



# Peer Learning Method in Health Sciences: Cases of Students at the Higher Institute of Medical Techniques of Lubumbashi in Dr. Congo

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## Abstract

**Introduction:** Peer learning is an asset that contributes to improving the acquisition of knowledge and skills development among students of the Higher Institute of Medical Techniques of Lubumbashi based on the experiences of peers. The objective of this study is to evaluate the usefulness of peer learning on the behavior of students at the Institut Supérieur des Techniques Médicales in Lubumbashi, DR Congo. **Method:** We conducted a cross-sectional descriptive study with analytical purposes during a period from April 17 to July 26, 2024 using the strata sampling technique on an entire sample of 469 students, 141 of whom were male and 328 were female. **Results:** At the end of the surveys, we noted that thanks to this peer learning method, the students had to develop skills based on the expertise of their colleagues, this is revealed in Bac2 (67.5%); Bac3 (85.7%); L1 (92.7%) and L2 (88.2%). In addition, the strengthening of reasoning ability through this learning is affirmed in Bac2 (71.4%); Bac3 (97.9%); L1 (97.6%) and L2 (76.5%). **Conclusion:** The peer learning method values the learner, making him or her the master of his or her learning; it stimulates students to exchange knowledge and to be able to develop skills based on the experiences of others to increase their performance. Thus, students are invited to be aware of this to avoid any distracting effects and demotivating factors towards their colleagues.

## Subject Areas

Educational Reform

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## Keywords

Learning, Peers, Students, Higher Institute, Medical Techniques, Lubumbashi

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## 1. Introduction

Peer learning is a micro strategy in which students organize themselves into two or small groups composed of 3 to 6 people, each of whom takes turns playing the role of teacher or learner. Via this method, students learn simple self-help strategies in order to acquire knowledge and develop various skills related to their own discipline [1].

This learning style aims to achieve both cognitive and affective objectives and is based on the interaction and individual responsibility of student members of the team. Peer coaching is a form of facilitation aimed at implementing collaborative activities aimed at better construction of knowledge by and for each peer. In addition, this style is based on the philosophy that knowledge is constructed in a participatory manner by learners [2].

Baudrit emphasizes that peer learning leads to a collective organization that relies on the sharing of knowledge, where each student can share their knowledge and receive it from others. In the end, the students share the knowledge produced to move forward in their learning activity [3].

According to Kravong, this peer learning strategy allowed students to develop a better perception linked to collaborative behaviors with peers as well as determination behaviors regarding the subject they are learning in order to develop various skills in relation to their field of study to learn to work in a team [4].

## 2. Methods

Our study took place in Lubumbashi, capital of the Haut Katanga province, precisely at the Higher Institute of Medical Techniques of Lubumbashi (ISTM/L'SHI).

### 2.1. Study Period and Study Environment

We conducted a cross-sectional study during a period from April 17 to July 26, 2024. The study took place at the Higher Institute of Medical Techniques of Lubumbashi in the Democratic Republic of the Congo.

### 2.2. Study Population, Sampling and Sample Size

Students from the Higher Institute of Medical Techniques of Lubumbashi in the Democratic Republic of Congo constituted our study population (Source). We used multistage random sampling. The first stage consisted of choosing the study rooms (Classrooms) considered as clusters. The second stage consisted of snowball sampling in each stratum and we collected 469 students, 141 of whom were male and 328 were female; some evolving in the new LMD system (License-Master-Doctorate) and others from the old program, precisely those of the second

cycle of License. Note that as a cluster, we have the promotions of Bachelors (1, 2 and 3), license (1 and 2). Thus, we have: 187 students were BAC1; 126 BAC2 students; 98 BAC3 students; 41 L1 students and 17 L2 students.

### 2.3. Data Collection and Analysis Tools

The data useful for this study were collected using a questionnaire administered to each stratum. After collecting the data, we used Epi info 7.2.2.6 software for encoding and analysis of the data.

## 3. Results

**Table 1.** Sociodemographic and academic characteristics.

Variable	Frequency (N = 469)	Percentage
<b>Age</b>		
[18 - 20[	160	34.1
[20 - 22[	199	42.4
[22 - 24[	63	13.4
[24 - 26[	39	8.3
[26 - 28[	25	5.3
[28 - 30[	15	3.2
≥30	2	0.4
<b>Sex</b>		
Male	141	30.1
Female	328	69.9
<b>Promotion</b>		
BAC1	187	39.9
BAC2	126	26.9
BAC3	98	20.9
L1	41	8.7
L2	17	3.6
<b>Department</b>		
Community Health	39	8.3
Midwife	22	4.7
Anesthesia and Resuscitation	11	2.4
General Care	137	29.2
Hospitable	108	23.0
Laboratory	80	17.1
Nutrition and Dietetics	62	13.2
Management of Health Services organizations	10	2.1

In terms of age, we observe that students who are between 20 and 22 years old were mainly represented (42.4%) versus those whose age is  $\geq 30$  years old (0.4%) (See **Table 1**).

Regarding gender, female students are predominantly represented, i.e. 328 students (69.9%) versus male students (30.1%). Regarding promotions or departments, general care students are represented in 29.2% of cases compared to those in the health services organization management department (2.1%).

**Table 2.** Distribution of students by group utility.

Group Utility	Frequency	Percentage
Do joint research	86	18.3
Knowledge sharing	85	18.1
Acquire professional skills	57	12.2
Take advantage of each other's experience	66	14.1
To strengthen reasoning skills	53	11.3
To acquire managerial skills	71	15.1
Easy mastery of the different lessons	51	10.9
Total	469	100

Doing research was cited as useful to the group (18.3%) compared to easy mastery of the different lessons (10.9%) (See **Table 2**).

**Table 3.** Distribution of respondents according to the attitude experienced during learning.

Attitude experienced when learning	Frequency (469)	Percentage
Emulation driven by the group	148	31.7
Pleasure of working with peers	124	26.4
We become very active	98	20.9
Disappearance of feelings of seeming	50	10.7
Organization	49	10.5

The emulation driven by the group, the pleasure of working with pairs as well as the fact of becoming active were the attitudes experienced during learning by pairs with respectively 31.7%, 26.4% and 20.9% (See **Table 3**).

**Table 4.** Distribution of respondents according to demotivation factors for peer learning.

Demotivation factors	Frequency (469)	Percentage
Unnecessary distraction from the few colleagues	97	20.7
Difficult adaptation for some colleagues	90	19.2
Discussions related to misunderstanding	93	19.8
Mockery by some colleagues	33	7

**Continued**

Inferiority complex in some people	41	8.7
Waste of time	59	12.6
Bragging by some colleagues	21	4.5
Non-compliance with working hours	26	5.5
Imposition of the group leader's opinion	9	1.9

The unnecessary distraction of a few colleagues was the most cited demotivation factor (20.7%) by students versus the imposition of the group leader's opinion (1.9%) (See **Table 4**).

**Table 5.** Distribution of respondents according to positive opinion on teamwork by promotion (classroom).

	Classroom (N, %)				
	BAC1 (N = 187)	BAC2 (N = 126)	BAC3 (N = 98)	L1 (N = 41)	L2 (N = 17)
<b>Positive opinion on teamwork by classroom</b>					
Do joint research	69 (36.9%)	99 (78.6)	92 (93.9)	29 (70.7)	9 (52.9)
Knowledge sharing	56 (29.9)	96 (76.2)	91 (92.9)	39 (95.1)	10 (58.8)
Acquire personal and professional skills	65 (34.8)	87 (69.0)	89 (90.8)	21 (51.2)	8 (47.1)
Take advantage of each other's experience	41 (21.9)	85 (67.5)	84 (85.7)	38 (92.7)	15 (88.2)
Strengthen reasoning skills	59 (31.6)	90 (71.4)	96 (97.9)	40 (97.6)	13 (76.5)
Acquire managerial and relational skills	70 (37.4)	67 (53.2)	66 (67.3)	33 (80.5)	11 (64.7)
Easy mastery of the different lessons	68 (36.4)	101 (80.2)	41 (41.8)	37 (90.2)	16 (94.1)

Regarding the opinion on teamwork by promotion (classroom), we observed the following:

Do joint research with a high proportion in BAC3 (93.9%);

Share knowledge with a high proportion in L1 (95.1%);

Acquire personal and professional skills with a high proportion in BAC3 (90.8%);

Benefit from the experience of others with a high proportion in L1 (92.7%);

Strengthen reasoning skills with a high proportion in BAC3 (97.9%);

Acquire managerial and relational skills with a high proportion in L1 (94.1%).

Easy mastery of the different lessons, the high proportion of which was observed in L1 (80.5%) (See **Table 5**).

Concerning the negative opinion on teamwork, we noted the following proportions per classroom:

Unnecessary distraction of the few colleagues with a large proportion in L1 (70.0%);

Loss of time with a large proportion in L2 (41.2%);

Bragging from certain colleagues with a large proportion in BAC2 (42.9%);

Non-compliance with working hours with a large proportion in BAC 2561.9%);

Imposition of the opinion of the group leader with a large proportion in BAC2 (58.7%);  
 Difficult adaptation for some colleagues with a large proportion in L2 (64.7%);  
 Inferiority complex with a large proportion in BAC3 (43%);  
 Discussions related to misunderstanding with a large proportion in L2 (94.1%);  
 Mockery by certain colleagues with a large proportion in BAC 2 (48.4%) (See **Table 6**).

**Table 6.** Distribution of respondents according to negative opinion on teamwork by promotion (classroom).

Negative opinion on teamwork by classroom	Classroom (N, %)				
	BAC1 (N = 187)	BAC2 (N = 126)	BAC3 (N = 98)	L1 (N = 41)	L2 (N = 17)
Unnecessary distraction from the few colleagues	82 (43.8)	87 (69.0)	41 (41.8)	32 (78.0)	5 (29.4)
Difficult adaptation for some colleagues	99 (52.9)	37 (29.4)	42 (42.9)	12 (29.3)	11 (64.7)
Discussions related to misunderstanding	47 (25.1)	55 (43.7)	50 (51.0)	39 (95.1)	16 (94.1)
Mockery by some colleagues	66 (35.3)	61 (48.4)	30 (30.6)	11 (26.8)	4 (23.5)
Inferiority complex in some people	58 (31.0)	32 (25.4)	47 (48)	9 (22)	3 (17.6)
Waste of time	51 (27.3)	46 (36.5)	19 (19.4)	7 (17.1)	7 (41.2)
Bragging from some colleagues	38 (20.3)	54 (42.9)	11 (11.2)	4 (9.8)	2 (11.8)
Non-compliance with working hours	66 (35.3)	78 (61.9)	18 (18.4)	21 (51.2)	8 (47.1)
Imposition of the group leader's opinion	44 (23.5)	74 (58.7)	35 (35.7)	6 (14.6)	1 (5.8)

## 4. Discussion

### Sociodemographic and academic characteristics (School)

**Table 1** shows that students who are between 20 and 22 years old were mainly represented (42.4%) versus those whose age is  $\geq 30$  years old (0.4%) while the gender

Female represents 69.9% versus male (30.1%). Regarding promotions or departments, general care students are represented in 29.2% of cases compared to those in the health services organization management department (2.1%).

### Usefulness of the group

Students stated in **Table 2** that the usefulness of the group's research was 18.3%. Emulation driven by the group was the attitude experienced during learning **Table 3**, while the unnecessary distraction of a few colleagues was the most cited demotivation factor (20.7%) (**Table 4**). Nathaniel Lasry also observed in his study that Peer Instruction was warmly welcomed by administrators, teachers and students alike [5]. Boud and his colleagues state that in everyday life we continually learn from each other. For most of the things we need in our working and personal lives we find enough information and guidance from friends and colleagues [6].

### Positive opinion on teamwork by promotion (classroom)

**Table 5** indicates with regard to the opinion on group work by opinion that:

Doing joint research, sharing knowledge had a high proportion; the acquisition of personal and professional skills, benefiting from the experience of others, strengthening reasoning skills, the acquisition of managerial and relational skills and the easy mastery of the different lessons. For Mazur, peer learning encourages the sharing of knowledge with colleagues in order to find optimal solutions to certain problems. By being exposed to several pieces of information, sometimes contradictory, students learn to support their ideas with facts [7]. Baudrit for his part found that the peer learning method is based on an educational approach which is located in a social constructivist perspective, that is to say, the construction of various knowledge and the development of skills which will help to resolve population health problems [3], while Slavin emphasizes that in this peer learning method, students learn new strategies and develop skills from the experiences of peers [6]. Hernandez argues that if peer learning is useful and yields good results, it would be linked to establishing real-time interactions between peers on the material being studied [5]. According to Keerthirathne, peer learning takes place among group of individuals with the same status who interact one another [8]. According to Nathaniel, it enables significantly more conceptual learning ( $p = 0.008$ ) than the traditional approach [5].

#### **Negative opinion on teamwork by promotion (classroom)**

Concerning the negative opinion on teamwork (Table 6), we have the following per classroom:

The unnecessary distraction of a few colleagues, the waste of time, the boasting of certain colleagues, the non-respect of the working hour, the imposition of the opinion of the group leader, the difficult adaptation for certain colleagues, the inferiority complex, the discussions linked to misunderstanding as well as the mockery by certain colleagues. Conflict was cited as a negative opinion during pair learning [9].

## **5. Conclusions**

Concluding a scientific approach undertaken around a research theme is not synonymous with the total resolution of the problems identified in the population but rather a springboard for making suggestions of value based on the results obtained. This cross-sectional descriptive study carried out using the analytical approach of a series of 469 cases, 141 of which were male and 328 female, aimed to evaluate the usefulness of peer learning on the behavior of students at the Institut Supérieur des Techniques Médicales in Lubumbashi, in DR Congo, because the peer learning method values the learner, making him the master of his own learning; it stimulates students to exchange knowledge and to be able to develop skills based on the experiences of others to increase their performance. Thus, students are invited to be aware to avoid any distraction effects and any demotivation factors towards their colleagues.

The real implication of this study is that when students engage in peer learning, they will improve their performance. Considering the empirical data of our

research, we suggest to the political-administrative authorities the improvement of the socio-economic and educational level of learners; to intensify the training of teachers in the peer learning method.

### Conflicts of Interest

The authors declare no conflicts of interest.

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