

# Effect of Six Hats Thinking Technique on Development of Critical Thinking Disposition and Problem Solving Skills of Nursing Students

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**Abstract Background:** Six Thinking hats is a time-tested, proven, and practical thinking tool that acts as a role-playing model. It is as a team-based problem solving and brain storming technique that can be used to explore problems and solutions and uncover ideas and options that overlooked by a homogeneously thinking group. On the same line, it separates the components of thinking in order to do them properly as there is no one brain ideal for all types of thinking. Also, it provides a framework to help people think clearly and thoroughly and directs thinking attention in one direction at a time. Edward de Bono identified 6 types of one-dimensional personalities or Thinking Hats, while the average person will often imbue qualities from several of these 6 types. Participants put on hats in turn to indicate directions of thinking, possibly more than once but not necessarily all of them, the color of each is related to a function. **Method:** exploratory descriptive design was used with two tools used in data collection "California Critical Thinking Disposition Inventory" and "Six Hats problem solving Application questionnaire". **Results:** There were statistical significant differences between both groups of students in relation to critical thinking disposition and problem solving skills in post assessment phase in the favor of study group ( $p < .001$ ). **Conclusion:** In the current study, the six hats technique was used in training of nurse students to improve their critical thinking disposition and the skills of problem solving, which facilitates productive critical thinking, collaboration, communication, creativity and enables each person's unique point of view to be considered in problem solving

**Keywords:** six hats, critical thinking disposition, problem solving skills

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## 1. Introduction

Numerous individuals think from perceptive, basic, consistent viewpoints, and once in a while see the world from enthusiastic, instinctive, innovative, or even intentionally negative perspectives. Hence, they're contentions don't take jumps of creative minds, they disparage protection from change, or they neglect to draw emergency courses of action. Critical thinking is a reasoning that offers better approaches for seeing issues coming at the side instead of from the front to cultivate change, imagination, and development. One tool of this lateral thinking is the Six Thinking Hats method, was conceived by De Bono in 1985 to give bunches intends to reflect together more successfully by six hats with six tones. It is recommended that synthetic settings in the cerebrum might be distinctive when individuals are being imaginative, being positive, and being negative [1,2,3].

Six Thinking hats is a tried and true, demonstrated, and time-tested thinking that described as a pretending model. It is as a group based critical thinking and conceptualizing procedure that can be utilized to investigate issues and

arrangements and reveal thoughts and choices that disregarded by a homogeneously thinking gathering. On a similar line, it isolates the segments of intuition to do them appropriately as there is nobody cerebrum idealistic for a wide range of reasoning. Even more than that, it gives a structure to help everyone think unmistakably and completely and coordinates thinking consideration toward each path in turn. Even more than this, it encourages gainful reasoning, coordinated effort, correspondence, and innovativeness and empowers every person's remarkable perspective to be thought of and allot every individual from the group an alternative, one-dimensional "Thinking Hat" for the term of the critical thinking or meeting to generate new ideas. [4,5,6]

Edward de Bono recognized 6 kinds of one-dimensional characters or Thinking Hats, while the normal person will regularly saturate characteristics from a few of these 6 types. Learner put on hats thusly to show bearings of critical thinking, conceivably more than once yet not every one of them, the color of each is identified with a capacity; as the white hat is focused on logical and target thinking, with accentuation on realities and achievability, it emphasis on the information accessible, takes a gander

at the accessible data at that point see what is required data lastly search for gaps in information and fill them. The Red cap is concerned with enthusiastic thinking, abstract sentiments, discernment, and assessment; it sees issues utilizing instinct, gut response, feeling, and attempt to figure how others will respond sincerely and comprehend the reactions of them. While, blue hat pertains to organized thinking, significant level outlines of the circumstance, which is the higher perspective and see everything from a good way [5,6,7].

Black hats is focused on basic, theoretical, distrustful speculation, zeroed in on dangers, recognizing issues in a doubter hoping to take a gander at it carefully and protectively and features the feeble focuses and tragic defects in an arrangement prior to leaving on a game-plan. Yellow hat is the hopeful perspective that assists with seeing all the advantages, estimations of the choice and gives the most ideal situation and inspirational attitude toward things and expecting the best result. At last, green hat, which focused on imaginative, affiliated reasoning, groundbreaking thoughts, conceptualizing thoughts out of the crate without worry for plausibility; it is a unrestricted perspective, wherein there is miniature analysis of ideas [6,7,8].

Critical thinking association defined critical thinking as "the method of pondering any subject, substance, or issue in which the mastermind improves the nature of their deduction by capably dissecting, evaluating, and recreating it. Critical thinking has numerous aptitudes incorporate intellectual and emotional abilities. Psychological aptitudes incorporate numerous abilities as; translation in which precisely deciphering issues from normal data sources while examination is analyzing thoughts in issues and emotional information. Additionally, there is induction that incorporates queering claims, evaluating contentions and arriving at resolutions, just as the clarification that incorporates; unmistakably clarifying and guarding the thinking in which an individual shows up at explicit choices. At long last, assessment which incorporates assessing data to learn it is likely reliability or not. [9,10,11]

On a similar vein, there are emotional abilities which incorporate; receptiveness as having an enthusiasm for substitute viewpoints and readiness to with others perspective, curious incorporate; inquisitive and eager in needing to get information, needing to realize how things work. Additionally, there is truth seeking for which incorporate; fearless about proposing inquiries to acquire the best information regardless of whether information may neglect to help one's assumption, while foundational; incorporate esteeming connection and have centered way to deal with issues of all degrees of multifaceted nature, lastly self-assured which incorporates confiding in one's own thinking and tendency to use these aptitudes. [12,13]

On the other vein, there is the critical thinking attitude which is a characteristic or propensity for mind that is incorporated into one's convictions or activities to adequately tackle issues and settle on choices as a result of reasoning. Likewise, it impacts a choice or the capacity to control one to determine issues identified with proficient circumstances. Reasoning mien is the soul of criticality or the inclination to think chiefly that has the qualities of internal interest, the sharpness of the psyche, the constancy of creating reason, and the need for dependable data. In this way, it will urge somebody to apply the

fitness of basic intuition in each part of life. [14,15,16]

There are three basic parts of critical thinking disposition which are eagerness, affectability, and capacity. Educator should assist students with building their own insight through request measures, both freely and intellectually, to play out these cycles, they need the eagerness, affectability, and capacity to take care of the issues experienced, hence thinking fundamentally as an expertise part of deep rooted learning should be possible well. Reasoning manner has explicit seven pointers: truth-chasing, liberality, analyticity, systematicity, fearlessness, curiosity, and development. The seven hats out intelligent abilities and inclination to carry on. In this relation, the basic reasoning mien mirrors an individual's demeanor toward a critical thinking ability. An individual with a basic inclination will show high interest, scholarly excitement, committed to recommending an activity, urgent for significant data, and tending to utilize critical thinking disposition contrasted with people with low reasoning propensities. [17,18]

Six hats thinking skills improve problem solving which defined as a cycle comprises of understanding the issue, at that point contriving an arrangement, doing the arrangement lastly thinking back for assessment. Problem solving has the explicit cycle which incorporates firstly, appraisal of the issue to distinguish its reality then gather information and set up it. Second, examination to distinguish the issue, its measurements, viewpoints, related components, causes, potential arrangements and the need of it. Thirdly, result distinguishing proof as having a reasonable brief objective and right course by recognizing the idealistic and undesired results and potential systems. Fourthly, arranging by choice the choices that have the most obvious opportunity with regard to progress and least unfortunate results, at that point the pre-latter is execution of the chose arrangement or option. At long last, the assessment of the difficult arrangement on the off chance that it is fruitful or not and contrast it and the ideal results, it is positive and negative perspectives and the level of progress. [16,17,18,19]

### 1.1. The aim of the study

Is to determine the effect of six hats thinking technique on development of critical thinking disposition and problem solving skills of nursing students.

### 1.2. Research Hypotheses

H1: Students who are subjected to six hats thinking technique exhibits higher critical thinking disposition than those who do not.

H2: Students who are subjected to six hats thinking technique exhibit higher problem solving skills than those who do not.

## 2. Materials and Method

### 2.1. Materials

**Research design;** A quasi experimental research design was used to conduct this study.

**Settings;** this study was carried out at Nursing Education Department, Faculty of Nursing- Alexandria University.

**Subjects;** The subject of this study comprised 180 nursing students out of 300 undergraduate nursing students who were registered in "Educational strategies in Nursing course" for the duration of the first term of the academic year (2019-2020). The subjects were allocated randomly into two equivalent groups; study and control, 90 students for each group.

**Tools; Two tools were used for data collection**

**Tool one: California Critical Thinking Disposition Inventory (CCTDI)**

This tool was developed by Facione and Facione 1992 [20,21,22] to assess the critical care nurse students' critical thinking disposition. It consists of 75 items, which were responded using a four point Likert scale ranged from strongly agreed to strongly disagree. The items divided into seven subscales: truth-seeking (12 items), open-mindedness (12 items), analytical (11 items), systematic (11 items), inquisitiveness (10 items), self-confidence (nine items) and maturity (10 items). The tool had eight scores: the seven subscale score and the overall score. The subscale score ranged from 10 to 60 which interoperated as following; from 60 to 51 had strong positive disposition, from 50 to 41 has positive disposition, from 40 to 31 had ambivalence disposition, from 30 to lower have negative disposition. The overall score of the tool ranged from 70 to 420, which interpreted as following; from 420 to 350 had strong positive disposition, from 349 to 280 had positive disposition, from 279 to 211 had ambivalence disposition, from 210 or less had negative disposition. The total scores were converted to scale score using CCTDI standardized table. The tool's reliability was deliberate via Cronbach's Alpha test, it was reliable and the test coefficient value was 0.84.

**Tool two: Six Hats problem solving Application questionnaires.**

This tool was established by the researchers afterwards the thorough review of the correlated literature [23,24] to assess nurse students' six hats problem solving skills. It consisted of 10 situations about using six hats in daily nursing patient care. The total score was 45 grades, which were interpreted as following; from 45 to 31 had high skill level, from 30 to 16 had moderate skill level and from 15 to less had low skills level. The higher the score the higher six hats problem solving skills. The tool's reliability was calculated via Cronbach's Alpha test, it was reliable and the test coefficient value was 0.745.

## 2.2. Method

Official approval to conduct the study was attained from the Dean of the Faculty of Nursing; Alexandria University, and the Head of Nursing Education department afterwards clarifying the aim of the study. Written informed consent was attained from each nursing education student afterwards the clarification of the study's aim and assertion about the privacy, anonymity, and confidentiality of the acquired data. The right to refuse to join in the study was declared to nursing education students.

Tools' content validity was tested by a panel of five

experts in the allied fields and the required modifications were completed. Tools I, and II were verified for their reliability and the tools they can rely on. A pilot study was done on 10% of the sample size to notice the simplicity and applicability of the tools and recognize hitches that may face the researchers throughout the data collection process.

The students were allocated randomly as: Study group; it comprised 90 nursing education students who received six hats thinking technique training during the Educational strategies course lecture. Control group: it comprised 90 nursing education students who received the traditional Educational strategies lecture. Data collection was done by the researchers throughout the first term of the academic year 2019-2020 beginning as of September 2019 to January 2020.

## 2.3. Data Collection:

The study tools were used two times; the initial time as a pretest previously the application of six hats' training then the subsequent time as a posttest afterwards the application. The development of the six hats' training program of critical care problem was done by the researchers. It was done over three stages: preparation, implementation and evaluation phase.

**1. The preparatory phase:** In this phase the researchers tried to discover significance to the new thought through sufficient preparation of the researchers and content

**a. Researcher preparation**

- appraisal of the obtainable evidences about six hats thinking technique whichever latest or old up to the time of data collection from books, digital libraries and websites comprising the local and worldwide researches interrelated to the research topic.

- Self-training on the six hats thinking technique

**b. Content preparation**

- The researchers developed six hats' training program on Educational strategies course module.

**2. The Implementation phase:** In this phase the researcher accomplished pretest for mutually the study and control groups consuming the two tools to evaluate the Educational strategies' nurse students' critical thinking disposition and problem solving skills. Applying the six hat training program grabbed round 4 sessions in 4 weeks, 1 session / week; separately session persisted for nearby 180 minutes (the period of the original section). It taking place in the first term of the second academic year of the faculty of nursing 2019-2020. The training program was based on the integration between the six hats' technique and Educational strategies' nursing module.

**3. The Evaluation phase:** In this phase the researchers evaluated the Educational strategies nursing students in mutually the study and control groups to appraise their critical thinking disposition and problem solving skills expending the two study tools at the completion of the sessions.

## 2.4. Statistical Analysis

Data were fed to the computer and analyzed via IBM SPSS software platform version 20.0. (Armonk, NY: IBM

Corp) Qualitative data were defined by means of number and percent. Qualitative data were labelled by means of mean, standard deviation. Significance of the attained results was mediated at the 5% level.

**Table 1. Distribution of the studied groups according to their demographic data**

Demographic data		Control group (n=90)		Study group (n=90)		Test of significance
		No.	%	No.	%	
Age (years)	20	36	40.0	36	40.0	X <sup>2</sup> = ----- P= -----
	21	54	60.0	54	60.0	
Sex	Male	45	50.0	45	50.0	X <sup>2</sup> = ----- P= -----
	Female	45	50.0	45	50.0	
GPA	A	10	11.1	8	8.9	X <sup>2</sup> = 5.733 P= 0.454
	B+	39	43.3	34	37.8	
	B	19	21.1	20	22.2	
	B-	0	0.0	1	1.1	
	C+	3	3.3	8	8.9	
	C	19	21.1	19	21.1	
Computer skills	Excellent	3	3.3	3	3.3	X <sup>2</sup> = 0.095 P= 0.954
	Very good	50	55.6	52	57.8	
	Good	37	41.1	35	38.9	
English language skills	Excellent	20	22.2	13	14.4	X <sup>2</sup> = 1.827 P= 0.401
	Very good	34	37.8	38	42.2	
	Good	36	40.0	39	43.3	

**Table 2. Comparison between the studied students according to their critical thinking disposition dimensions'**

Items	Study Group (n=90)		Control Group (n=90)		Test of Significance
	Before	After	Before	After	
	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	
Truth seeking					
	39.59±6.148	54.41±3.795	38.84±6.541	38.94±6.473	t <sup>a</sup> = 0.793 P= 0.429 t <sup>b</sup> = 19.56 P= 0.000*
	t= 21.85 P= 0.000*		t= 1.001 P= 0.320		
Open-mindedness					
	30.50±12.41	51.83±4.741	30.34±12.35	29.68±11.22	t <sup>a</sup> = 0.087 P= 0.931 t <sup>b</sup> = 17.25 P= 0.000*
	t= 14.25 P= 0.000*		t= 2.164 P= 0.033*		
Analyticity					
	30.41±10.49	52.38±4.415	30.89±11.05	30.66±10.78	t <sup>a</sup> = 0.299 P= 0.765 t <sup>b</sup> = 17.66 P= 0.000*
	t= 17.95 P= 0.000*		t= 1.000 P= 0.320		
Self confidence					
	25.17±9.526	52.83±4.672	24.83±8.635	26.14±8.479	t <sup>a</sup> = 0.251 P= 0.802 t <sup>b</sup> = 26.15 P= 0.000*
	t= 23.88 P= 0.000*		t= 3.708 P= 0.000*		
Maturity					
	30.36±8.757	51.82±4.969	30.33±8.750	30.33±8.750	t <sup>a</sup> = 0.023 P= 0.982 t <sup>b</sup> = 20.26 P= 0.000*
	t= 19.25 P= 0.000*		t= ----- P= -----		
Inquisitiveness					
	34.53±10.81	50.18±6.994	34.12±10.60	34.12±10.60	t <sup>a</sup> = 0.257 P= 0.798 t <sup>b</sup> = 11.99 P= 0.000*
	t= 11.24 P= 0.000*		t= ----- P= -----		
Systematicity					
	29.77±9.670	50.08±6.158	29.77±9.643	29.93±9.583	t <sup>a</sup> = ----- P= ----- t <sup>b</sup> = 16.78 P= 0.000*
	t= 16.25 P= 0.000*		t= 1.382 P= 0.170		
Total critical thinking skills					
	229.79±36.54	363.53±14.52	228.60±36.17	229.28±37.14	t <sup>a</sup> = 0.219 P= 0.827 t <sup>b</sup> = 31.94 P= 0.000*
	t= 32.81 P= 0.000*		t= 1.348 P= 0.181		

t<sup>a</sup> = Student t test comparison between study and control group before intervention

t<sup>b</sup> = Student t test comparison between study and control group after intervention

\* Significant p at ≤0.05.

**Table 3. Comparison between the studied students according to their six hats problem-solving skills mean scores**

Items	Study Group (n=90)		Control Group (n=90)		Test of Significance
	Before	After	Before	After	
	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	
	2.14±1.784	42.33±4.025	0.69±0.990	0.69±0.990	t <sup>a</sup> = 6.742, P= 0.000* t <sup>b</sup> = 95.30, P= 0.000*
	t= 82.87 P= 0.000*		t= ----- P= -----		

t<sup>b</sup> = Student t test comparison between study and control group after intervention

\* Significant p at ≤0.05.

**Table 4. Correlation Matrix of the studied variables among the study group**

		Critical thinking (Pre)	Problem solving (Pre)	Critical thinking (Post)	Problem solving (Post)
Critical thinking (Pre)	r				
	P				
Problem solving (Pre)	r	0.262			
	P	0.012*			
Critical thinking (Post)	r	0.076	0.061		
	P	0.478	0.567		
Problem solving (Post)	r	0.480	0.224	0.306	
	P	0.053*	0.012*	0.003*	

r = Correlation coefficient \* Significant p at  $\leq 0.05$ .

**Table 5. Predictors of critical thinking among the study group using regression analysis**

	Critical thinking disposition		T	Sig.
	B	Std. Error		
(Constant)	293.471	72.417	4.053	0.000
Sex	5.311	3.258	1.630	0.107
Age	0.458	3.178	0.144	0.886
Computer skills	3.148	2.634	1.195	0.235
English	4.857	2.257	2.152	0.034*
Problem solving skills (after program)	1.671	0.416	4.013	0.000*

\* Statistically significant at  $p \leq 0.05$ .

### 3. Results

Table 1 shows the distribution of the studied nurse students according to their characteristics. In relation to demographic data, about half of the studied nursing students of the control and study groups had 21 years (54%) with the equal distribution of male and females (45%). Also, one third of both study and control group had B+ (34, 39%) respectively and half of both groups had very good computer skills (50, 52%), while one third of both groups very good English level (34,38%). No statistical significant differences were found between study and control groups. Table 2 shows the comparisons between the studied students according to their critical thinking disposition dimensions mean score. It was found that there was a statistically significant difference between study and control groups and within study group before and after the application of six hats technique in the favor of study group after application of six hats training regarding all dimensions of critical thinking disposition and total score, where (P=0.000) correspondingly. Table 3 shows a comparison between the studied students according to their six hats problem-solving skills mean scores. It was found that; there was a statistically significant difference between study and control groups and within study group before and after the application of six hats training in the favor of study group after regarding six hats' problem solving skills application where (P=0.000) respectively. Table 4 shows Correlation Matrix of the studied variables among the study group. It was found that there was a statistically significant correlation between the problem solving and critical thinking disposition regarding the study group before application of six hats. Also, there were statistically significant correlations between the problem solving skills post application and critical thinking pre and post and problem solving post where (p= 0.012, 0.053, 0.003, 0.012) respectively. Table 5 shows Correlation Matrix of the studied variables among the study group. It was found

that there was a statistically significant correlation between the problem solving and critical thinking disposition regarding the study group before application of six hats. Also, there were statistically significant correlations between the problem solving skills post application and critical thinking pre and post and problem solving post where (p= 0.012, 0.053, 0.003, 0.012) respectively.

### 4. Discussion

Planning successful instructing needs to include critical thinking skills, so it is ordinary that students need to think about it. Thinking critically implies that students should pass judgment, and think something cautiously to assess and afterward finally choose whether something is acceptable or not. Instructors should go about as a coach who will control students in sharpening their critical thinking abilities utilizing suitable techniques. The quantity of material students should educate requires the correct strategy to control them in critical thinking. Six Thinking Hats is a basic idea however suitable to be applied to assist students with thinking [25,26]. In such manner, the current study worried about considering the impact of six hats thinking technique on advancement of critical thinking disposition and problem solving skills of nursing students.

Building up the innovative thinking abilities is one of the significant objectives of current teaching and the Six-Hats instructing strategy is one of the DE Bono's thinking model that targets upgrading thinking and disentangling it together. Six-Hat' thinking technique, which is the significant focal point of this study is viewed as extraordinary compared to other inventive thinking models, De Bono determined that; this model is an incredible showing strategy for speculation abilities, on the grounds that the students can manage one thing only as one, while changing their thinking style [27].

The current study revealed that there was a statistically significant difference between study and control groups and within study group before and after the application of six hats technique in the favor of study group after application of six hats training regarding all dimensions of critical thinking disposition and total score. This finding is in accordance with study done by Ziadat, and Al Ziyadat (2016) [28] which presumed that there are differences among the groups in the side of the study group, showing the positive effect of the planned Six Hats Training Model and its impact in improving the critical thinking disposition among students. The result of the current study is in full concurrence with the study done by Kivunja (2015) [29] on utilizing De Bono's six thinking hats technique to teach critical thinking disposition and problem solving skills crucial for realization in the 21st era economy the outcomes showed that there is the huge connection between the six hats and critical thinking skills. Correspondingly, Kenny (2003) [30] expressed that six thinking hats may emphatically influence critical thinking disposition, and the capacity to discover answers for the patients' problems in nursing. Likewise, Mostafa et al. (2020) [31] findings publicized that; furthermore of the nursing students concurred that utilizing six hats thinking model encouraged them to produce inventive thoughts and improved their critical reasoning frameworks. On the other hand, a study done by Kalelioglu, & Gülbahar, 2014 [32] based on their qualitative analysis, the study concluded that arguing with diverse instructional techniques (Six thinking hats, Brainstorming, Role playing, Socratic seminary, anyone here an expert) did not lead to any significant differences to critical thinking dispositions.

The current study finding publicized that there is a statistically significant difference between study and control groups and within study group before and after application of six hats training in the favor of study group after as for six hats' problem solving skills. The results of the current study concurs with study done by Mostafa et al. (2020) [31] who underpins that utilizing and functioning with the six hats technique in critical care nursing instruction is mutually dominant method and simple to utilize. Also, it progresses nursing students' innovative critical thinking disposition, sharing their various thoughts and musings, expanded their knowledge and inspiration and caused them to examine and orchestrate the information they had. Consequently, it permits them to tackle nursing problems. Analogous study done by Chien (2020) [33], which determined that; students had a positive affect toward six hats' method as students advancement, basic reasoning, and critical thinking were encouraged. Additionally, comparable study done by Ku (2011) [34] which presumed that the six hats thinking inspire the imaginative reasoning and critical thinking capacities of nursing students. Also, Kenny (2003) [30] expressed that; six hats thinking stratagem emphatically influence a basic problem solving skills, and the capacity to discover answers for the patients' issues in nursing.

Also, the results of the present study showed statistically significant differences between critical thinking disposition and English level and also between critical thinking disposition and problem solving after the

application of six hats training. The results are in accordance with study done by Kaya, Şenyuva, and Bodur (2017) [35] which expressed that the advancement of critical thinking disposition is considered as an advanced objective in education, and it requires an intensive time to create and serious level of English level. In the same line, study done by Yang (2013) [36] to explore the connection concerning the critical thinking disposition and problem solving capability over and above the impelling aspects the problem solving ability in nursing students showed that a significant positive relationship was perceived amongst the critical thinking disposition and problem solving ability. From the researchers' point of view in the light of the present studies and the previous studies, which revealed that there is significant relation between critical thinking, and the used of six hats thinking, also there is relation between the problem solving and six hats thinking and finally there is a relation between critical thinking disposition and problem solving this relation reflect that there is a relation between critical thinking disposition, problem solving ability after using the six hats strategy, which supported both hypostasis.

## 5. Conclusion

The teaching of problem solving and critical thinking has come to be crucial in nursing education currently. Student's that have critical thinking and problem solving skills touch the inevitability to heighten themselves and review what they have learned. While, students who haven't multiplied this skill stay inflexible on what was learned and are not commonly creative and beneficial. Consequently, there is a have to experiment the expenditure of educative models that will demonstrate creative and constructive thinking in nursing education. For these explanations, it in the tiniest was thought that it'd be central during this study to share the experiences multiplied using the 'six thinking hats' model in teaching nursing students and exploring its effect on their critical thinking disposition and problem solving. Reinforced the study results the 'six thinking hats' model may be a technique of learning that not only upgraded the students' creative and important thinking abilities; it also had a thoughtful consequence on their problem solving abilities. Within the forthcoming consuming this method in numerous expanses of nursing education and sharing the results will have a constructive effect on teaching. Beyond that, the system of thinking laboring within the method won't only support the people in their professional lives but also will support them create the precise decisions in their personal lives.

## 6. Recommendations

Implement workshops and training courses for teachers to use hat thinking skills. Conduct additional studies to measure the level of proprietorship of the Six Hats skill by further subject educators and to conclude the magnitude of its application for discrepancy correction.

## Ethical Consideration

Written informed consent will be obtained from all nursing students after the explanation of the study aim. Confidentiality and privacy will be ensured. Participation will be on voluntary basis. The nursing students will have the right to withdraw from the study at any time without any penalties.

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