Domino cards training, turnitin, 2021

by Irfannuddin Irfannuddin

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DOMINO CLINICAL CARDS TRAINING TO IMPROVE LECTURERS' ABILITIES IN CLINICAL REASONING LEARNING MEDIA

Irfannuddin*, Eka Febri Zulissetiana, Susilawati, Mailan Alexander
Medical Faculty Universitas Sriwijaya
Email: Irfan.md@unsri.ac.id

ABSTRACT

Medical practitioners sometimes perform inappropriate decisions and procedures. In making decisions, doctors may take a poor thinking called cognitive and representative bias. One matrix approach that can be developed to build learners' clinical reasoning is the domino game method. Domino card games (DCC) are a form of visual learning that can increase student learning motivation. DCC media is carried out in the form of competitive games. However, DCC is part of collaborative and peer learning methods. Collaborative learning is a method in which learners collaborate with each other. This method is considered to increase learning motivation. Collaboration makes them understand their learning process. The process of collaboration makes them internalize knowledge with critical thinking skills. Peer learning is the learning activity of a group of students from a similar social group. Peer learning activities can be in peer tutoring, peer assessment, or game and simulation forms. Peer learning tutoring can improve the quality of learning efficiently. DCC is an alternative instrument that can be developed to improve clinical reasoning skills. Through this training, some lecturers have been able to compile and develop DCC prototypes. Furthermore, they can apply according to their respective fields of knowledge.

Keywords : Domino clinical cards, learning media

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INTRODUCTION

Medical practitioners sometimes perform inappropriate decisions and procedures. In making decisions, doctors may take a poor thinking called cognitive and representative bias.[1] For example, doctors directly diagnose dengue in patients who suffer from fever in the rainy season. Various errors occur because they do not carry out good clinical reasoning due to being poorly trained.

Clinical reasoning is a reasonable thought process in running a clinical practice. Clinical reasoning is required in any clinical decision. For example, they are enforcing a diagnosis and determining appropriate therapies. Clinical reasoning is a series of work that requires an intellectual thought process. The process refers to the basis of science and adequate experience.[2] Doctors establish a diagnosis based on a combination of various data. Data comes from clinical symptoms combined with physical, laboratory, or radiological results.

The application of clinical reasoning is widely made by schema and matrix methods. The use of schemas and matrices, effective in training students who are studying medical science. Studies reveal that doctors who apply schematic approaches to solve the problem have higher success rates.[3] Clinical teachers are encouraged to use schema and matrix in teaching the process of clinical reasoning.[4]

One matrix approach that can be developed to build learners' clinical reasoning is the domino game method. Domino card games are a form of visual learning that can increase student learning motivation. The principle of dominoes is a puzzle form of the matrix scheme concept. Dominoes are fractions of the matrix of 56 science statements, so it becomes a puzzle that participants must match. The use of domino cards is valid, practical, and effective, and can improve learners' learning achievement.[5,6]

Domino Clinical Cards (DCC) is a learning medium inspired by dominoes. A set of dominoes consists of 28 cards. Each card is divided into two fields, and each field contains points 0 through 6. DCC is also divided into two fields. However, the points of each field are replaced with statements from 7 clinical topics that are interconnected. The inventor team developed DCC from the Department of Physiology Medical Faculty, Universitas Sriwijaya. The DCC has been registered copyright.

Learning media must be arranged in a planned manner and can be accounted for scientifically. As a medium of learning, DCC must meet valid, practical, and effective criteria. It can be applied and developed by various parties. For the reason, the inventor team conducted a DCC preparation training program to all medical lecturers.

Conference of Medical Sciences Dies Natalis Faculty of Medicine Universitas Sriwijaya
Medical and Health Education During the COVID-19 Pandemic: Challenges and Innovation
Volume 3, No 1, tahun 2021

METHODS

This training was carried out in the 59th Dies Natalis Faculty of Medicine framework, Universitas Sriwijaya. Training got grant funding from faculty. The promotion was carried out in the form of the following brochure spread on social media.
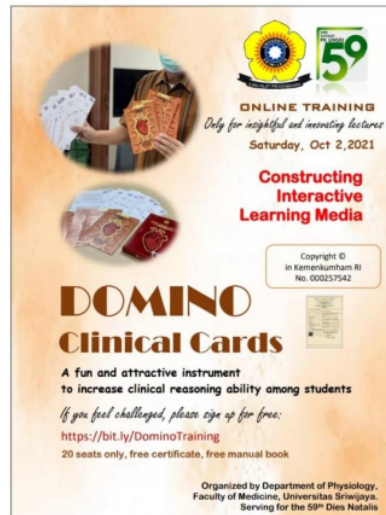

Figure 1. Promotion brochure

The training was conducted online. 20 Lecturers attended the training from 4 Faculties of Medicine in Sumatra and Java. Participants received guidelines for drafting DCC, DCC prototypes, and certificates. The training activity lasted for 6 hours consisting of 2 hours of interactive lectures, 2 hours of assignments, and 2 hours of discussion.

The purpose of the training was that participants could compile and develop DCC prototypes. The development was based on the 4D development model (define, design, develop, dissemination).[7] Details and training topics can be seen in the following table.

Conference of Medical Sciences Dies Natalis Faculty of Medicine Universitas Sriwijaya
Medical and Health Education During the COVID-19 Pandemic: Challenges and Innovation
Volume 3, No 1, tahun 2021

Table 1. Training schedule and events

No.	Time	Activities	Person in Charge
1	07.30-08.00	Re-registration	Budi Santoso & Suwito
2	08.00-10.00	Interactive presentation: Developing Domino Clinical Card through 4D Model	Irfannuddin
3	10.00-12.00	Independent group assignment Developing Neurology DCC Developing Infection DCC	Dr. Eka Febri Zulissetiana Dr. Susilawati
4	12.00-13.00	Break	
5	13.00-15.00	Presentation and discussion Closing remarks	All team

Participants got an explanation that dominoes inspire DCC. DCC consists of 1 set of 28 cards. Each card contains two areas of statement on related learning topics. Up to 4 players can play DCC. The game starts with the player who has and lays the starting card. Then, players take turns laying down the cards they have. A placed card is a card that contains a statement that corresponds to the statement on the card that has been placed before.

After getting an explanation, participants were divided into two groups to carry out the assignment. They were asked to devise a DCC matrix scheme. They compiled scientific statements about disorders of the neurological system and infectious diseases. Statements contain etiology, risk factors, pathophysiology, clinical symptoms, additional examination data, and management. The following is the concept of a matrix scheme that was developed in the form of dominoes.

Diseases / Topics	Disease 1	Disease 2	Disease 3	Disease 4	Disease 5	Disease 6	Disease 7
Etiology	S 1	S 9	S 17	S 25	S 33	S 41	S 49
Risk Factors	S 2	S 10	S 18	S 26	S 34	S 42	S 50
Pato-physiology	S 3	S 11	S 19	S 27	S 35	S 43	S 51
Clinical Symptoms (anamnesis)	S 4	S 12	S 20	S 28	S 36	S 44	S 52
Clinical symptoms (physical examination)	S 5	S 13	S 21	S 29	S 37	S 45	S 53
Laboratory findings	S 6	S 14	S 22	S 30	S 38	S 46	S 54
Other findings (Radiology/CT/MRI/ Etc.)	S 7	S 15	S 23	S 31	S39	S 47	S 55
Management	S 8	S 16	S 24	S 32	S 40	S 48	S 56

Conference of Medical Sciences Dies Natalis Faculty of Medicine Universitas Sriwijaya
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Volume 3, No 1, tahun 2021

At the end of the training, all participants were asked to submit feedback. The feedback can be viewed as follows:

1. DCC is an excellent instrument for spurring clinical student learning. We are very excited to develop according to our science.
2. Training programs are beneficial to open insights
3. It takes extra time to develop the DCC prototype perfectly.

This community service program produces five outcomes:

1. Development guide book
2. The final prototype of DCC with cardiology topics
3. Copyright recognition certificate, number 000257542 (Figure 2)
4. Two (2) early prototypes of DCC with the topic of neurology and infection
5. Training certificate for speakers and participants

Various external forms can be seen in the following image:

Figure 2. Outcomes of devotion grant

DISCUSSION

DCC media is carried out in the form of competitive games. However, DCC is part of collaborative and peer learning methods. Collaborative learning is a method in which learners collaborate with each other. This method is considered to increase learning motivation. Collaboration makes them understand their learning process. The process of collaboration makes them internalize knowledge with critical thinking skills.[8] Peer learning is the learning activity of a group of students from a similar social group. Peer learning

Conference of Medical Sciences Dies Natalis Faculty of Medicine Universitas Sriwijaya
Medical and Health Education During the COVID-19 Pandemic: Challenges and Innovation
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activities can be in peer tutoring, peer assessment, or game and simulation forms. Peer learning tutoring can improve the quality of learning efficiently.[9]

CONCLUSION

DCC is an alternative instrument that can be developed to improve clinical reasoning skills. Through this training, some lecturers have been able to compile and develop DCC prototypes. Furthermore, they can apply according to their respective fields of knowledge.

ACKNOWLEDGEMENT

REFERENCE

1. McMillan WJ. Teaching for clinical reasoning - Helping students make the conceptual links. *Med Teach*. 2010;32(10). doi:10.3109/01421591003695303
2. Norman G. Research in clinical reasoning: Past history and current trends. *Med Educ*. 2005;39(4):418-427. doi:10.1111/j.1365-2929.2005.02127.x
3. Irfannuddin. Knowledge and critical thinking skills increase clinical reasoning ability in urogenital disorders: A Universitas Sriwijaya Medical Faculty experience. *Med J Indones*. 2009;18(1):53-59. doi:10.13181/mji.v18i1.341
4. Eva KW. What every teacher needs to know about clinical reasoning. *Med Educ*. 2005;39(1):98-106. doi:https://doi.org/10.1111/j.1365-2929.2004.01972.x
5. Rufaidah E, Martiah A, Kodri. The effect of domino game learning media on student learninig achievments. *J Reseacrh Business, Econ Educ*. 2019;1(2):239-246.
6. Sidarta KT, Yunianta TNH. Pengembangan Kartu Domano (Domino Matematika Trigono) Sebagai Media Pembelajaran Pada Matakuliah Trigonometri. *Sch J Pendidik dan Kebud*. 2019;9(1):62-75. doi:10.24246/j.js.2019.v9.i1.p62-75
7. Lawhon D. Instructional development for training teachers of exceptional children: A sourcebook. *J Sch Psychol*. 1976;14(1):75. doi:10.1016/0022-4405(76)90066-2
8. Lee H, Bonk CJ. Collaborative Learning in the Workplace: Practical Issues and Concerns. *Int J Adv Corp Learn*. 2014;7(2):10. doi:10.3991/ijac.v7i2.3850
9. Hott B, Walker J. Peer Tutoring. *Counc Learn Disablities*. 2012. doi:10.4135/9781412952491.n204

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