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Nursing

A DESCRIPTIVE STUDY TO ASSESS THE LEVEL OF MOTIVATION IN ANATOMY AND PHYSIOLOGY AMONG NURSING STUDENTS

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ABSTRACT Nursing students need to acquire core anatomical knowledge to build a strong foundation for future clinical encounters and professional practice, yet many students have difficulty successfully negotiating the large volume of content and the complex concepts in these subjects. Students need to be motivated to learn the material, practice the lab activities, and engage in the course discussions. Studies have shown that academic motivation predicts academic performance in college students and includes course grades, course attendance, and persistence in the program of study. Thus, study was taken to assess the level of motivation in anatomy and physiology among Nursing students and to develop strategies to improve appreciation and empowerment for anatomy and physiology among Nursing students. A descriptive survey design was used for the study on B.Sc. Nursing I year semester I students(n=29). Institutional approval, permissions and verbal consent of participants was obtained. A MUSIC Inventory (College Student version) was used to obtain data. The questionnaire was administered to participants as a google form and they responded online. The average score of the empowerment component was found to be 126 and for usefulness was 161.5 the average score of success was found to be 144.8. Interest scored 134.3 and caring scored 149. It can be concluded that MUSIC Model is a comprehensive scale to identify students Empowerment, Usefulness, Success, Interest and Caring level and develop early strategies to bring change in the learner's outcome.

KEYWORDS : Motivation, Anatomy, Physiology, Nursing students, Empowerment, Usefulness, Success, Interest, Caring

INTRODUCTION

Anatomy and Physiology is the study of the structure and function of the human body. Nursing students need to acquire core anatomical knowledge to build a strong foundation for future clinical encounters and professional practice, yet many students have difficulty successfully negotiating the large volume of content and the complex concepts in these subjects. Probably this is the reason why failure rate in anatomy and physiology are high. Students need to be motivated to learn the material, practice the lab activities, and engage in the course discussions.

A study done in 2019 revealed that student's general perception about anatomy was boring.[1] They associated it with having to memories vast amounts of factual knowledge, requiring more self-discipline than understanding and were less motivated to study the subject.

Motivation and learning are inter-related. Students' motivation is a vital determinant of academic performance that is influenced by the learning environment. It is critical to success in any area, but it is especially important when it comes to academics. If a student is not motivated to learn and do well in class, it is likely that their performance will suffer.

Studies have shown that academic motivation predicts academic performance in college students and includes course grades, course attendance, and persistence in the program of study.[2]

There are different models of motivation; one such model is MUSIC Model. The MUSIC Model of Motivation was developed by Dr. Brett D. Jones (2009, 2018) as a research-based model to explain factors in the motivational climate that affect people's motivation to engage in activities, such as courses and class assignments.[3] The model does so by providing five research-based categories of strategies that have been shown to affect students' motivation and engagement: eMpowerment, Usefulness, Success, Interest, and Caring (MUSIC is an acronym based on the initial sounds of these five categories).[4] These perceptions function in combination to foster a motivating environment. A good motivational climate is defined as "the aspects of the psychological environment that affect students' motivation

and participation within a course" and is produced by the interaction of these five perceptions of music[5]

The basic principle of this model is eMpowerment means to ensure that students feel empowered by having the ability to make decisions about some aspects of their learning. Usefulness means to ensure that students understand that whatever they are studying is useful for them. Success means to ensure that they believe that they can succeed if they put efforts. Interest means to ensure that they are interested in in the course and also the learning methodology. Caring is to ensure that students believes that others in the learning environment care about their learning and them as a person.[3]

Examining student's motivations is important to predict their performance in college courses, and implementing teaching and learning strategies based on motivation is vital.

Thus, succeeding in anatomy and physiology course requires, in part, motivation, and this provided an opportunity to explore students' motivation towards learning the subject of anatomy and physiology.

Objectives:
To assess the level of motivation in anatomy and physiology among Nursing students.

Outcome:
To identify and develop strategies to improve appreciation and empowerment for anatomy and physiology among Nursing students.

METHOD:
A descriptive survey design was used for the study on B.Sc. Nursing I year semester I students(n=29). The sample selection was by convenient sampling with inclusion of all B.Sc. Nursing I year semester I students and excluding anyone who was not willing to participate (0/29). The study was conducted at the P D Hinduja College of Nursing, Mumbai in December 2022.

Institutional approval, permissions and verbal consent of participants was obtained. A MUSIC Inventory (College

Student version) was used to obtain data. The questionnaire was administered to participants as a google form and they responded online.

The questionnaire consisted of 19 items wherein item 5, item 9, item 14 & item 19 belonged to Empowerment domain. Item 1, item 10, item 16 & item 18 assessed the Usefulness domain. Item 2, item 7, item 11 & item 15 assessed

Success parameter. Item 3, item 6 & item 12 assessed Interest score and item 4, 8, 13 & 17 assessed Caring domain.

All the items were valued on a 6-point Likert scale that students rated from Strongly disagree, Disagree, somewhat disagree, somewhat agree, Agree and Strongly agree.

RESULTS:
The average score of the empowerment component was found to be 126 and for usefulness was 161.5 the average score of success was found to be 144.8.

Interest scored 134.3 and caring scored 149. Item wise analysis is shown as a graphical representation (Fig:1-5)

Table 1: Frequency and Percentage Distribution of Subjects level of motivation. n=29

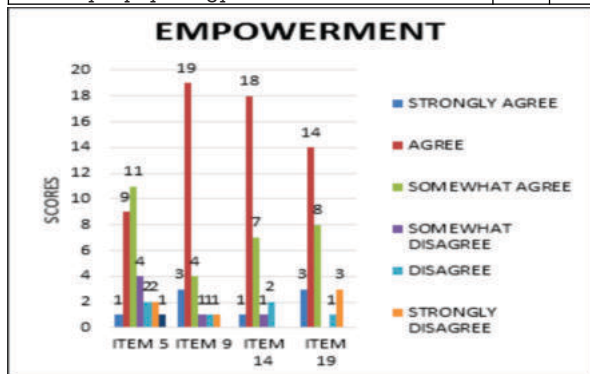| Items	Strongly agree		Agree		Somewhat Agree		Somewhat disagree		Disagree		Strongly disagree	
	f	%	f	%	f	%	f	%	f	%	f	%
Empowerment												
I have the freedom to complete the course work my own way.	1	3.4	9	31.0	11	37.9	4	13.8	2	6.9	2	6.9
I have options in how to achieve the goals in anatomy & physiology	3	10.3	19	65.5	4	13.8	1	3.4	1	3.4	1	3.4
I have control over how I learn the anatomy & physiology content.	1	3.4	18	62.1	7	24.1	1	3.4	2	6.9	0	0.0
I have flexibility in what I am allowed to do in anatomy & physiology	3	10.3	14	48.3	8	27.6	0	0.0	1	3.4	3	10.3
Usefulness												
Anatomy & Physiology is beneficial to me.	22	75.9	4	13.8	1	3.4	0	0	0	0	2	6.9
In general, anatomy & physiology is useful to me.	15	51.7	14	48.3	0	0	0	0	0	0	0	0.0
I find anatomy & physiology to be relevant to my future.	17	58.6	12	41.4	0	0	0	0	0	0	0	0.0
The knowledge I gain in anatomy & physiology is important for my future.	21	72.4	8	27.6	0	0	0	0	0	0	0	0.0
Success												
I am confident that I can succeed in the anatomy & physiology	9	31.0	15	51.7	5	17.2	0	0	0	0	0	0
I feel that I can be successful in meeting the academic challenges in anatomy & physiology	3	10.3	18	62.1	8	27.6	0	0	0	0	0	0
I am capable of getting a high grade in anatomy & physiology.	5	17.2	15	51.7	9	31.0	0	0	0	0	0	0
Throughout the course, I have felt that I could be successful	9	31.0	15	51.7	5	17.2	0	0	0	0	0	0
Interest												
The instructional methods used in anatomy & physiology hold my attention.	5	17.2	17	58.6	6	20.7	0	0.0	1	3.4	0	0.0
I enjoy the instructional methods used in anatomy & physiology	2	6.9	13	44.8	10	34.5	2	6.9	1	3.4	1	3.4
The instructional methods engage me in anatomy & physiology class	4	13.8	15	51.7	8	27.6	1	3.4	1	3.4	0	0.0
Caring												
The instructor is friendly.	5	17.2	13	44.8	11	37.9	0	0	0	0.0	0	0
The instructor is respectful of me.	3	10.3	19	65.5	6	20.7	0	0	1	3.4	0	0
The instructor is willing to assist me if I need help in the anatomy & physiology	16	55.2	12	41.4	1	3.4	0	0	0	0.0	0	0
The instructor cares about how well I do in anatomy & physiology	16	55.2	10	34.5	3	10.3	0	0	0	0.0	0	0

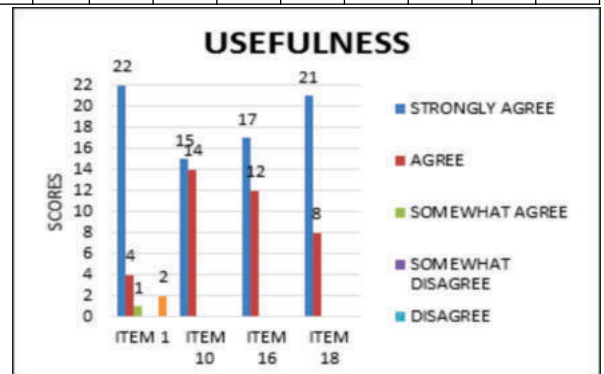**Figure 1** Level of Empowerment

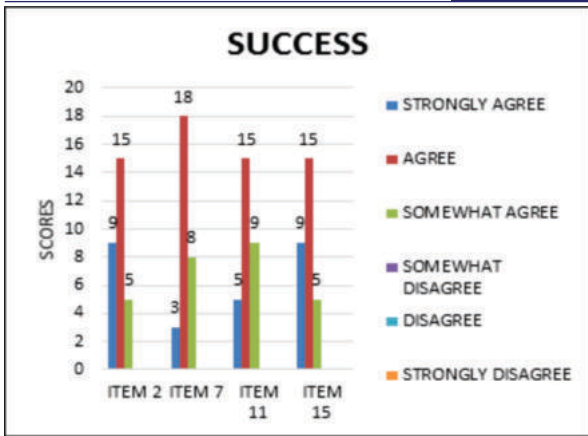**Figure 2** Level of Usefulness

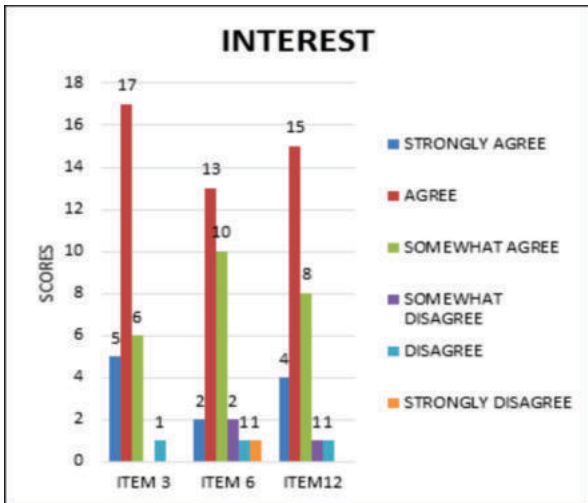**Figure 3** Level of Success

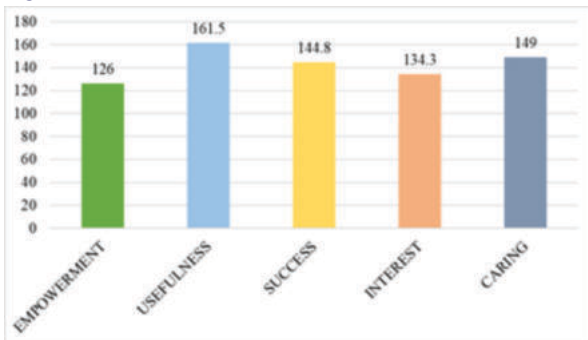

Figure 4 Level of Interest

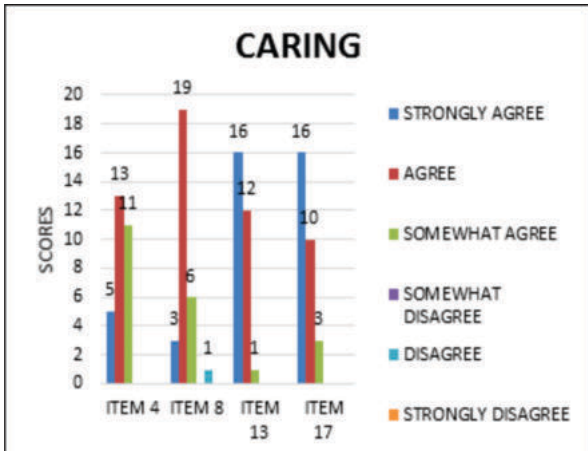**Figure 5** Mean scores of components of MUSIC Model

Figure 6 Level of Caring

DISCUSSION:
From the descriptive statistics data, we found that what the college students lacked most was a sense of control over some aspects of their learning in the anatomy and physiology course. Secondly, they do not have strong interest in the subject. Finally, they lacked in the sense of success. Given the overall perceptions of the anatomy and physiology subject, college students are less motivated in their learning. Therefore, teachers need to use the relevant instructional strategies in terms of empowerment, interest & success to redesign their class to motivate and engage students to the learning.

Strategies a teacher can used to improve their perception towards empowerment is to-
• Provided opportunities for students to express their opinions and carefully listen to and consider their opinions
• Provided students with meaningful choices as to the topics they can study, the materials they can use, the strategies they can implement, and/or the students with whom they can work
• Students were allowed to choose their collaborative learning partners
• Students were allowed to use models, skeletal bones to touch and learn.
• Encourage anatomical thinking, defining challenges, opportunities Correlate clinical conditions and therapeutic interventions.
• Give students some control in developing or implementing class activities like organizing work shops

Strategies to improve students' perception towards usefulness is to-
• Provided opportunities for students to engage in activities that demonstrate the usefulness of the content
• Provided opportunities for students to engage in activities that demonstrate the usefulness of the material in the real world while making them present the case studies which appreciate the relation of anatomy and physiology for the proper function of human body
• Ways to help students believe that they can succeed-
• Provided clear and understandable directions for all assignments.
• Provided learning activities that challenge students like presenting/ explaining the topics in exhibition to peer groups , to senior most students
• Provided clinical scenarios that require students to analyze patient cases.
• Provided help by providing strategies, answering students' questions, offering resources, facilitating a way for students to help one another, etc. to students who are not succeeding.
• Provided a variety of assignments that allow students to demonstrate their knowledge in different ways (e.g., writing assignments, multiple-choice quizzes, presentations, projects-Anatomical body painting

Strategies to improve students' interest is to-
• Hands on activities like live dissection session by expert faculty to explore and learn more helping them in understanding the three-dimensional relationship of different anatomical structures and appreciating anatomical variations
• Provided time during and/or outside of class for students to ask questions regarding things they are curious about.
• Provided information that is surprising or inconsistent with students' prior knowledge and have group discussion.
• As instructor providing questions for them to answer, every week

Strategies to improve students' perception to caring is to-
• Show concern for students' successes and failures
• As instructor examined all students' grades at the end of

each semester examination and given them feedback to score better

• Devote time and energy into helping students to clarify doubts

• Listen to and value students' opinions and ideas in making their own study timetable

• Pair and share activities in class to share their knowledge to peer

• Most of the strategies were incorporated into curriculum and impact was seen in the anatomy and physiology scores at the university level. All students cleared the exam with above 50% marks and 55% students scored above 70% marks.

CONCLUSION

MUSIC Model is a good tool to identify the flaws in the education structure and to bring in the changes. For students it was encouraging to see the strategies had improved their interest and involvement in the subject. It was an eye opener for the researchers and for teachers it gave a reassurance that the strategies incorporated had brought a change in students. MUSIC Model is a comprehensive scale to identify students Empowerment, Usefulness, Success, Interest and Caring level and develop early strategies to bring change in the learner's outcome.

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