The First Scientific Conference of the College of Medicine/Hawler Medical University
On Thursday and Friday, 22nd – 23rd December, 2016

At Divan Hotel, Erbil, Kurdistan - Iraq

Attendance and Active participation of medical students in classrooms

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Abstract:

Background and objectives: Attendance and participation has always been viewed as the elementary focus when it comes to student's progress and learning amongst classrooms. The main objective of this study is to assess the rate of attendance and participation of students and its association with their academic achievements.

Methods: A cross-sectional study was carried out among Hawler College of medicine students from 1st December 2015 through 12th January 2016. The data was collected using a self-administered questionnaire, which included questions on socio-demographic characteristics, attendance and participation, and achievements levels.

Results: A total of 385 students participated in this study, their age ranged from 18-25 years, with mean &SD 22.03 ± 1.56. The ratio of female to male was 1.1:1. The overall rate of attendance of students was 77.4% while the rate of active participation in classrooms was 53%. The results showed that the rate of attendance was highest amongst females (55.7%) and second stage students (87.2%), while the rate of participation was highest amongst females (56.9%) and fourth stage students (30.4%). There was a statistically significant association between attendance and active participation (P 0.000), and between those with regular attendance and participation with achieving greater rankings (P 0.028).

Conclusions: The rate of attendance was significantly associated with student's stage, gender, owning a car and ranking, while the rate of participation was significantly associated with student's stages. Increasing awareness of students about regular attendance and active participation is highly recommended.

Key words: Attendance, participation, medical students

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Introduction:

Attendance and participation amongst students has been acknowledged as a fundamental basis for progress and learning. It is not only seen as a means to improve one's understanding and knowledge, but rather as a way to improve communication skills for the future.Student attendance and participation consists of four factors (skills, participation/interaction, emotional, and performance) which is becoming substantially important in higher education.[1]

The traditional 'lecture only' method is losing its prevalence in the classroom and is becoming replaced by mixed delivery methods which encourage and place great emphasis on group discussion, peer review and interactive learning. All of these methods aim to minimize lecturing and encourage a more student based learning scheme [2].

With the increasing importance placed on student achievement, there have been many studies conducted to try and target such an issue. Research done by a number of researchersall attempt to explore the relationship between student attendance and student achievement. With government programs such as 'No Child Left Behind' and many others, researchers are trying to identify factors which play the biggest role in student achievement [3].

Attendance by itself can be defined according to the Oxford dictionary as the action or state of going regularly to or being present at a place or event.[4]Attendance (or lack of attendance) can often be viewed as a key indicator for early warning signals of student performance and achievement. Literature indicates that regular attendance is an important factor in a student's success at school. Many have viewed attendance as an important variable in measuring academic performance.[5] Research has further suggests that there is a statistically significant relationship between student attendance and student achievement. Similar researches have attempted to highlight that student achievement is affected in a negative way by absenteeism or even lack of interaction within lectures [5,6,7].

On the other hand, participation is seen as the action of taking part in something.[8] Participation is an ambiguous issue that has long been focused on to try and combat 'disengagement, rather than on understanding and promoting engagement among students. Engagement is a complex cognitive process, including a student's psychological investment in their own learning and personal learning strategies. The internal nature of participation makes it difficult to define and measure. As such, it has been hard for researchers to determine which solutions can aid engagement and the impact student engagement can have on learning outcomes.[9] Participation alone varies slightly with individual instructors and researchers. It can be viewed as an active engagement process which can be sorted into five categories: preparation, contribution to discussion, group skills, communication skills,

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attendance.[10]More emphasis is now being placed on approaches that involve problem solving, collaboration, discussion, authentic contexts, and action. There is less emphasis on teacher-centred instruction, information, passive and individual learning.[11]

Encouraging students to attend and participate in lectures, whether it is during theoretical or practically session has long been an issued faced in 'Hawler Medical College'. A number of approaches have been established amongst the lectures to try and encourage and create an interactive atmosphere. Many lecturers discourage 'one way teaching'. However many is still struggling to find means in order to better engaging the students. Further investigate into such topics must be done to address such an issue and to create awareness amongst staff members of the rising concerns of 'disengagement' amongst medical students during lessons. The study aims to find out the prevalence of attendance and active participation of the students in the classroom, and to assess the relation between student achievement and factors affecting and attendance and participation, and allocate reasons for absence or non participation.

Subjects and Method:

It is a descriptive cross-sectional study, conducted at Erbbil College of Medicine, from 12th of December 2015 through 12th of January 2016. A convenience sample of 385 out of 842 students was chosen from 2nd to 6th stages of the College. A synonymous questionnaire was prepared for this purpose, wfich divided into 3 parts: First part consisted of socio-demographic characteristics of study sample such as age, gender, stage, residency, etc.., second part focused on student's attendance to the classroom, and third part focused on the participation of the student within the classroom. The data was filled by each student (self-administered) after clarifying the aim of the study to them, and obtaining oral consent to participate in the research. A statistical package for social science (SPSS-version 20) was used for data entry and analysis.

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Results:

Table 1 shows that out of 385 students who participated in this study, that the highest rate of study sample was: age 21 (27.3%), fourth stage (33.2%), female students (52.5%). This Table also shows that the lowest rate of study sample were age 18 (1.6%), sixth stage (14.3 %).

Table 1: Frequency distribution of different variables

	Frequency	Percentage (%)
Age:		
18	6	1.6
19	72	18.7
20	66	17.1
21	105	27.3
22	66	17.1
23	42	10.9
24	21	5.5
25	7	1.8
Stage:		
Second	78	20.3
Third	66	17.1
Fourth	128	33.2
Fifth	58	15.1
Sixth	55	14.3
Gender:		
Female	202	52.5
Male	183	47.5
Total	**385**	**100**

Table 2 demonstrates that from 385 participants, the highest rate of students that attended lessons regularly was amongst the second stage (87.2%) while the highest rate of students who didn't attend lessons was amongst the third stage (36.4%). There is statistical significant (P value = 0.003) association between different stages and attendance.

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Table 2: Attendance according to stage

| | | Attendance | | Total | P- value |
		Yes No. (%)	No No. (%)		
Stage	**Second**	68 (87.2)	10 (12.8)	78 (100.0)	
	Third	42 (63.6)	24 (36.4)	66 (100.0)	
	Fourth	103 (80.5)	25 (19.5)	128 (100.0)	0.003
	Fifth	48 (82.8)	10 (17.2)	58 (100.0)	
	Sixth	37 (67.3)	18 (32.7)	55 (100.0)	
	Total	298 (77.4)	87 (22.6)	385 (100.0)	

Table 3 shows that from a total of 385 students, the rate of student's attendance amongst females was about 55.7 % and amongst males was about 44.3 %. There is a statistically significant (P value = 0.019) association between gender and attendance.

Table 3: Regular attendance according to gender.

| | | Gender | | Total | P value |
		Female No. (%)	Male No. (%)		
Attendance	**Yes**	166 (55.7)	132 (44.3)	298 (100.0)	
	No	36 (41.4)	51 (58.6)	87 (100.0)	0.019
	Total	202 (52.5)	183 (47.5)	385 (100.0)	

Table 4 shows that from 385 students, those that own a car are less likely to attend (71.2%) the classroom in comparison to those do notown a car (81.75%), and this finding was statistically significant (P = 0.016).

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Table 4: Association between attendance and owning a car

		Own a car		Total	P value
		Yes No. (%)	No No. (%)		
Attendance	**Yes**	111 (71.2)	187 (81.7)	298 (77.4)	0.016
	No	45 (28.8)	42 (18.3)	87 (22.6)	
	Total	156 (100)	229 (100)	385 (100)	

Table 5 explains that from a total of 385 students, about 4.4% of those students who work as a medical representative attend lessons less than students don't work as a drug representative but do attend lessons regularly (8.0%) and there is no statistical significant (P value = 0.173) association between attendance and medical representative.

Table 5: Attendance versus working as a medical representative.

		Medical representative		Total	P value
		Yes No. (%)	No No. (%)		
Attendance	**Yes**	13 (4.4)	7 (8.0)	20 (5.2)	0.173
	No	285 (95.6)	80 (92.0)	365 (94.8)	
	Total	298 (100)	87 (100)	385 (100)	

Table 5 demonstrates that from a total of 385, about 87.6% of students who had regular attendance were ranked between 1-25 and about 43.4% of students who hadn't have regular attendance had 'second trials'. There is a statistical significant (P value = 0.000) association between attendance and students ranking.

Table 5: Attendance and its effect on ranking of the students

	Attendance		Total
	Yes No. (%)	No No. (%)	

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Ranking				
	1-25	58 (87.6)	8 (12.1)	66 (100.0)
	26-50	46 (82.1)	10 (17.9)	56 (100.0)
	50-75	66 (82.5)	14 (17.5)	80 (100.0)
	76-100	51 (85.0)	9 (15.0)	60 (100.0)
	>100	34 (72.3)	13 (27.7)	47 (100.0)
	Second trial	43 (56.6)	33 (43.4)	76 (100.0)
	Total	298 (77.4)	87 (22.6)	385 (100.0)

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Table 6 demonstrates that the highest rate of students who attended theory was: to avoid absenteeism (32.7%), and shows that from a total of 385 participants, the highest rate of students who choose to participate in lessons was to gain marks (28.1%).

Table 6: Reasons of attendance and participation

	Frequency	Percentage (%)
Why st udent' s at tend lessons:		
To avoid absenteeism	126	32.7
Learning	105	27.3
Enjoyment of topic	30	7.8
Improve understanding	26	6.8
Peer influence	13	3.4
Remain alone outside	10	2.6
Enjoyment with lecture presentation	9	2.3
Not all information are available in the power point	9	2.3
Quizzes	20	5.2
Missed (not attend theory)	**37**	**9.6**

Why student's participate:		
To get attention of the lecturer and student	65	16.9
To be distinguished	42	10.9
Gaining marks	108	28.1
For better understanding	103	26.8
Missed(not participate)	67	17.4
Total	**385**	**100**

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Discussion:

Attendance and participation amongst medical students has been acknowledged as a fundamental basis for progress and learning. It is not only seen as a means to improve one's understanding and knowledge, but rather as a mean to improve communication skills for the future. The purpose of this study was to determine the rate of attendance and participation amongst students in 'Hawler Medical College'; this information is usually acquired by non-observable items mentioned below.

In the current study, 385 students were chosen randomly. From this number, the highest rates of participants were 21 years of age, from the fourth stage and female.

The result of the study showed that majority of medical students who attended lessons on a regular basis was amongst the second stage but quite low amongst sixth year students. In contrast, Gagliardi and Mazor, from the 'American Medical College',found that attendance within the first, three years of Medical College was quite frequent, where the curriculum was delivered by lectures, conferences, laboratories, small-group discussions and experiences in physicians' offices, ranging from 65-95%. But after these three years, students attendance began to decline, as about 95% of the lectures were recorded and the slides were provided online for viewing or downloading, making students less keen
to attend. [9] These findings could be due to the implementation of the new curriculum that encourages small group teaching and as a result encouraging higher levels of attendance amongst students.

Our study illustrated that there is a greater number of attendance amongst female students in 'Hawler medical college' when compared with the number of attendance of male students. In accordance to the study conducted byGupta and Saks from 'Wood Johnson Medical School'[10] who found that there was a strong relation between attendance and gender of students, which was more common amongst female. In comparison, Desalegn,et al from 'Hawassa University'[11] demonstrated that the number of students who never missed class per semester was higher amongst male student (25.8%) when compared with females (19.7%).This could be due to the fact that there are more females attending the college in contrast to males.

The results from this research revealed that regular attendance amongst students is strongly associated with achievement of higher rankings within their academic years. Most students, who attended lessons frequently, achieved rankings ranging from 1-25, while students, who did not attend lessons on a regular basis, failed in some topics. These results were similar to Richard, et al [12] (Dublin, Ireland) research, who concluded that students who did not attend lectures regularly failed in an end of year examination (84%). The research also demonstrated that there was a positive correlation between attendance and academic performance. This is because higher achieving students pay more attention to the lectures and the information that is being administered to them.

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The rate of participation was higher amongst females than males. However the association was not significant. This corresponds to a study conducted by She from Taiwan, who demonstrated that higher rates of participation were among females when compared with males [14]. In contrast to Caspi, et al from 'The Open University of Israel', discovered that males were more likely to become involved in face- to- face participation when compared to females who preferred 'written communication' instead[15].One explanation for the slightly higher level of participation among females could be due to the fact that females feel a greater need to attract the attention of the lecturer and to gain more marks as they are more concerned with their results when compared with males.

It was found that attendance was higher amongst student's whose father's education level was 'college'. In contrast, Desalegn,et al, from 'Hawassa University'[11] found that attendance of student's where higher amongst student's whose father's education level was 'primary school' and quite low amongst student's whose father's education level was 'diploma' and 'degree'. These findings could be due to the fact that father's education level may influence a student's dedication to their lessons at college. Students with a good social and economic status are less frequently expected to work and make money as a result concentrating more on their grades and achievement.

The result of the study showed that many students did not attend theory or practical lessons due to the fact that they viewed the topics as being 'boring', followed by a 'dislike toward the lecture'. However, the research conducted by Oakley, et al from 'The University of Western Australia'[16]illustrated that the lack of attendance amongst college student was mainly due to 'genuine illness' followed by 'uninteresting lectures'. Both reasons suggest that a lack of knowledge about the topics being discussed will create a lack of interest and enthusiasm towards attendance.

Although there is no significant association between participation of students in lectures and their achievement, it was found that students who participated in lectures on a regular basis achieved higher rankings and did not fail in any topics during their final exams. This was in agreement with the research conducted by Handelsman, et al from 'The University of Colorado', reported that 'student engagement is an important predictor towards student's achievement' [1]. This link may have been due to the fact that lecturers encouraged participation by rewarding students with higher grades in their final evaluation. Participation was also viewed by the students as a way of improving their understanding of the topic. Around 78.2% of participants believed that interactive lectures provided greater benefit for them rather than the traditional 'one way lecture'.

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Conclusion:

The study concluded that overall rate of attendance and participation was more than half of the sample. The rate of attendance was highest amongst female and students in the second stage, while the rate of participation was also highest amongst females and students in the fourth stage. The main reason why students chose to attend lessons on a regular basis was to 'avoid absenteeism', while the main reason why students chose to participate in lessons was to gain marks. Students ranking and topic failure was greatly influenced by their regular attendance and participation in lesson.

The study recommend increasing the awareness about attendance and participation to students in order to increase students overall outcome in their academic years. Also, encouraging lecturers to use different approaches to try and encourage and increase in the rate of attendance and participation amongst medical students. It is necessary to do further studies about students' attendance and participation in lessons in order to identify further variables that might have an effect on the rate of attendance and participation.

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Reference:

1. Handelsman MM, Briggs WL, Sullivan N, Towler A. A measure of college student course engagement in Denver. Journal of Educational Research 2005; 98: 184 -91. Available at: http://www.ucdenver.edu/faculty_staff/faculty/center-for-faculty-development/Documents/student_engagement.pdf. Accessed on 23.12.2015.

2. Allred CR, Swenson MJ. Using technology to increase student preparation for and participation in marketing courses: The random selector model. Marketing Education 2006;16: 15-21. Available at: http://www.csus.edu/indiv/s/stonerm/rocca-litrevengagingstudents.pdf. Accessed at 15.12.2015

3. Snell J, Mekies S. Student attendance and academic achievement; research notes. Journal of Instructional Psychology 1995; 22: 126-127.

4. Oxford dictionary. Oxford University Press 2015. Cited on the 8th of December 2015. Available at:http://www.oxforddictionaries.com/definition/english/attendance

5. Roby D E. Research on school attendance and student achievement: A study of Ohio schools. Educational Research Quarterly 2004; 28(1): 3-14.

6. Nichols JD. Prediction indicators for students failing the State of Indiana high school graduation exam. Preventing School Failure 2003; 47(3): 112.

7. DeKalb J. Student truancy. ERIC Digest, Number 125; April 1999; p.1. Available at: http://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1858&context=doctoral

8. Oxford dictionary. 2015 Oxford University Press. Cited on the 8th of December 2015. Available at:http://www.oxforddictionaries.com/definition/english/participation.

9. Gagliardi SB, Mazor KM. Student Decisions about Lecture Attendance: Do Electronic Course Materials Matter? Acad Med. 2007;82(10 Suppl):S73–S76. Available at: http://journals.lww.com/academicmedicine/Abstract/2007/10001/Student_Decisions_about_Lecture_Attendance__Do.20.aspx

10. Gupta A, Saks NS. Exploring medical student decisions regarding attending live lectures and using recorded lectures. Med Teach. 2013 Sep; 35(9):767-71. Available at: http://www.ncbi.nlm.nih.gov/pubmed/23869431

11. Desalegn AA, Asres Berhan A, Berhan Y. Absenteeism among medical and health science undergraduate students at Hawassa University, Ethiopia. BMC Med Educ. 2014; 14: 81. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3991889/

12. Richard PD, Deirdre JM. Student Attendance and Academic Performance in Undergraduate Obstetrics/ Gynecology Clinical Rotations. JAMA. 2013;310 (21):2282-2288. Available at: http://jama.jamanetwork.com/article.aspx?articleID=1787409

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13. Heaslip G, Donovan P, Cullen JG. Student response systems and learner engagement in large classes. Active Learning in Higher Education 2014;15(1): 11 –24. Available at: http://alh.sagepub.com/content/15/1/11.full.pdf+html

14. She HC. Different Gender Students' Participation in the High- and Low-achieving Middle School Questioning-orientated Biology Classrooms in Taiwan. Research in Science & Technological Education 2001;19:2. Available at: http://www.tandfonline.com/doi/abs/10.1080/02635140120087696?journalCode=crst20

15. CaspiA, Chajut E, Saporta K. Participation in class and in online discussions: Gender differences. Computers & Education 2008;50:3, April, Pages 718–724. Available at: http://www.sciencedirect.com/science/article/pii/S0360131506001229

16. Oakley G, Lock G, Budgen, F., Hamlett, B. Pre-service Teachers' Attendance at Lectures and Tutorials: Why Don't They Turn Up? Australian Journal of Teacher Education Volume 36 | Issue 5 Article 3 (2011). Available at: http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1571&context=ajte