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ORIGINAL PAPER

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COMPARATIVE OF DISTRACTION FACTORS AMONG MALE AND FEMALE STUDENTS OF SARI ALLIED MEDICAL SCIENCES' STUDENTS

Kobra Aligolbandi¹, Hasan Siamian², Azita Balaghafari¹, Mohammad Vahedi³, Omolbanin Naeimi⁴

¹Health Information Technology Department, School of Allied Medical Sciences, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran

²Health Information Technology Department, School of Allied Medical Sciences, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran

³Department of Microbiology, School of Medicine, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran

⁴School of Allied Medical Sciences, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran

Corresponding author: Hasan Siamian, Health Information Technology Department, School of Allied Medical Sciences, Mazandaran University of Medical Sciences, Sari, Mazandaran, Iran. E-mail: Siamian46@gmail.com

ABSTRACT

Background: Distraction is nothing but internal intension of the mind towards involvement of the person. This research studied classroom distractions factors among students of Faculty of Allied medical Sciences in year 2014-2015, so that with the findings of the research about classroom distractors' factors and to present proposed suggestions for decreasing and removing of distractions. **Methods:** This is an exploratory study. Data collection in this study was the researcher made questionnaire based on Likert-type scales. SPSS software was used for analyzing the data statistics such as mean, standard deviation and frequency ratings, each subset of the elements associated with distraction Friedman test has been used to determine the ranking of each of the components. **Results:** 139 people participated in the six majors in this study which 91 people (65.5%) was female, and 48 people (34.5%) was male. Maximum number of 31 people (22.3) was in laboratory science, Lowest number of 15 (10.08 percent) in medical records, 25 (18%) people in Radiology, health information technology and medical emergencies which each of above course studies with 23 people (16.5 %), Anesthesiology 22 (15.8 percent) participated in this study. Among the internal factors of distraction between male and female students, the sleeping factor was in first priority and "My phone / pager ringing or answering the mobile" was in last priority. Among distraction external factors in male students, the factor "Adornment of professors" with mean 3.27 and SD=1.30 and Mean Rank=23.06 was in first priority, and among external distraction factors in girl students, the factor, "Used clothing and exotic costumes of Classmates" with mean=3.21, SD=1.30 and mean rank=22.66 was in first priority and factor of "Surroundings Noise (mowing, drilling, construction, and ...)" for male and female students was in last priority. **Conclusions:** Attention and concentration are crucial to effective accomplishment. If a teacher is not proficient in controlling attention, focusing and refocusing when things go awry, this can cause loss of focus and in turn create a variety of problems. **Key words:** Distraction, concentration, self-produced distractions, external distraction.

1. INTRODUCTION

Attention and concentration are not the same, although the two terms are used interchangeably. As a result, defining concentration is not as clear as it could be. Attention was originally defined by the psychologist, William James, over a hundred years ago, as processing 'one out of what seem several simultaneously possible objects or trains of thought ... It implies withdrawal from some things in order to deal effectively with others. Attentional focus' is the term used to describe the ability to attend to relevant information during

your teaching (or indeed, any other situation requiring your attention). Concentration is a prerequisite for success within teaching. It is about being totally immersed in the here and now, in the present. The past and future are not important. Your focus on the present seems effortless.

Indeed concentration and mindfulness are very similar (1). Teaching in today's college classroom may be more difficult than ever. Professors commiserate about student skill deficits in reading, writing, and cognition. Technology increasingly invades our classrooms. Initial changes, such as

Power Point, focused on enhancing our teaching techniques. But technology changes shifted from the instructor to the student (2). Distraction is nothing but internal intension of the mind towards involvement of the person. The person does not perform the duty, but pay attention towards the unrelated phenomena of the environment. Therefore, distraction could be defined as not concentrating on the study and deeply concentrating on the study and deeply concentrating to the other things the self-Produced Distracters is the one in that the individual himself/herself is the cause of distraction, not the Self-Produced Distracter. The external distracters are the one in which the external distracters cause distraction among students. In this study the external and self-produced distracters' factors and demographic features are determined by questionnaire. Students in any society are the intellectual and productive and the future markers of a country. They are the groups which devote major part of programming and budget of a country. They are the most intelligent and susceptible group of the society. Therefore, assessment of effective factors in their educational development and attention to them could be stepping forward the permanent development (3).

It's fundamentally anything going on around you that is keeping you from completing a task. Examples of external distractions are loud noises, the television, or talking with friends. Teaching in today's college classroom may be more difficult than ever (2) Various factors cause distraction among students of the classroom to conclude incomplete learning of the learners (4). Understanding the relative potency of these distractions may help us ensure classroom environments that optimize the potential for learning (5).

Problem of concentration is the most cause of distraction among students of classroom.

Distraction is one of the most common problems of lack of concentration in the classroom, seminars, and congresses. We are bombarded by multitudes of external and internal stimuli every day: water running, a clock ticking, a conversation, a TV in the background (2)

Technology increasingly influenced the classes. Today we try to encounter with the portable computer, mobile, tablet, and digital players and recorders of students. Students who wear hats and hoods to class or have tattoos, piercings, hair coloring, and bling (i.e., attractive, flamboyant jewelry and accessories), or sleeping during class are minimally distracting to other students. Students have apparently adapted to some behaviors of their fellow students, such as using the internet, texting and drinking in class. However, students can distract fellow classmates by talking during class, not turning off phones, and having poor hygiene. In fact, students talking with others in class were the second most potent distracter. Students distract themselves the most when they are sick or sleep during class. These impaired physiological states clearly are a detriment to maintaining attention in class. Students are also distracted when their phones ring, when they play video games and when they talk to others. These findings are not surprising. Using other technology and the student's own hygiene were also reported to be top distracters (6). Campbell (2006) and Gilroy (2003) revealed the negative impact of mobile phones on both faculty and students. Yamamoto in 2007 in a Research in a

law school found that Many professors intuitively believe that laptop use should be restricted, and I hope to provide them with evidence that will encourage them to restrict laptop use in their classrooms (7). Gossard (2006) concluded that Students who sit in the back of the classroom exhibit the lowest performance followed by those who sit at the front and middle. Surprisingly, reviewing the text prior to class and class standing had no impact on grade outcomes. An inverse relationship was identified between frequency of seeking outside assistance and grade performance (8). Students, particularly college students, are probably exposed to more types of stimuli than any other group, given their penchant for social interchange and group activities. But have they also learned how to filter them effectively? (6).

If the students who surf the web during class were the only people distracted, then it would be their problem if they were to get a poor grade in the class - this is not the case, though. In addition to distracting students around them, those who use laptops for recreation during class are putting their personal lives on display for those around them. There are, of course, proponents of the use of laptops in the classroom who would disagree with me. Some professors argue that students will daydream and be otherwise distracted, with or without laptops. It has also been argued that students can type notes faster than if they were to write them. There are even professors who argue that students have used the Internet during class as a resource for valuable classroom discussion. Most of the laptop users appear to be disengaged from the lecture and discussion around them, and thus might as well not be there at all. Also, students might be distracted regardless of the presence of laptops, but at least they aren't distracting other students with their internalized thought or quiet doodling (9).

Shelton et.al. (2009) accompanied four experiments that revealed further unfavorable effects of a ringing cell phone on cognitive performance (10). Cell phones are very useful and even necessary in daily life, except in the classroom. Students who use their cell phones during lecture time have found that they may experience themselves in a predicament that's far from amusing (11).

Keshfard and et.al conducted research that found difficulty in understanding of professors' materials, the most important factor was the potential distraction, meanwhile, female students' distraction was shown more than male students (68% versus 32%) (12). Behrooz et. al has found that can be seemed is: one of the main factors in student achievement is deep attention to subjects which said by teachers and classroom exercises. Talking with friends while teaching and exercises in the classroom is 91% distraction factor view pints of students. 80% of students believed that thinking and daydreaming were important factors of distraction in the classrooms. Too much noise and chaos in the classroom can lead to distraction based on viewpoints of 90% of respondents (13).

Mehralizadeh et al (2013) concluded that among the student-related factors, fatigue and sleepiness (mean 3.66 ± 0.66) in class was recognized as the most remarkable factor interfering concentration. Meanwhile, studying teacher-related factors, teacher skills in applied demonstration of learning material (mean 3.47 ± 0.80) was proved to be the main inter-

fering factor. Among environmental factors, lighting and ventilation (mean 3.07 ± 0.87) were the most significant factors. The most students believed that the highest concentration level was obtained in front seats (58.3%) in the morning sessions within 10-12 o'clock (43.8%) (13).

The literature on college classroom distractions centers mostly on laptops both as instructional tools and as distracters. Much of the research such as Fried, 2008; Lohnes and Kinzer, 2007 examined the misuse of technology (e.g., cell phones, MP3 players) during class time to the detriment of the student and those around him, in effect creating a "digital under life" (14-17) Actual distractions of student-to-student interactions are also a major factor (5). Most research reflects the instructor's perspective (18, 19). This research studied classroom distractions factors among students of Faculty of Allied medical Sciences in year 2014-2015, so that with the findings of the research about classroom distractors' factors and to present proposed suggestions for decreasing and removing of distractions.

2. MATERIALS AND METHODS

This is an exploratory study. Data collection in this study was the researcher made questionnaire based on Likert-type scales. Researchers by deep studying of theoretical and experimental researches attempted to build a 35 statements of External and Self-Produced Distracters in the range of five Likert-type scales (totally agree, agree, no opinion, disagree, totally disagree) which totally disagree to totally agree that the grading of 5 to 1. We used Experts and professors for determine the validity of the questionnaire. In order to de-

The external distraction factors		
Gender	N	Mean $\pm$ SD
Male	48	2.7381 $\pm$.80044
Female	91	2.4609 $\pm$.53488

The internal distraction factors		
Gender	N	Mean $\pm$ SD
Male	48	3.53 $\pm$.0.73
Female	91	3.58 $\pm$.0.556

termine the reliability of questionnaire, 30 students of at Sari School of Allied Medical Sciences completed questionnaires. Cronbach's alpha was .88 for external distractions and .94 for self-produces distractions this means that it was Acceptable level for the implementation of the proposal. The population was selected of all undergraduate (continuous and discrete)students in semester 2 to 6 laboratory sciences, radiology, operating room, anesthesia, emergency medicine, health information technology and medical records with 139 (84 girls and 55 boys). SPSS software was used for analyzing the data statistics such as mean, standard deviation and frequency ratings, each subset of the elements associated with distraction Friedman test has been used to determine the ranking of each of the components.

3. RESULTS

Out of 139 people participated in the six majors in this study which 91 people (65.5%) was female, and 48 people (34.5%) was male. Maximum number of 31 people (22.3) was in laboratory science, Lowest number of 15 (10.08 percent) in medical records, 25 (18%) people in Radiology, health infor-

No	Self-Produced Distracters	Female			Male		
		Mean	SD	Mean Rank	Mean	SD	Mean Rank
1	Sleeping	4.38	.84	15.82	4.38	.98	16.07
2	Distrust	3.43	1.05	10.38	3.46	1.32	10.71
3	Chewing Gum	4.25	.95	15.19	3.75	1.19	12.52
4	losing hope for future' employment	3.85	1.04	12.59	3.96	1.29	14.11
5	Anxiety and stress	4.04	.94	13.77	3.96	1.13	13.75
6	Fantasies and dreams of being overwhelmed	4.10	1.05	14.04	4.04	1.03	13.88
7	Love and emotional issues	3.79	1.09	12.23	3.90	1.10	12.96
8	Sitting apart from friends	2.80	1.26	7.39	3.40	1.20	10.38
9	Away from parents	2.92	1.20	7.89	2.96	1.37	8.58
10	Lack of motivation and interest in the field	3.86	1.23	13.18	3.31	1.49	10.46
11	Doing work for other courses	3.67	1.10	11.38	3.06	1.28	8.53
12	Arriving late to class, leaving early	3.34	1.19	9.86	3.31	1.29	10.72
13	Sitting in front of the class	2.68	1.21	7.35	3.15	1.30	9.41
14	Sitting in the end of the class	3.13	1.32	9.13	3.02	1.36	8.96
15	Playing paper and pencil games, doodling, etc.	3.34	1.18	10.02	3.15	1.24	9.42
16	Mobile phone or computer games	3.98	1.12	13.81	3.73	1.14	12.50
17	Talking with others in class	4.09	.96	14.20	3.81	1.10	13.06
18	Economically poor families	3.09	1.15	9.01	3.58	1.20	11.40
19	Poor personal hygiene (odors, looking dirty, etc.)	3.98	1.20	13.48	3.71	1.25	12.38
20	Your illness symptoms (coughing, sneezing, sniffing, etc.)	3.93	1.18	13.08	3.63	1.16	11.34
21	Drinking, Eating in class	4.13	.96	14.41	4.08	1.11	14.63
22	My phone / pager ringing	2.00	1.15	4.81	2.42	1.35	7.25

Table 1. Distribution of student responses to internal distractions (Self-Produced) Distracter factors

Gender	The Friedman test	DF	Significant Level
Male	10.339	21	0.000
Female	479.813	21	0.000

Table 2. Friedman test self-produced Distracters in students mation technology and medical emergencies which each of above course studies with 23 people (16.5 %), Anesthesiology 22 (15.8 percent) participated in this study.

Internal distractions factors (Self-Produced) Distracter factors

In response to second question: "What are the internal distractions (Self-Produced) factors among students of the classroom of at Sari School of Allied Medical Sciences 2014-15"? The Mean Rank that can be seen in Table 1, among

the internal factors (Self-Produced) of distraction between male and female students, the sleeping factor was in first priority and "My phone/pager ringing or answering the mobile" was in last priority which, mean, SD and Mean Rank of every statement in male and female has shown separately in table 1.

Rating of answers in the questionnaire of distraction by internal factors among students is 1 and 5, so the average of theoretical mean is equal to 3. As shown in table 1, the mean of internal factors of distraction among male students (3.53) and female students (3.58) is higher which showed that viewpoint of descriptive, internal distraction factors among students of Allied medical sciences at Mazandaran University of medical sciences are more than theoretical mean (3). Regarding the table 1, the mean of internal distraction factor

The external distracters		Male		Female			
		Mean Rank	SD	Mean	Mean Rank	Std. Deviation	Mean
1	heating/air conditioning	11.99	1.31	2.10	12.51	1.31	2.10
2	Classroom smells	14.08	1.28	2.38	13.84	1.28	2.38
3	Lighting (glaring, too bright, etc.)	14.71	1.27	2.38	14.96	1.27	2.38
4	Inappropriate use of blinds in the classroom	17.23	1.21	2.63	18.68	1.21	2.63
5	Not cleaning of the classroom	18.11	1.29	2.77	17.70	1.29	2.77
6	Surroundings Noise (mowing, drilling, construction, and ...)	11.94	1.22	2.08	12.09	1.22	2.08
7	Inadequate training equipment in the classroom	17.22	1.35	2.73	15.02	1.35	2.73
8	Flickering of light to white board	16.50	1.20	2.60	14.99	1.20	2.60
9	Damage or broken windows or doors of the class	19.43	1.21	2.90	21.39	1.21	2.90
10	Inappropriate posts and pictures in class (the Chair, on the wall, etc.)	18.11	1.21	2.69	18.63	1.21	2.69
11	Noise, ventilation, air conditioning and fan in the classroom	16.61	1.25	2.58	16.32	1.25	2.58
12	Insects (beetles, flies, ...) in the class	19.06	1.23	2.83	12.65	1.23	2.83
13	Coming late and leaving early in Classrooms	19.93	1.32	2.96	19.75	1.32	2.96
14	Lack of personal hygiene of Classmates	20.38	1.24	2.96	22.14	1.24	2.96
15	Sickness or disease of Classmates	20.42	1.17	3.00	22.21	1.17	3.00
16	on or wear out of the clothes at the time of teaching	22.43	1.09	3.15	23.47	1.09	3.15
17	Coughing and sneezing of classmates	21.97	1.06	3.17	24.26	1.06	3.17
18	Sleeping of classmates	21.29	1.07	3.08	22.45	1.07	3.08
19	Playing with a pen and paper and fingers by Classmates	20.38	1.17	2.96	21.50	1.17	2.96
20	Play with your cell phone or PC by Classmates	20.39	1.21	2.98	21.40	1.21	2.98
21	mobile ringing of the classmates	19.83	1.24	2.94	16.26	1.24	2.94
22	Eating and drinking of classmates in the classroom	20.61	1.14	3.02	21.45	1.14	3.02
23	Talking of classmates with me or with another	12.21	1.10	2.19	12.18	1.10	2.19
24	The large number of students in class	13.10	1.34	2.21	16.20	1.34	2.21
25	Small classroom space	12.64	1.20	2.15	13.40	1.20	2.15
26	Changing and moving classroom equipment By Classmates	16.95	1.10	2.65	19.77	1.10	2.65
27	Used clothing and exotic costumes of Classmates	22.66	1.30	3.21	24.29	1.30	3.21
28	Adornment of professor	23.06	1.30	3.27	20.80	1.30	3.27
29	inappropriate voice of Professor	19.59	1.27	2.85	15.55	1.27	2.85
30	Discriminate between students by teacher	14.01	1.34	2.25	14.92	1.34	2.25
31	Professor is looking to one side or special students	19.19	1.28	2.83	17.10	1.28	2.83
32	Instructor using repetitive words or phrases	17.16	1.26	2.67	17.64	1.26	2.67
33	Mobile ringing of professor	18.18	1.32	2.79	16.47	1.32	2.79
34	Answering the phone by Professor	19.41	1.31	2.94	19.03	1.31	2.94
35	Answering the outside customers at the time of teaching	19.24	1.38	2.96	18.97	1.38	2.96

Table 3, Distribution of student responses to the external distracter factors

among female students are higher than internal distraction factors among female students. To check whether the ratings obtained are statistically significant differences, Friedman test results are presented in Table 2.

According to the Friedman test P value 0.000, Since significant level is lower than 0.05, so there is significant differences in the self-produced which causing distractions among students, so, separation of rankings is possible from each other.

In response to second question: "What are the external distraction factors among students of the classroom of at Sari School of Allied Medical Sciences 2014-15"?

Among distraction external factors in male students, the factor "Adornment of professors" with mean 3.27 and SD=1.30 and Mean Rank=23.06 was in first priority, and among external distraction factors in girl students, the factor, "Used clothing and exotic costumes of Classmates" with mean=3.21, SD=1.30 and mean rank=22.66 was in first priority and factor of "Surroundings Noise (mowing, drilling, construction, and ...)" for male and female students was in last priority which mean, SD, and Mean Rank as shown separately in Table 3.

Rating of answers in the questionnaire of distraction by external factors among students is 1 and 5, so the average of theoretical mean is equal to 3. Mean of external factors of distraction among male students is (2.74) and among female students (2.46) of theoretical is less than theoretical mean which indicates that in terms of description of external factors distraction among male and female students of Mazandaran University of Medical Sciences is relatively low. Regarding to table, the mean of external factors of distractions among male students is high than the mean of external factors among male students.

To check whether the obtained ratings external distraction factors statistically significant differing, the Friedman test results are presented in Table 4.

Gender	The Friedman test	DF	Significance level
Male	201.33	34	0.000
Female	462.82	34	0.000

Table 4. Friedman test external distracters in students

According to the Friedman test P value 0.000, Since significant level is lower than 0.05, so there are significant differences in the external factors which causing distractions among students, so, separation of rankings is possible from each other.

4. DISCUSSION

Regarding the fact that concentration is a grasping mental process, changing some Behavioral patterns among students could cause enhancement in their concentration level. This may include planning for enough rest, paying attention to applied presentation of materials and accordingly positive students, and providing an appropriate learning situation such as physical conditions of the Classroom. Lack of concentration is one of the most recurrent objections heard on a college campus.

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