

### Analyzing the Influence of Medical Stager and Intern Presentation in Simultaneous Seminars with Pre-Organizer Strategy on the Quality of Education from the Students' Perspective in Infectious Disease Ward (2012-2013)

**Background:** clinical education with patient-focused learning is very important in medical education. Therefore, it is very essential to select an appropriate education method. The current study was conducted to analyze the impact of simultaneous presentation of medical stager and inter in seminars provided with a pre-organizer strategy and from the students' perspective (2012-2013).

**Methods:** this is a semi-experimental study with post-test method for a group of students. The students' perspective was evaluated via a questionnaire (including four arenas) designed by the researcher, after educating with seminar method and in the end of four semesters. The study population included staggers and interns studying during the four semesters. 33% of the students (36 people) were female and 70 students were male (66%).

**Results:** the results presented that 57.7% of the students believed this method enhanced team-working, and 67.9 % believed it activated the students. 89.6% declared this method upgrades learning and 50.9% mentioned that it organized and categorized the information in students' mind. In total, 70.8% of the students preferred this method to other methods. There was no significant relationship between average, age, gender and grade with students' perspective in relation with the influence of this method in organizing information, increasing learning, activating students, and enhancing team-working ( $P > 0.05$ ).

**Conclusions:** according to the results, this method in recommended and it upgrades the quality of clinical education.

**Keywords:** Education Quality; Seminar; Pre-organizer; Infectious Disease Ward

Khaironnesa Ramezanzadeh<sup>1</sup>; Azadeh Ebrahimzadeh<sup>2\*</sup>  
<sup>1</sup>Social Determinants of Health Research Center, EDC, Birjand University of Medical Sciences, Birjand, IRAN  
<sup>2</sup>Hepatitis Research Center, Department of Internal Medicine, Birjand University of Medical Sciences, Birjand, IRAN

\*Department of Internal Medicine, Faculty of medicine, Birjand University of Medical Sciences, Birjand, IRAN

Tel: +98 (56) 32234717  
 Fax: +98 (56) 32234717  
 E-mail: mr14436@yahoo.com  
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### دراسة تأثير إجراء مؤتمر مشترك لطلاب المراحل السريرية مع التخطيط المسبق في قسم الأمراض العفوية على كيفية التعليم من خلال رؤية الطلاب لسنة (١٣٩٢-١٣٩١)

**المقدمة والهدف:** إن التعليم السريري على أساس التعليم والتعلم المتشاور حول المريض يعتبر أمر بالغ الأهمية في سير تعليم الأطباء. لذا إختيار الأسلوب المناسب هو أمر ضروري جدا لذا تهدف هذا الدراسة إلى تقييم نظرة الطلاب في تأثير إجراء مؤتمر مشترك لطلاب المراحل السريرية مع التخطيط المسبق في قسم الأمراض العفوية في جامعة بيرجند للعلوم الطبية لعام ٩٢-١٣٩١

**الأسلوب:** إن هذه الدراسة التي هي من نوع السببه إختيارية والتي تعتمد على ما بعد الإختبار عند فريق معين بعد أن تم التعليم تم إستخدام مؤتمر على أساس التخطيط المسبق خلال أربعة فصول طبية و تم تقييم رؤية الطلاب في أربعة مجالات من خلال أربع استمارات مؤيدة إحصائيا . مجموعة الطلاب هي كل طلاب المرحلة السريرية الذين دخلوا خلال أربعة فصول دراسية إلى قسم الأمراض العفوية و كان عددهم ٣٦ طالبة (٢٣%) و ٧٠ طالب (٦٦%).

**النتائج:** أشارت نتائج هذه الدراسة إلى أن هذا الأسلوب كان في نظر ٥٠.٥٧% من الطلاب يساهم في تحسين العمل الجماعي و في نظر ٩٠.٦٧% يساعد على تفعيل الطالب و إعتقد ٦٨.٨٩% إن إجراء هذا الأسلوب يرفع مستوى التعلم. و أذعن ٩٠.٥٠% إلى أن هذا الأسلوب يساعد على تنظيم المعلومات في الذهن. و رجع ٨٧.٧٠% هذا الأسلوب على سائر الأساليب. لم يكن هناك إرتباط زوقيمه إحصائية بالنسبة إلى متغيرات المعدل و العمر و الجنس و المرحلة الدراسية مع نظرة الطلاب تجاه تأثير هذا الأسلوب في برمجة المعلومات. رفع مستوى التعلم. مستوى فعالية الطلاب. و تحسين العمل الجماعي ( $p > 0.05$ )

**الإستنتاج:** نظرا إلى نتائج هذه الدراسة. نوصي بإجراء هذا الأسلوب التعليمي لإرتقاء كيفية التعليم السريري.

**الكلمات الرئيسية:** كيفية التعليم - المؤتمر - التخطيط المسبق - قسم الأمراض العفوية.

### بررسی تأثیر ارائه کنفرانس کارآموزان و کارورزان پزشکی به صورت همزمان با رویکرد پیش سازماندهنده در بخش عفونی در کیفیت آموزش از دیدگاه دانشجویان (سال تحصیلی ۱۳۹۲-۱۳۹۱)

**مقدمه و هدف:** آموزش بالینی به مفهوم آموزش و یادگیری متمرکز بر بیمار؛ در روند آموزش پزشکان از اهمیت بسزایی برخوردار است. لذا انتخاب رویکرد آموزشی مناسب، ضروری می باشد. پژوهش حاضر با هدف بررسی دیدگاه دانشجویان درباره تأثیر ارائه کنفرانس کارآموزان و کارورزان پزشکی به صورت همزمان با رویکرد پیش سازماندهنده در بخش عفونی دانشگاه علوم پزشکی بیرجند در سال ۱۳۹۲-۱۳۹۱ انجام شده است.

**روش:** این پژوهش از سری تحقیقات شبه آزمایشی به شیوه پس آزمون برای یک گروه می باشد. پس از آموزش با استفاده از کنفرانس با رویکرد پیش سازماندهنده در ۴ ترم متوالی، با پرسشنامه‌ای محقق ساخته (در ۴ حیله) دیدگاه دانشجویان ارزیابی گردید. جامعه آماری کلیه دانشجویان پزشکی کارآموز و کارورز که در این ۴ نیمسال تحصیلی وارد بخش عفونی شدند و شامل نفر ۳۶ نفر (۳۳ درصد) دانشجوی خانم و ۷۰ نفر (۶۶ درصد) دانشجوی آقا بودند.

**یافته ها:** نتایج نشان داد که اجرای این روش از نظر ۵۷/۵ درصد دانشجویان باعث بهبود کار تیمی، از نظر ۶۷/۹ درصد باعث فعال بودن دانشجو می شود و همچنین ۸۹/۶ درصد اعتقاد داشتند اجرای این روش باعث افزایش یادگیری و ۵۰/۹ درصد اذعان نمودند که منجر به سازماندهی درست اطلاعات در ذهن می گردد و حدود ۷۰/۸ درصد دانشجویان این روش را به سایر روش‌ها ترجیح دادند در بررسی ارتباط بین متغیرهای معدل و سن، جنسیت و مقطع تحصیلی با دیدگاه دانشجویان در رابطه با تأثیر این روش در سازماندهی اطلاعات، افزایش یادگیری، فعال بودن دانشجو، بهبود کار تیمی ارتباط مناداری وجود نداشت ( $P > 0.05$ ).

**نتیجه گیری:** با توجه به نتایج این پژوهش، این روش آموزش جهت ارتقاء کیفیت آموزش بالینی توصیه می گردد.

**واژگان کلیدی:** کیفیت آموزش، کنفرانس، پیش سازماندهنده، بخش عفونی

### میڈیکل طلباء کی تعلیم پر کانفرنس کے اثرات، یہ کانفرنس پہلے سے تیاری کر کے متعدی امراض کے سلسلے میں دی گئی تھی۔ اس میں طلباء کی نظر سے کانفرنس کی تاثیر کا جائزہ لیا گیا ہے

**بیک گراؤنڈ:** کلینیکل تعلیم کا مقصد بیمار پر پوری توجہ مبذول کر کے طبابت سیکھنا ہے لہذا اس شعبہ میں مناسب تعلیمی روشیں اپنانا نہایت ضروری ہے۔ اس تحقیق میں طلباء اور انٹرن شپ کے طلباء کی کانفرنس کے اثرات کا جائزہ لیا گیا ہے۔ یہ تحقیق دو ہزار تیرہ اور چودہ میں انجام دی گئی ہے۔

**روش:** اس تحقیق میں طلباء کے ایک گروہ کو پوسٹ ٹسٹ روش سے آزمایا گیا۔ چار ترموں میں پہلے سے تیاری کے ساتھ کانفرنس دینے کی ٹریننگ دی گئی اسکے بعد ایک سوالنامہ دیا گیا جو چار شعبوں پر محیط تھا۔ اس سال کے دوسرے نصف حصے میں متعدد بیماریوں کے وارڈ میں چھتیس طالبات اور ستر طلباء نے داخلہ لیا۔

**نتیجے:** اس تحقیق سے پتہ چلتا ہے کہ ستاون فیصد طلباء و طالبات کا کہنا ہے کہ اس سے طلباء کے فعال ہوتے ہیں۔ اناسی اعشاریہ چھے فیصد طلباء کا کہنا تھا کہ اس روش سے سبق یاد کرنے میں آسانی ہوتی ہے۔ پچاس فیصد طلباء نے کہا ہے کہ اس روش سے ذہن میں اطلاعات جمع کرنے میں آسانی ہوتی ہے۔ ستر اعشاریہ آٹھ فیصد طلباء کا کہنا ہے کہ وہ اس روش کو دیگر روشوں پر ترجیح دیتے ہیں۔

**سفارشات:** چونکہ یہ روش طلباء کے نزدیک مفید ہے لہذا تعلیم میں فروغ لانے کے لئے اسے اپنائے جانے کی سفارش کی جاتی ہے۔

**کلیدی الفاظ:** تعلیمی معیار، کانفرنس، پہلے سے تیاری، متعدی بیماریوں کا وارڈ۔

## INTRODUCTION

As the attention to principals of medical education increases, extensive researches have been conducted to use the best teaching methods at Medical Schools. Moreover, clinical education with a focus on patients is highly important. In Iran, between 0.1 to 1% of people who feel sick are hospitalized at educational hospitals that provide medical education for students (1).

However, since there is one-month course for stager in infectious disease ward and many of infectious diseases spread at specific months of the year, students and interns do not face with some infectious diseases depend on the month that they pass the course. Therefore, they are not educated for a set of diseases which is very important issue and cannot be ignored. Part of infectious diseases training is provided by stager and intern seminars and under professors' supervision. Both theoretical and practical, basic sciences and clinical education are provided simultaneously and also the responsibilities of a medical student is reminded (2).

However, it is clear that when an attitude is obtained via gaining experience is more valuable therefore, according to the status of the community, education should be provided in accordance with individual, social and group needs so that students recognize clinical symptoms of diseases and be trained for treatment (3). Consequently, appropriate opportunities are provided for recognition and treatment of patients and students are empowered and educated for treatment management and encountering with patients.

The hierarchy of the content is not organized mostly in seminar method that leads to students' confusion. They cannot organize the presented information in their minds. Therefore, it is essential to use an educational method that overcomes these challenges. From Azoubel's perspective, learning is meaningful when there is a relationship with the saved cognitive structure of the person. So cognitive structure or basic information that exists in mind and is related to the new content, prepares the learner to learn new content.

When pre-organizing approach is used in teaching, a concise and general framework of the syllabus should be developed in the beginning for the learners. The detailed content should be provided in the following sessions; the learner realizes about the general syllabus and then learns the details gradually.

Learner should be active in learning process that is if the learner be more active in discovery, perception and understanding, the motivation increases. The advantages of this method are presentation of more content and students' involvement. Therefore, learning enhances and the data remains in mind for a longer period of time. Moreover, the data is organized in student's mind since a framework is developed for them (4).

The results of the studies confirm this fact. A study conducted in 2008 on 80 female students in Marvdasht, showed that learning process was significantly higher among pre-organizing method in compare with lecture method (5). Chung et al (2013) and Azoubel (1960) conducted a research to analyze the influence of pre-organizers on students'

learning. The results confirm the importance of using pre-organizers to enhance learning (6, 7). However, it should be mentioned that short-term learning is evaluated in these studies. Alien (1969) and Neis Worth (1967) studied the influence of this method on long-term learning (8,9). Dubravka Celinsek recommends pre-organizer method to increase learning among students (10).

Learning process in medical sciences is highly important owing to the fact that it is in direct contact with human beings' life (11). In the present study, seminar method has been combined with pre-organizers strategy and students' perspective on the influence of this method on empowerment of team-work, activation of students and increase of learning have been evaluated.

## METHODS

This is a semi-experimental (post-test for a group) study. Firstly, students were educated with seminar method with pre-organizer strategy (independent variable) and then its influence was evaluated. The results were presents descriptively and analytically.

In students' opinion, data presented in seminar method were scattered. Therefore, the content was studied in order to solve this problem and pre-organizer method was chosen. It was decided to use seminar method with pre-organizer approach to teach infectious course. This method was conducted in four continuous semesters and students' perspective was evaluated in four important teaching process including enhance learning, information retention in mind, activation of students and increase of team-working. The study population included 70 male students and 36 females that studies in four semesters during 2012 and 2013 in infectious ward.

The instrument to assess students' perspective was a questionnaire developed by the researcher including 21 questions using Likert scale (totally disagree to totally agree) that was designed according to theories. The validity was evaluated using books and scientific articles and also 5 faculty members of ethnic sciences assessed the questionnaire. Cronbach's alpha method was used to evaluate reliability. The coefficient was 89% for the whole questionnaire and for different parts were as follow: enhancement of team-working (91%), active participation of students (85%), learning enhancement (97%) and organization of data in mind (88%). Implementation of seminar method with pre-organizing approach was as follow: firstly main and particular purposes of this method were explained for the students. Students were categorized in groups. A stager and an intern were in each group. The subjects of the syllabus were infectious diseases and students were supposed to study according to the syllabus provided for them. Each group selected the subject and time of presentation on their own. Groups were supposed to conduct research on the subject in team-working and read the most current scientific articles about the disease. Then according to the schedule they presented their subjects.

In pre-organizer strategy, stager was supposed to present about pathophysiology, pathology, epidemiology, and clinical and laboratory symptoms of disease about 20

minutes, then, intern presented about disease diagnosis, differential diagnosis, treatment and prevention of the same disease for 20 minutes. And 20 minutes was considered for professor to sum up and students to express their opinions. The schedule of the seminar was announced to students in advance and they were asked to have pre-reading and the professor asked questions during the seminar regularly. Therefore, data were organized in students' minds regularly (from general to specific). Each seminar was evaluated according to two factors: presentation and the quality of the content. At the end of the semester, students' perspectives were assessed about the approach.

**RESULTS**

The population study included 36 female students (33%) and 70 male students (66%). The age mean was  $24.91 \pm 2.01$ . 48 of participants were stager (45.3%) and 58 of them were intern (54.7). 33 percent of the participants (35%) stated that they have experienced this method before and 63.2 & (71 students) said that they have not experienced the method before and about 10 % that is 10 people provided no answer. The grade of the participants was between 12 to 19 and the average grade was  $16.61 \pm 34.1$ .

61 participants (57.5%) believed that this method enhances team-working. 95 of them (89.6%) mentioned it improves learning and 54 students (50.9) said it organizes the data in mind properly. 76 students (70.8%) preferred this method to other methods (Table 1).

Students' perspective	Totally agree	Agree	No idea
Upgrading team-working	57.5	32.1	10.4
Activating the students	67.9	20.8	10.4
Enhancing learning	89.6	7.5	2.8
Organizing data	50.9	42.5	6.6
Preferring this method to other methods	70.8	19.8	9.4

There was no significant relationship between grade and age variables and students' perspective in relation with the influence of this method on organizing data, enhancing learning, activating students, improving team-working and preferring this method to other methods ( $P > 0.05$ ) (Table 2). There was a significant relationship between gender variable and students' perspective in relation with the influence of this method on organizing data, enhancing learning, activating students, improving team-working and preferring this method to other methods ( $P > 0.05$ ) (Table 3).

There was no significant relationship between level of education and students' perspective in relation with the influence of this method on organizing data, enhancing learning, activating students, improving team-working and

**Table 2. Analyzing students' perspective with age and grade**

Variable	Age	Grade
Organizing data	r= -0.04	r= 0.18
	p= 0.67	p= 0.07
Increase learning	r= -0.09	r= -0.02
	p= 0.35	p= 0.81
Active students	r= -0.03	r= 0.002
	p= 0.7	p= 0.98
Upgrade team-working	r= -0.13	r= -0.06
	p= 0.18	p= 0.52
Total preference of the method	r= -0.08	r= -0.60
	p= 0.4	p= 0.54

preferring this method to other methods. ( $P > 0.05$ ) (Table 4)

**DISCUSSION**

In this study, 89.8% of students stated that this teaching method enhances learning to a large scale that is similar to the results of Nemati and Fani (2008), and Chung et al (2013). Moreover, Azoubel (1960) study had similar results (5, 6), it focused on short-term learning and the results are very similar to the present study. It is recommended that in future studies this method combines with other teaching method and besides students' perspective, level of learning and retention be assessed so that the results of these researches provide a clear vision of localized teaching method in Iran and especially in Health Education that is very important.

According to the results of the current study, it seems that this is an appropriate method but more attention should be paid to some factors such as motivation for team-working. The percentage of team-working was 67.5. Moreover, the method should be explained for students and also they should experience some practical cases of team-working and its advantages, no study was found in this respect.

Analyzing the influence of this method on activating students, 67.9 % of participants stated that it was very influential. Bloom considers active participation as one of the important indexes of effectiveness (12) and Jarrahi and Najafi (2013) realized that active students learn better (13). Accordingly, this method is influential.

From 50.9 % students' perspective, mixing seminar method with pre-organizers strategy lead to proper organization of data in mind that results in retention of data, as well. In the studies of Alein (1969) and Neis Worth (1967), the influence of this method on long-term learning and retention was studied (8, 9) and have confirmed this result. Since the purpose of any training is to learn and remember the presented content, especially in medical education, therefore, the important of this issue is confirmed.

70.8% of students preferred this method to other methods that was similar to other researches. According to the study, students prefer clinical-based training to traditional and regular methods. In addition, they like to have active participation in classes and presentations (14). In another study, students were eager to experience teaching-learning method. They presented their knowledge in smaller groups (15). The results were also similar to Dubravka Celinsek's study (10).

Variables	Gender	Standard deviation	Average	Significant relationship
Organizing data	male	2.04	39.8	0.432
	female	1.73	9.17	
Enhance learning	male	2.68	11.83	0.231
	female	6.66	14.07	
Activating students	male	3.87	31.27	0.316
	female	0.93	29.32	
Increase team-working	male	0.98	3.51	0.703
	female	0.98	3.74	
Total preference to other methods	male	0.71	1.45	0.001
	female	0.49	1.22	

Variables	Level	Standard Deviation	Mean	Significant relationship
Organizing data	stager	2.09	8.39	0.64
	intern	1.85	8.88	
Increase learning	stager	5.92	12.72	0.68
	intern	2.89	12.4	
Activating students	stager	0.98	3.68	0.31
	intern	4.20	4.44	
Upgrading team-working	stager	0.93	3.6	0.54
	intern	1.02	3.56	
Total preference of method	stager	0.56	1.37	0.2
	intern	0.72	1.39	

According to the results of the present study, it could be stated that this method made students more eager to learn new subjects. As evidences show, students who had seminar course before this study, the course was considered as an assignment to gain score. After the implementation of this method, because they were expected to improve their scientific level and study more, they became more interested in learning and participating in seminars.

Another consequence of this method is that students skill in finding scientific national and international references upgraded. In addition, students' motivation to participate in group activities increased, and also the quality of training

about diseases that they have not encountered improved. The limitation of the study was that the researcher could not control interfering variables such as interest, motivation, and etc. Therefore, it is recommended that the practicality of this method be assessed in thorough laboratory condition. Moreover, it is suggested to use films and clips provided by students to enhance cognitive skills. In cases that a patient who has the specific disease is available, it is better to provide some part of presentation in the ward. If the students' presentation about a subject is insufficient, professor should provide complimentary explanation.

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