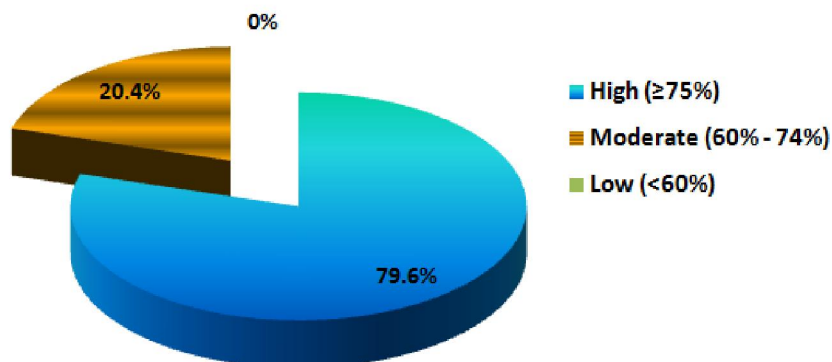


Figure (3): Percentage level of academic Self-Efficacy among studied subject's

Table (3): Correlation between learning styles and academic achievement and self-efficacy among the studied group (n=383):

Variable	Academic achievement and self-efficacy	
	R (spearman correlation coefficient)	P value
Deep style	0.07	0.12 NS
Surface style	-0.24	<0.001 HS
Strategic style	0.06	0.19 NS

Table (4): Correlation between academic adjustment dimensions & academic achievement and self-efficacy among the studied subjects (n=383):

Academic adjustment	Academic achievement and self-efficacy	
	R (spearman correlation coefficient)	P value
Personal-Emotional Adjustment	-0.32	<0.001 HS
Social Adjustment	0.12	0.01 S
Academic motivation	0.13	0.007 S
Academic Environment	0.19	<0.001 HS
Institutional Attachment	0.09	0.07 NS

Table (5): Correlation between academic adjustment & learning style

Variable	Deep style		Surface style		Strategic style	
	R	P value	R	P value	R	P value
Personal-Emotional Adjustment	0.51	<0.001 HS	0.69	<0.001 HS	0.26	<0.001 HS
Social Adjustment	-0.20	<0.001 HS	-0.18	<0.001 HS	0.02	0.67 NS
Academic motivation	-0.21	<0.001 HS	-0.10	0.04 S	-0.01	0.70 NS
Academic Environment	0.15	0.003 S	0.16	0.001 HS	-0.11	0.02 S
Institutional Attachment	0.22	<0.001 HS	0.46	<0.001 HS	0.20	<0.001 HS
Sum of Student's adjustment score	0.17	<0.001 HS	0.34	<0.001 HS	0.02	0.62 NS

Table (6): Relation between Grading of the previous semester of the studied subject's and their Academic Self-Efficacy, learning style and Academic adjustment

Variable	Grading of the previous semester					ANOVA	P value
	Excellent	Very good	Good	Pass	Pass with failure in subjects		
self-efficacy score	80.0±5.41	79.79±7.54	79.55±7.51	76.84±5.41	70.0±0.0	4.19	0.002 S
Deep style	43.79±4.45	43.57±3.50	42.63±0.0	38.0±0.0	36.0±3.61	17.10	<0.001 HS
Surface style	28.0±4.51	38.0±7.54	37.0±0.0	37.70±0.0	40.08±4.57	16.51	<0.001 HS
Strategic style	41.67±3.88	48.0±4.74	43.78±0.0	38.0±0.0	39.44±3.18	21.91	<0.001 HS
Student's adjustment	82.98±22.63	70.53±14.55	84.0±0.0	63.0±0.0	90.41±14.20	30.0	<0.001 HS

Discussion

Regarding learning styles; the most preferable learning styles among nursing students were deep and strategic style. Moreover; surface style was the least preferable learning style. This results was consistent with **Rutherford, , Limorenko, and Shore**, ⁽¹⁹⁾ who stated that undergraduate students are ideally expected to exhibit strategies which align with deep learning (the development of holistic, broad understanding of a subject), although this is often reported not to be the case and also stated that there was a general bias towards deep learning styles (over 50% of respondents displayed characteristics of deep learners), there were no single classes of learning styles that dominated on their own. Also **Rutherford, , Limorenko, and Shore**, ⁽¹⁹⁾ stated that there is a general trend for learners who demonstrate deep and strategic preferences for a tendency towards single learning, and those who display surface curricula generally prefer group-based approaches. From researchers' point of view; this discrepancy may be due to individual differences between nursing students at different communities.

The current study revealed that the highest percentage of the studied subject's (73.4%) had academic adjustment thus they were good organized to academic demands of the university experience, and the highest mean score was social adjustment (12.58±4.72). While the lowest mean score among the studied subjects was academic motivation (13.52±4.43). This result was in consistent with **Ahmadi** ⁽²⁰⁾ who stated that overall, investigation of the students' responses to each question and adjustment subscales shows that all the means were closer to the point that indicates a positive level of adjustment to college. However, the lowest mean score was in the academic motivation sub-scale. Among the five adjustment sub-scales studied in this

study, the lowest mean also was for the academic motivation.

In other wise, this result was in consistent with **Paul, and Rose** ⁽²¹⁾ who indicates that majority (96.3%) of the students had at least moderate social adjustment in the university. The relatively high social adjustment reflected the way the respondents rated the individual social activities in the university. Indicates that majority (98.3%) of the students had at least moderate academic adjustment in the university. Out of 98.3 percent, 61.2 percent of them had high academic adjustment while 37.1 percent had moderate academic adjustment. The high academic adjustment reflected the way the respondents rated the individual academic activities in the university. This level of academic adjustment was likely to facilitate satisfaction with academic courses and high academic performance in the university. From the researchers point of view, nursing student had clear academic goals, keep in touch with the latest scientific developments.

Regarding academic self-efficacy among studied subjects, The current study indicated that nursing students had highly (79.6%) academic self-efficacy while (20.4%) had low academic self-efficacy. This result was similar to **Doménech, Abellán and Gómez** ⁽²²⁾ who stated that academic self-efficacy can be considered an important internal source of motivation that is talented of activating students' motivation in the first stage of the behavioral process; i.e., academic self-efficacy contributes to a great extent to activate student students' motivation from the first weeks of the teaching learning process undertaken with a specific subject. Therefore, it is important to consider students' academic self-efficacy when they face a new educational setting.

At the same line, the study conducted by **Doménech, Gómez, and Lloret** ⁽²³⁾ who mentioned

that the key role played by academic self-efficacy in explaining students' expectations (achievement expectations, enjoyable learning expectations, and expected dedication according to the subject value). In a similar vein, the structural model tested by **Bong, Cho, Ahn and Kim** ⁽²⁴⁾ revealed that self-beliefs (self-efficacy and self-concept) are good predictors of task value. From the researcher point of view, this due to those nursing students had highly capable of facing difficulties and challenges; they would use their maximal efforts in different situations.

More over, present study indicated that the learning style (deep/strategic approach) had a statistically significant positive correlation with academic achievement and self-efficacy among nursing students. Except surface learning style had a statistically significant negative correlation with academic achievement and self-efficacy. This result was consistent with **Al Sebaee, Abdel Aziz, and Mohamed** ⁽²⁵⁾ who stated that there were highlights the relationship between self-efficacy and academic achievement; the study demonstrated a reciprocal relationship between self-efficacy and academic. At the same line **Zakri and Hussein** ⁽²⁶⁾ who stated that the deep/strategic approach has been reported to be associated with better academic outcomes as compared to those with the surface approach and also have combined the deep/strategic approach instead of having them as a separate entity because a published data have shown that the "deep, strategic approach, without any elements of surface apathetic, is generally associated with successful academic performance.

Also, this result was consistent with **Annual, Samat, Karim, and Hashim** ⁽²⁷⁾ who stated that There was a relationship between students' learning styles with academic performance. However, learning styles had moderate relationships with academic performance. This result was inconsistent with **Alharbi, Almutairi, Alhelih., and Alshehry** ⁽²⁸⁾ who stated that academic achievement of the participants was not associated with the learning preferences among the nursing students. In addition, there was no association between previously earned degree and learning preferences. Also; **Wongtienlai, Yaemsuda, Kampak and Mornthawee** ⁽²⁹⁾ who stated that there was no significant association in learning styles and self-efficacy among students with different background, consisting of hometown, willingness to enroll and learning achievement.

The current study indicated that there was a statistically significant positive correlation among all academic adjustment dimensions & learning style among nursing students except social adjustment dimension had a statistically significant negative correlation with deep and surface learning style. From the researcher point of view, this is due to the fact that

in learning scenarios, sampled students preferred to adopt a blend of learning styles rather than to be restricted to a single style of learning. This finding is similar to **Rienties et al.** ⁽³⁰⁾ who indicated that academic adjustment was the main predictor of student performance for Dutch, western and mixed-western students, while social adjustment was negatively related to student's performance. This result was like **Dawborn-Gundlach, & Margetts** ⁽³¹⁾ who reported that transition to higher education is complex not only for the challenges students face in accessing the organizational, academic, and social cultures of the institution, but also for the challenges to their personal identity. While university adjustment is affected by academic, social and personal adjustment **Friedlander, Reid, Shupak, and Cribbie** ⁽³²⁾. Also, this results consistent with **Cazan and Stan,** ⁽³³⁾ who stated that the significant correlations between the self-directed learning dimensions and academic adjustment.

Moreover, the current study revealed that there was a statistically significant relation between grading of the previous semester of the studied subject's and their academic self-efficacy, learning style and student's adjustment. And, it was observed that all grading of the previous semester with high and excellent and very good grading had the highest mean score related to deep and strategic learning style. Otherwise pass with failure in subjects grading had the highest mean score of academic adjustment. this result like **Mudhovozi** ⁽³⁴⁾ who indicated that there was a statistically significant relation between grading of the previous semester of the studied subject's and their academic self-efficacy, learning style and Student's adjustment. The students over-relied on social networks and efficacious beliefs to cope with the challenges.

Conclusion

Based on results; the most preferable learning styles among nursing students were deep and strategic style. Moreover, the highest percentage of the studied subjects had academic adjustment; the highest mean score of academic adjustment was social adjustment. Finally learning style and academic adjustment had a statistically significant positive correlation with academic achievement and self-efficacy among nursing students. Except surface learning style and personal-Emotional adjustment had a statistically significant negative correlation with academic achievement and self-efficacy among nursing students.

Recommendations

1. A study on learning management model of the institution along with learning styles of the nursing

students should be initiated to enhance the efficacy of teaching and learning management.

2. Other research population such as nursing students in other college should be studied.

3. Other factors contributing to different learning styles and learning self-efficacy such as adjustment, psychological well-being should be examined to gain an insight of the issue which can be useful future education management.

Recommendations

- Creating an appropriate environment in which students can adapt well academically and facilitate learning, enhancing students' academic achievement.

- Urging students to adopt a deep method of learning, and focus on understanding and applying rather than memorizing and retrieving.

- Encouraging students to believe their abilities, and rewarding successful students with respect to them and honoring them can make them feel more self-efficacious and can give them the opportunity to believe in themselves with more confidence.

- Educators should be informed of how to establish a positive and effective relationship between the teacher and the student by implementing strategies to enhance students' academic adaptation and improve their self-efficacy.

- Providing training and mentoring programs to educate students about learning skills with a deep and deep self-learning style and its impact on their scientific and educational outcomes.

- Incorporating more in-class activities and small group discussions about class material and readings may facilitate learning.

- Future studies evaluating the correlation between an environment and strategies that develop self-efficacy should be applied during psychomotor skills training.

- Conducting more studies to know the effect of: gender, Specialization, academic level, age, and talent, on the level of self-directed learning skills.

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References:

1. David L and Nita G (2013). Adjustment to First Year of College – Relations among Self-perception, Trust, Mastery and Alienation.

Procedia Social and Behavioral Sciences. Volume 127, 139-143.

2. Biçer D (2014). The Effect of Students' and Instructors' Learning Styles on Achievement of Foreign Language Preparatory School Students. *Bulent Ecevit University, Zonguldak, Turke Procedia - Social and Behavioral Sciences*; 382 – 386. Available online at www.sciencedirect.com
3. Nasiri Z, Gharekhani S, Ghasempour M (2016). Relationship between learning style and academic status of Babol Dental students. *Electron Phys*;8:2340–2345.
4. Aldosari M, Aljabaa A, Al-Sehaibany F, & Albarakati S (2018). Learning style preferences of dental students at a single institution in Riyadh, Saudi Arabia, evaluated using the VARK questionnaire. *Advances in Medical Education and Practice*, 9, 179–186. <https://doi.org/10.2147/amep.s157686>
5. Gurpinar E, Alimoglu MK, Mamakli S, Aktekin M (2010). Can learning style predict student satisfaction with different instruction methods and academic achievement in medical education? *Adv Physiol Educ*; 34: 192-196.
6. Liew S, Sidhu J & Barua A (2015). The relationship between learning preferences (styles and approaches) and learning outcomes among pre-clinical undergraduate medical students. *BMC Med Educ* 15, 44 doi:10.1186/s12909-015-0327-0.
7. Jennifer C, Carulla N, Jocelyn B (2018). Attitudes towards Learning and Learning Styles of Nursing Students in Selected Nursing Schools: Basis for Instructional Strategic Plan. *Nur Primary Care*. 2(5): 1-9.
8. Clinciu I, & Cazan M. (2014). Academic Adjustment Questionnaire for the university students. *Procedia - Social and Behavioral Sciences*, 127, 655 – 660.
9. Julia1, Z & Veni B (2012). An Analysis of the Factors Affecting Students' Adjustment at a University in Zimbabwe. *International Education Studies*; Vol. 5, No. 6; 2012.
10. Annual, N., Samat, M., Karim, Z. and Hashim, N (2017). Learning Styles and Academic Achievement Among University Students. In *Proceedings of the 2nd International Conference on Economic Education and Entrepreneurship (ICEEE)*, 520-526 ISBN: 978-989-758-308-7.
11. Jahangard H, Lesani M, and Motahhari H (2017). Self-efficacy, satisfaction, and academic achievement: The mediator role of students' expectancy-value beliefs. *Frontiers in Psychology*, 8(JUL), 1–12. <https://doi.org/10.3389/fpsyg.2017.01193>.

12. Abdal M, Masoudi Alavi N, Adib-Hajbaghery M. (2015). Clinical Self-Efficacy in Senior Nursing Students: A Mixed- Methods Study. *Nurs Midwifery Stud.* Sep;4(3):e29143.
13. Komaraju M., & Nadler D (2013). Self-Efficacy and Academic Achievement: Why Do Implicit Beliefs, Goals, and Effort Regulation Matter? *Learning and Individual Differences*, 25, 67-72. <http://dx.doi.org/10.1016/j.lindif.2013.01.005>.
14. Karabacak Ü, Serbest S., Kan Öntürk Z, Eti Aslan F, Olgun N (2013). Relationship between student nurses' self-efficacy and psychomotor skills competence. *International Journal of Nursing Practice*, 19:124–130.
15. Entwistle J., and Tait, H (1994). *The Revised Approaches to Studying Inventory*, University of Edinburgh: Centre for Research into Learning and Instruction. [Google Scholar].
16. Waugh F., & Addison A (1998). A Rasch measurement model analysis of the Revised Approaches to Studying Inventory. *British Journal of Educational Psychology*, 68(1), 95–112. <https://doi.org/10.1111/j.2044-8279.1998.tb01277>.
17. Baker W., and B. (1999). *SACQ student adaptation to college questionnaire (2nd ed.)*. Los Angeles: Western Psychological Services.
18. Owen V., and Froman D. (1988). Development of a College Academic Self-Efficacy Scale. Retrieved at: <https://eric.ed.gov/?id=ED298158> retrieved on 20 January 2020.
19. Rutherford M, Galina L and Andrew S (2016). Correlations between learning styles and perceptions of Collaborative Learning in Higher Education. Presented at: *Ireland International Conference on Education*, Dublin, Ireland, 24-26.
20. Ahmadi G (2016). "International Students Adjustment to College: The Relationships between Adjustment, Background Characteristics and Student Success". *Culminating Projects in Higher Education Administration*. http://repository.stcloudstate.edu/hied_etds/8.
21. Paul M., and Rose j (2011). Selected factors influencing social and academic adjustment of undergraduate students of Egerton University; njoro campus. *International Journal of Business and Social Science* Vol. 2 No. 18.
22. Doménech F, Abellán L and Gómez A (2017). Self-efficacy, satisfaction, and academic achievement: The mediator role of students' expectancy-value beliefs. *Frontiers in Psychology*, 8(JUL), 1–12. <https://doi.org/10.3389/fpsyg.2017.01193>.
23. Doménech F, Gómez A., and Lloret S (2014). Personal variables, motivation and avoidance learning strategies in undergraduate students. *Learn. Individ. Differ.* 35, 122–129. doi: 10.1016/j.lindif.2014.
24. Bong M., Cho C., Ahn S., and Kim H. J. (2012). Comparison of self-beliefs for predicting student motivation and achievement. *J. Educ. Res.* 105, 336–352. 10.1080/00220671.2011.627401 [Google Scholar].
25. Al Sebaee H, Abdel Aziz E., and Mohamed N (2017). Relationship between Nursing Students' Clinical Placement Satisfaction, Academic Self-Efficacy and Achievement. *IOSR*, Volume 6, Issue 2 Ver. III, PP 101-112 www.iosrjournals.org
26. Zakri A., and Hussein A (2016). The Factor Structure of Learning Styles in Light of Entwistle and Tait's Model among Students at Najran University. *Research on Humanities and Social Sciences* www.iiste.org. Vol.6, No.2.
27. Annual N, Samat M, Karim Z., and Hashim N (2017). Learning Styles and Academic Achievement Among University Students. In *Proceedings of the 2nd International Conference on Economic Education and Entrepreneurship*; 520-526 – Science and Technology Publications, Lda at: <https://www.researchgate.net/publication/325609229>.
28. Alharbi H, Almutairi A, Alhelih E and Alshehry A (2017). The Learning Preferences among Nursing Students in the King Saud University in Saudi Arabia: A Cross-Sectional Survey. *Nursing Research and Practice*. <https://doi.org/10.1155/2017/3090387>.
29. Wongtienlai k, Yaemsuda T, Kampak K., and Mornthawee S (2015). Learning Styles and Learning Self-Efficacy of Nursing Students at The Royal Thai Navy College of Nursing, Naval Medical Department. *7th World Conference on Educational Sciences*, (WCES-2015), 05-07 February 2015, Novotel Athens Convention Center, Athens, Greece. Available online at www.sciencedirect.com.
30. Rienties B, Beusaert S, Grohnert T, Niemantsverdriet S., & Kommers, P. (2011). Understanding academic performance of international students: The role of ethnicity, academic and social integration. *Higher Education Quarterly*, Vol. 63, No. 6), pp. 685-700.
31. Dawborn-Gundlach, & Margetts (2018). Dawborn-Gundlach, M., & Margetts, K. (2018). Measures of the adjustment of mature-age, undergraduate students to university. *Journal of Global Education*.

32. Friedlander L, Reid G, Shupak N., and Cribbie, R (2007). Social support, self-esteem, and stress as predictors of adjustment to university among first-year undergraduates. *Journal of College Student Development*, 48(3).
33. Cazan A, and Stan M (2015). Self-directed learning and academic adjustment at Romanian students. *Romanian journal of experimental applied psychology*. vol. 6, issue 1 – www.rjeap.ro and *Research*, 2(1), 17-32. doi:10.5038/2577-509X.2.1.1014.
34. Mudhovozi, P (2012). Social and Academic Adjustment of First-Year University Students, *Journal of Social Sciences*, 33:2, 251-259, DOI: [10.1080/09718923.2012.11893103](https://doi.org/10.1080/09718923.2012.11893103).

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