

DEVELOPMENT OF PALLIATIVE LEARNING MODEL BASED ON TRANSFORMATIONAL LEARNING THEORY ON STUDENTS' COMPETENCIES IN PALLIATIVE CARE

by Tintin Sukartini

Submission date: 09-Feb-2023 08:46AM (UTC+0800)

Submission ID: 2009696116

File name: LEARNING_THEORY_ON_STUDENTS_COMPETENCIES_IN_PALLIATIVE_CARE.pdf (1.29M)

Word count: 7984

Character count: 38710

Enfermería Clínica

DESARROLLO DE UN MODELO DE APRENDIZAJE PALIATIVO BASADO EN LA TEORÍA DEL APRENDIZAJE TRANSFORMACIONAL SOBRE LAS COMPETENCIAS DE LOS ESTUDIANTES EN CUIDADOS PALIATIVOS

--Manuscript Draft--

Manuscript Number:	ENFCLIN-D-22-00076
Article Type:	Original
Keywords:	transformational learning theory; palliative care competence; Nursing Students; learning model
Corresponding Author:	Ni Luh Putu Inca Universitas Airlangga Surabaya, East Java INDONESIA
First Author:	Ni Luh Putu Inca
Order of Authors:	Ni Luh Putu Inca Nursalam Nursalam
Abstract:	<p>Introduction</p> <p>Palliative care competence is one of the competencies that must be possessed by generalist nurses. For this reason, strategies for developing palliative care learning models need to be carried out to ensure nursing students have palliative care competencies. Therefore, this study was structured to develop a transformation theory-based palliative care learning model that prioritizes the active participation of students to deal with palliative care in future practice.</p> <p>Methods</p> <p>This study was a cross-sectional study involving 189 nursing students as participants. The proposed model involves six variables, namely student characteristics, educator characteristics, learning media, palliative care competencies, TLT-based palliative learning, and competency achievement. Data were collected using a questionnaire that was tested using the Structural Equation Modeling (SEM) technique.</p> <p>Results</p> <p>SEM analysis showed that the R2 value of TLT-based palliative learning was 0.707 or 70.7%. These results indicate that the diversity of TLT-based palliative learning variables can be explained by the variables of students, educators, palliative competencies, and learning media by 70.7%. Each construct has a value of Q2 > 0, which means the model is satisfactory. The path coefficient value of 0.627 indicates that the characteristics of educators have the most significant contribution to the TLT-based palliative learning model.</p> <p>Conclusion</p> <p>It can be concluded that the teaching-learning process based on transformational learning theory is a promising strategy to support nursing students to achieve palliative care competence.</p>

**DEVELOPMENT OF PALLIATIVE LEARNING MODEL BASED ON
TRANSFORMATIONAL LEARNING THEORY ON STUDENTS'
COMPETENCIES IN PALLIATIVE CARE**

**Ni Luh Putu Inca Buntari Agustini¹, Nursalam Nursalam^{2*}, Tintin Sukartini²,
I Dewa Ayu Rismayanti¹, Ni Wayan Suniadewi¹**

DEVELOPMENT OF PALLIATIVE LEARNING MODEL BASED ON TRANSFORMATIONAL LEARNING THEORY ON STUDENTS' COMPETENCIES IN PALLIATIVE CARE

Ni Luh Putu Inca Buntari Agustini¹, Nursalam Nursalam^{2*}, Tintin Sukartini²,
I Dewa Ayu Rismayanti¹, Ni Wayan Suniadewi¹

¹Candidate of Doctor in Nursing, Faculty of Nursing, Universitas Airlangga, Indonesia
60286

²Faculty of Nursing, Universitas Airlangga, Indonesia 60286

***Corresponding Author: Nursalam Nursalam**

Professor in Nursing

Head of Doctoral Nursing Program, Faculty of Nursing, Universitas Airlangga, Indonesia

Telp: +81.33.965.0000 E-mail: nursalam@fkip.unair.ac.id

ABSTRACT

Introduction: Palliative care competence is one of the competencies that must be possessed by generalist nurses. For this reason, strategies for developing palliative care learning models need to be carried out to ensure nursing students have palliative care competencies. Therefore, this study was structured to develop a transformation theory-based palliative care learning model that prioritizes the active participation of students to deal with palliative care in future practice. **Methods:** This study was a cross-sectional study involving 189 nursing students as participants. The proposed model involves six variables, namely student characteristics, educator characteristics, learning media, palliative care competencies, TLT-based palliative learning, and competency achievement. Data were collected using a questionnaire that was tested using the Structural Equation Modeling (SEM) technique. **Results:** SEM analysis showed that the R² value of TLT-based palliative learning was 0.707 or 70.7%. These results indicate that the diversity of TLT-based palliative learning variables can be explained by the variables of students, educators, palliative competencies, and learning media by 70.7%. Each construct has a value of Q² > 0, which means the model is satisfactory. The path coefficient value of 0.627 indicates that the characteristics of educators have the most significant contribution to the TLT-based palliative learning model. **Conclusion:** It can be concluded that the teaching-learning process based on transformational learning theory is a promising strategy to support nursing students to achieve palliative care competence.

Keywords: *transformational learning theory, palliative care competence, nursing students, learning model.*

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

DEVELOPMENT OF PALLIATIVE LEARNING MODEL BASED ON TRANSFORMATIONAL LEARNING THEORY ON STUDENTS' COMPETENCIES IN PALLIATIVE CARE

Ni Luh Putu Inca Buntari Agustini¹, Nursalam Nursalam^{2*}, Tintin Sukartini²,
I Dewa Ayu Rismayanti¹, Ni Wayan Suniadewi¹

¹Candidate of Doctor in Nursing, Faculty of Nursing, Universitas Airlangga, Indonesia 60286

²Faculty of Nursing, Universitas Airlangga, Indonesia 60286

***Corresponding Author: Nursalam Nursalam**

Professor in Nursing

Head of Doctoral Nursing Program, Faculty of Nursing, Universitas Airlangga, Indonesia

Telp: +81.33.965.0000 E-mail: nursalam@fkip.unair.ac.id

ABSTRACT

Introduction: Palliative care competence is one of the competencies that must be possessed by generalist nurses. For this reason, strategies for developing palliative care learning models need to be carried out to ensure nursing students have palliative care competencies. Therefore, this study was structured to develop a transformation theory-based palliative care learning model that prioritizes the active participation of students to deal with palliative care in future practice. **Methods:** This study was a cross-sectional study involving 189 nursing students as participants. The proposed model involves six variables, namely student characteristics, educator characteristics, learning media, palliative care competencies, TLT-based palliative learning, and competency achievement. Data were collected using a questionnaire that was tested using the Structural Equation Modeling (SEM) technique. **Results:** SEM analysis showed that the R² value of TLT-based palliative learning was 0.707 or 70.7%. These results indicate that the diversity of TLT-based palliative learning variables can be explained by the variables of students, educators, palliative competencies, and learning media by 70.7%. Each construct has a value of Q² > 0, which means the model is satisfactory. The path coefficient value of 0.627 indicates that the characteristics of educators have the most significant contribution to the TLT-based palliative learning model. **Conclusion:** It can be concluded that the teaching-learning process based on transformational learning theory is a promising strategy to support nursing students to achieve palliative care competence.

Keywords: *transformational learning theory, palliative care competence, nursing students, learning model.*

DEVELOPMENT OF PALLIATIVE LEARNING MODEL BASED ON TRANSFORMATIONAL LEARNING THEORY ON STUDENTS' COMPETENCIES IN PALLIATIVE CARE

ABSTRACT

Introduction: Palliative care competence is one of the competencies that must be possessed by generalist nurses. For this reason, strategies for developing palliative care learning models need to be carried out to ensure nursing students have palliative care competencies. Therefore, this study was structured to develop a transformation theory-based palliative care learning model that prioritizes the active participation of students to deal with palliative care in future practice. **Methods:** This study was a cross-sectional study involving 189 nursing students as participants. The proposed model involves six variables, namely student characteristics, educator characteristics, learning media, palliative care competencies, TLT-based palliative learning, and competency achievement. Data were collected using a questionnaire that was tested using the Structural Equation Modeling (SEM) technique. **Results:** SEM analysis showed that the R2 value of TLT-based palliative learning was 0.707 or 70.7%. These results indicate that the diversity of TLT-based palliative learning variables can be explained by the variables of students, educators, palliative competencies, and learning media by 70.7%. Each construct has a value of $Q^2 > 0$, which means the model is satisfactory. The path coefficient value of 0.627 indicates that the characteristics of educators have the most significant contribution to the TLT-based palliative learning model. **Conclusion:** It can be concluded that the teaching-learning process based on transformational learning theory is a promising strategy to support nursing students to achieve palliative care competence. **Keywords:** *transformational learning theory, palliative care competence, nursing students, learning model.*

What is known

The palliative learning model based on transformational learning theory (TLT) is a learning model that can foster a more human relationship pattern through 4 phases, namely disorientation dilemma, critical self-reflection, reflective discourse, and integrated action.

What the contribute?

The competencies that students must achieve make them more confident in being able to use the lessons when they graduate in a variety of health care settings.

INTRODUCTION

The nurse generalists must understand, interpret, and implement palliative care independently or through interprofessional collaboration (1,2). The philosophy of palliative care is to strengthen the paradigm of care, not cure, which indicates patient-centered not disease-centered. Palliative care emphasizes that everyone has a right to be healthy, free themselves from pain, fulfill their biopsychosocial and spiritual needs, and die with dignity. Palliative care has a different complexity of care compared to other

1 nursing care models (1,3–5). Integrating palliative care in the nursing curricula has been
2 initiated and developed (6,7). However, in general, nursing school graduates' competence
3 in palliative care is still a significant problem. Several studies reveal that students'
4 competencies related to palliative care and primarily cognitive are still lacking, even
5 though they have taken palliative care courses (8–10). In Indonesia, palliative care was
6 initially placed in elective courses of nursing education. Then since 2015, the palliative
7 care course has been moved as a core course. However, a study conducted among
8 Indonesian nursing students reported that 75.7% of 189 respondents had insufficient
9 knowledge about palliative care (10). Implementing palliative care courses seems
10 challenging (2,11).

11
12
13
14
15 Developing a learning model to teach palliative care to undergraduate nurse
16 students is urgent to achieve palliative care competencies. The learning model developed
17 should promote the values of humanistic and empathetic interactions between teachers
18 and students (12). The Transformational Learning Theory (TLT) introduced by Professor
19 Jack Mezirow from Columbia University encourages students to be active and self-
20 reflective (13). This approach potentially creates authenticity and transformative
21 characters, which is essential for conducting patient-centered nursing care as well as the
22 end-of-life care. Meanwhile, students' scores achieved in teaching-centered learning and
23 student-centered learning, including self-directed learning processes, are significantly
24 different (14).

25
26
27
28
29 In the TLT, educators possess a strategic role to facilitate a learner-centered
30 process. Instructions provided by the educators become a bridge for the learners'
31 engagement in the teaching-learning process. Meanwhile, the learners should keep an
32 open mind and creativity to discover new information and their experience, locate it into
33 the context, and interpret it into practice. Therefore, this study aimed to establish the
34 palliative care TLT-based model to enhance nurse graduates' palliative care
35 competencies.

36 37 38 39 40 **METHODS**

41
42 The study design is cross-sectional. It invited all undergraduate nurse students at
43 a nursing college in Bali Island, Indonesia to be the participants. They should meet the
44 inclusion criteria which were active students who had received palliative courses. The
45 number of participants involved in this study was 189 students selected using simple
46 random sampling. The health research ethics committee of the Universitas Airlangga had
47 approved the research with an ethics number: 2162-KEPK.

48
49
50 The proposed model involved six variables, i.e., students' characteristics,
51 educators' characteristics, learning media, palliative care competencies, palliative TLT-
52 based learning, and competencies achievement. Each of the variables contains sub-set
53 variables as follows:

- 54
55 1. X1: students' characteristics factors, i.e., X1.1: gender. X1.2: socio-cultural
56 background. X1.3: parents' economic background. X1.4: experience of loss, grief,
57
58
59
60
61
62
63
64
65

- 1 and bereavement. X1.5: self-concept. X1.6: learning motivation, X1.7: learning
2 readiness, X1.8: learning orientation, and X1.9: a learning experience.
- 3
- 4 2. X2: educators' characteristics factors, i.e., X2.1: professional ability, X2.2:
5 personal quality, and X2.3: interpersonal relationships with students.
- 6
- 7 3. X3: palliative care competencies factors, i.e.: X3.1: pain and symptom
8 management, X3.2: End of life care, X3.3: hospice care, and X3.4: loss, grief, and
9 bereavement.
- 10
- 11 4. X4: learning media factors, i.e.: X4.1: classroom management and X4.2: teaching
12 aids.
- 13
- 14 5. X5: Transformative Learning Theory (TLT)-based palliative learning, i.e.: X5.1:
15 disorienting dilemma, X5.2: critical self-reflection, X5.3: reflective discourse, and
16 X5.4: action.
- 17
- 18 6. Y1: competencies achievement, i.e.: Y1.1: the physical aspect of care, Y1.2:
19 psychological aspect of care, Y1.3: social/ cultural aspect of care, Y1.4: spiritual
20 aspect of care, and Y1.5: care of a patient at the end of life.
- 21

22 An ad hoc questionnaire was structured through a literature review. The
23 questionnaire covered six variables involved in the proposed model, i.e., students'
24 characteristics, educators' characteristics, palliative care competencies, learning media,
25 TLT-based palliative learning, and competencies achievement. A professional judgment
26 was applied to assess the questionnaire's content, and the Pearson Product Moment
27 formula calculated the questionnaire's validity using the R-value. The calculation results
28 were then matched with the two-tailed Product Moment r table with $\alpha = 0.05$. After
29 removing the certain items, the remaining items had a value of r count above 0.361, Sig.
30 2-tailed ($\alpha = 0.05$), N=30 which indicated validity. The reliability test in this study used
31 Internal Consistency Reliability. Cronbach's alpha calculation resulted in a value greater
32 than 0.7, which is considered reliable.

33 Data collection was started in February 2021. Participants were recruited based
34 on the inclusion criteria. Firstly, brief information regarding this study was given to the
35 potential participants. After that, participants were asked to sign an informed consent
36 form to confirm their voluntary participation. Their participation was guaranteed
37 anonymity, and all the participants had the right to withdraw before or during the research.
38 The validated questionnaire was given to the participants who then had to return them
39 straight away.

40 Descriptive statistics of all variables were obtained. A model explaining the
41 relationship between the variables was developed using a structural equation modeling
42 (PLS-SEM), which was tested using the Smart-PLS 3.0 statistical package, which
43 included: 1) measurement model (outer model), 2) structural model (inner model), and 3)
44 hypothesis testing. The outer model or measurement of the outside of the PLS-SEM
45 consisted of two measurements: reflective and formative models. The measurement of
46 the reflective model was the first model measurement that was done using reliability and
47 validity. The reliability test used either Cronbach or the composite reliability value which
48 can be interpreted like the Cronbach value. The minimum value is 0.7, which reflects the

1 reliability of all indicators in the model. A validity test was conducted with convergent
2 and discriminant validity tests. In the convergent validity test, an indicator is declared
3 valid with an average value of extracted variance (AVE) of > 0.5. The rule of thumb used
4 for convergent validity is outer loading of > 0.7, communality of > 0.5, and AVE of >
5 0.5. The discriminant validity test was assessed based on the cross-loading measurement
6 with the construct.
7

8
9 The inner model or measurement of the inside was a structural model to predict
10 causality relationships between latent variables. The structural model in PLS was
11 evaluated using three ways:
12

- 13 1. The goodness of fit test with R^2 measures the degree of variation of changes in
14 the independent variable to the dependent variable.
- 15 2. The test of predictive relevance (Q^2 predictive relevance) for the structural model
16 measures the model's observed values and estimated parameters. A Q^2 value of >
17 0 (zero) indicates that the model has a predictive relevance value and vice versa.
- 18 3. The bootstrapping process with the t-statistic test parameter predicts the existence
19 of causality.
20

21 Hypothesis testing was conducted using t-statistic test. The path coefficient value
22 shows a significance in hypothesis testing if the t-statistic value is > 1.96 (two-tailed) and
23 vice versa.
24

25 RESULTS

26 The participants involved in this study were 189 students (N=189). As shown in
27 Table 1, most of the respondents were 20 years old (47.6%), and their mean age was
28 20.60±0.64 (range: 20 to 23). About 88.4% had experience of caring for patients with
29 chronic diseases. Most of the respondents had an experience of caring for dying patients
30 (59.3%). Nevertheless, only 28% of respondents had an experience of caring for their
31 dying family members and only 5% close friends nearing death.
32

33 1) Students' characteristics

34 Table in student character shows that most respondents were women (85.2%).
35 Most parents' economic background was self-employed (39.7%). Regarding the
36 experience of loss, grief, and bereavement, most respondents had an experience
37 of sadness (92.6%), grieving (87.3%), and loss (88.4%). Only 33.9% had a good
38 self-concept, with a mean of 15.52 ±1.81 (range: 12 to 20). About 61.4% had poor
39 learning motivation (mean:24.86±2.25 and range: 19 to 32), 58.7% had poor
40 learning readiness (mean: 25.62±2.81 and range: 20 to 32), and 51.3% had poor
41 learning orientation (mean: 41.19±4.87 and range: 29 to 32). Most students
42 (60.3%) also had poor learning experience (mean: 22.09±2.57 and range: 15 to
43 28).
44

45 2) Educators' characteristics

46 The results (Table 2) describe that most respondents scored the educators'
47 characteristics in the three domains: 64.6% poor for professional abilities (mean:
48 30.93±4.38 and range: 16 to 40), 64.0% poor for the personal quality (mean:
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1 40.57±5.29 (range: 26 to 52), and 68.3% for the interpersonal relationship with
2 learners (mean: 33.67±4.28 and range: 22 to 44).

3
4 **3) Palliative care competencies**

5 Table 2 confirms that most respondents had poor palliative care competencies
6 in all indicators. As many as 74.6% had poor competencies in pain and symptom
7 management (mean: 3.03±0.69 and range: 2 to 4), 62.4% in the end of life (EOL)
8 care (mean: 2.53±0.81 and range: 1 to 4), 56.1% for hospice care (mean:
9 2.60±0.75 and range: 2 to 4), 77.2% in loss, grief, and bereavement (mean: 2.87
10 ±0.75 and range: 2 to 4).

11
12
13
14 **4) Learning media**

15 Table 2 shows the learning media variables, consisting of two indicators, i.e.,
16 classroom management and teaching instruments. More than half of the
17 respondents (51.3%) stated that classroom management was poor (51.3%) (mean:
18 23.12±3.07 and range: 17 to 28). About 59.3% also scored the teaching
19 instruments as poor (mean: 22.28±3.04 and range 14 to 28).

20
21
22
23 **5) Palliative TLT-based learning**

24 As described in Table 2, the implementation of the four TLT phases of TLT
25 in palliative learning was poor. As many as 81% of respondents had poor
26 disorienting dilemma (mean: 20.89 ±1.55 and range: 12 to 24). More than half of
27 respondents (53.4%) had poor critical self-reflection (mean: 20.06±1.97 and
28 range: 14 to 26). A total of 76.7% of respondents possessed poor reflective
29 discourse (mean: 21.92±1.62 and range: 14 to 26). The percentage of respondents
30 who had poor action was 87.3% (mean: 21.28±1.52 and range: 16 to 24).

31
32
33
34 **6) Students' competencies achievement**

35 As pointed in Table 2, the five aspects of holistic palliative care and the end-
36 of-life care competencies were not achieved adequately. The percentages of
37 respondents who did not achieve the competencies in the physical aspect of care
38 (Y1.1), psychological aspect of the care (Y1.2), social/cultural aspect of care
39 (Y1.3), spiritual aspect of care (Y1.4), and care of the patient at the end-of-life
40 (Y1.5) were 90.5%, 83.1%, 81%, 86.8%, and 59.8%, respectively. The average
41 score of each indicator is as follows: Y1.1: 2.66±0.65 (1-4), Y1.2: 2.90±0.65 (2-
42 4), Y1.3: 2.75±0.76 (1-4), Y1.4: 2.68±0.69 (2-4), Y1.5: 2.52±0.71 (1-4).

43 The results of the causality test on the latent variables can be seen in Figure 1. All
44 indicators had the t value of more than 1.96, except the four indicators in the students'
45 characteristics, i.e., gender (X1.1), socio-cultural background (X1.2), parents' economic
46 background (X1.3), and experiences of loss, grief, and bereavement (X1.4). These
47 indicators were then excluded from the X1 latent variable. A new model was developed
48 without X1.1, X1.2, X1.3, and X1.4 indicators, as described in Figure 2. The new model
49 shows that all indicators are valid, as evidenced by the t-value of > 1.96. This means that
50 all indicators in the new model have described the constructs or latent variables
51 adequately.
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1 Structural model testing (inner model) was conducted to determine the
2 significance of the effect between exogenous and endogenous variables. This analysis
3 was conducted after all indicators and variables were declared valid and reliable. The
4 coefficient of determination (R^2) was used to determine the magnitude of the ability of
5 endogenous variables to explain the diversity of exogenous variables, or in other words,
6 to determine the magnitude of the contribution of exogenous variables to endogenous
7 variables. The results of the R^2 value of TLT-based palliative learning model (X5) was
8 0.707 and the R^2 adjusted was at 0.701. The R^2 of palliative care competencies
9 achievement (Y1) was 0.710 and the R^2 adjusted was at 0.708. The value of R^2 on the
10 latent variable shows the contribution of the independent variable in influencing the
11 dependent variable. The R^2 value which is close to 1 indicates a high contribution. The
12 R^2 value of TLT-based palliative learning (X5) was 0.707 or 70.7%. This result indicated
13 that the diversity of TLT-based palliative learning variables can be explained by the
14 variables of students, educators, palliative competencies, and learning media by 70.7%.
15 The contribution of the variables of students, educators, palliative competencies, and
16 learning media to palliative TLT-based learning was at 70.7%. In comparison, the
17 remaining 29.3% was the contribution of other variables not included in the model. The
18 R^2 value of competency achievement (Y) was 0.710 or 71%. This calculated value
19 indicates that the diversity of competency achievement variables can be explained by the
20 TLT-based palliative learning variable of 71%. In other words, the contribution of TLT-
21 based palliative learning to competency achievement is 71%. In comparison, the
22 remaining 29% is the contribution of other variables not included in the model.

23 Predictive relevance (Q^2) measures how well the observed values generated by
24 the model and parameter estimates are. A Q^2 value greater than 0 (zero) indicates that the
25 model is good enough, while a Q^2 value less than 0 (zero) indicates that the model lacks
26 predictive relevance. The Q^2 of palliative TLT-based learning (X5) was at 0.282 (SSO =
27 756.00; SSE=542.948). The Q^2 palliative care competencies variable (Y) was at 0.133
28 (SSO=945.000; SSE=819.149). The result showed that each construct had a Q^2 value of
29 > 0 . It can be said that the structural model designed to explain palliative TLT-based
30 learning on the achievement of nurse students' competencies in palliative care was proven
31 to be satisfactory.

32 Hypothesis testing was proven based on the causality test results of exogenous
33 variables on endogenous variables by eliminating the relationship between exogenous
34 variables to endogenous variables with no significant effect. The final model was obtained
35 between exogenous variables and endogenous variables. Table 3 shows that the value of
36 t-statistics is greater than that of t-table (1.96) or a p-value is less than significant alpha
37 of 5% or 0.05. Therefore, a significant effect of exogenous variables was found on
38 endogenous variables. The results of the model significance test can be explained as
39 follows:

- 40 a) There was a significant effect of students' characteristics on palliative TLT-based
41 learning. The effect of the students' characteristics was at 0.149, with a p-value of
42

1 0.007. The test results showed that the t-statistic value was > 1.96 (two-tailed) and
2 the p-value was < 0.05 .
3

- 4 b) There was a significant influence of the educators' characteristics on TLT-based
5 palliative learning. The influence of the educators' characteristics was at 0.627,
6 with a p-value of 0.000. The test results showed that the t-statistic value was $>$
7 1.96 (two-tailed) and the p-value was < 0.05 .
8
9 c) There was a significant effect of students' palliative care competencies on TLT-
10 based palliative learning. The effect was at 0.108, with a p-value of 0.017. The
11 test results show that the t-statistic value was > 1.96 (two-tailed) and the p-value
12 was < 0.05 .
13
14 d) There is a significant influence of learning media on TLT-based palliative
15 learning. The influence of the learning media is 0.321, with a p-value of 0.000.
16 The test results show that the t-statistic value is > 1.96 (two-tailed) and the p-value
17 is < 0.05 .
18
19 e) There was a significant effect of palliative TLT-based learning on the achievement
20 of palliative care competencies. The effect of palliative learning is 0.843, with a
21 p-value of 0.000. The test results showed that the t-statistic value was > 1.96 (two-
22 tailed) and the p-value was < 0.05 .
23
24
25

26 Based on the path coefficient value, it can be concluded that the educators'
27 characteristics variable had the most significant contribution to the palliative TLT-based
28 learning model, amounting to 0.627.
29

30 31 32 **DISCUSSION**

33 The results showed that almost all the palliative care teaching-learning process
34 indicators and competency achievement were inadequate. It seems that students felt less
35 confident, lacked trust, and were confused in understanding the concept of the materials
36 being taught. Students might not understand the benefits of teaching-learning process,
37 resulting in undirected self-learning. It could happen if the students are treated as objects,
38 not subjects of the teaching-learning process. Therefore, a teaching-learning process
39 should encourage active student participation in the process. Considering students'
40 backgrounds, interests, needs, experience, and capabilities, students can structure self-
41 confidence and engagement in dealing with palliative care concepts through an active
42 teaching-learning process (15–17).
43
44
45
46

47 Educators play an essential role in implementing a learning strategy. The role of
48 educators is not limited to be a teacher but also as a mentor, developer, and manager of
49 learning activities that can facilitate students in achieving the set competencies. In the
50 context of palliative learning, educators must guide, develop, and manage teaching-
51 learning activities so that students can achieve the set competencies (2,18,19). Nursing
52 colleges can use the characteristics of educators contributing to the active teaching-
53 learning process for the staff recruitment. The educators' characteristics will determine
54 the success of students' transformation based on the set competencies (3,19). Educators'
55 personalities will be the key factor that underlies the student-teacher professional
56
57
58
59
60
61
62
63
64
65

1 relationship, which provides an academic atmosphere for students' engagement in
2 achieving the competencies (19).

3
4 Educators who are less able to manage the class and encourage students to do
5 critical reflection and engage in reflective discussions will cause the failure of the
6 teaching-learning process. As a result, students do not actively participate and interact
7 with educators, peers, and do not use learning resources both in the classroom and in the
8 laboratory. Such a circumstance could prevent the students' self-confidence in handling
9 palliative care. The success of the learning process cannot be separated from the support
10 of learning media. Learning media helps the teaching and learning processes run in a
11 reliable and structured manner. Adequate learning media management can also motivate
12 students and teachers to interact in the classroom efficiently and effectively (20–22).

13
14
15 This study provides a transformation frame that puts forward more rational, more
16 concrete, and easier processes to evaluate. Based on the Mezirow's theory, several steps
17 should be followed. The first transformation process is disorienting dilemma, a condition
18 where a person is experiencing a personal crisis. This occurs because a person finds a
19 reality that turns out to be different from their beliefs. The second process is critical self-
20 reflection. After experiencing a personal crisis, a person will conduct critical reflection
21 and re-evaluation of their assumptions related to their self-concept and their ecological
22 factors. The third process is a reflective discourse. A person conducts a reflective dialogue
23 with others about a new perspective to obtain the validity and truth of the new perspective.
24 The fourth process is taking new actions based on the perspective of new meanings that
25 have been generated to understand, interpret, and perceive their context. Mainly, the
26 Mezirow's theory of transformation perspective entrusts individuals with the capacity for
27 profound change to experience transformation (3,13,23).

21 22 CONCLUSION

23
24 Based on the results of this study, it can be suggested that it is necessary to
25 improve learning methods to support the achievement of palliative care competencies.
26 The teaching-learning process based on the transformational learning theory is a
27 promising strategy to support students to attain palliative care competencies.

28 29 REFERENCES

- 30 1. Dobrina R, Tenze M, Palese A. Transforming End-of-Life Care by Implementing
31 a Patient-Centered Care Model. *J Hosp Palliat Nurs* [Internet]. 2018
32 Dec;20(6):531–41.
- 33 2. Franklin CM, Bernhardt JM, Lopez RP, Long-Middleton ER, Davis S.
34 Interprofessional Teamwork and Collaboration Between Community Health
35 Workers and Healthcare Teams: An Integrative Review. *Heal Serv Res Manag
36 Epidemiol*. 2015;2:1–9.
- 37 3. Damianakis T, Barrett B, Archer-Kuhn B, Samson P, Matin S, Ahern C. Teaching

- 1 for Transformation: Master of Social Work Students Identify Teaching
2 Approaches That Made a Difference. *J Transform Educ.* 2019;1–22. Available
3 from: <https://doi.org/10.1177/1541344619865948>
- 4 4. Henoah I, Melin-johansson C, Bergh I, Strang S, Ek K, Hammarlund K, et al.
5 Nurse Education in Practice Undergraduate nursing students ' attitudes and
6 preparedness toward caring for dying persons e A longitudinal study. 2017;26:12–
7 20.
- 8 5. Josephsen J, Martz K. Faculty and student perceptions: An end-of-life nursing
9 curriculum survey. *J Hosp Palliat Nurs.* 2014;16(8):474–81.
- 10 6. Ramjan JM, Costa CM, Hickman LD, Kearns M, Phillips JL. Integrating palliative
11 care content into a new undergraduate nursing curriculum: The University of Notre
12 Dame, Australia - Sydney experience. *Collegian.* 2010;17(2).
- 13 7. Davis A, Lippe M, Glover TL, McLeskey N, Shillam C, Mazanec P. Integrating
14 the ELNEC undergraduate curriculum into Nursing Education: Lessons learned. *J*
15 *Prof Nurs.* 2021;37(2).
- 16 8. Achora S, Labrague LJ. An Integrative Review on Knowledge and Attitudes of
17 Nurses Toward Palliative Care: Implications for Practice. *J Hosp Palliat Nurs.*
18 2019;21(1):29–37.
- 19 9. Farmani AH, Mirhafez SR, Kavosi A, Moghadam Pasha A, Jamali nasab A,
20 Mohammadi G, et al. Dataset on the nurses' knowledge, attitude and practice
21 towards palliative care. *Data Br [Internet].* 2019;22:319–25. Available from:
22 <https://doi.org/10.1016/j.dib.2018.11.133>
- 23 10. Luh N, Inca P, Agustini B, Nursalam N, Rismawan M. Undergraduate Nursing
24 Students ' Knowledge , Attitude and Practice Toward Palliative Care in Indonesia :
25 A Cross-sectional Online Survey. 2020;24(7):7709–17.
- 26 11. Rietze LL, Tschanz CL, Richardson HRL. Evaluating an Initiative to Promote
27 Entry-Level Competence in Palliative and End-of-Life Care for Registered Nurses
28 in Canada. *J Hosp Palliat Nurs.* 2018 Dec;20(6):568–74.
- 29 12. Shahid S, Ekberg S, Holloway M, Jacka C, Yates P, Garvey G, et al. Experiential
30 learning to increase palliative care competence among the Indigenous workforce:
31 an Australian experience. *BMJ Support Palliat Care.* 2019 Jun;9(2):158–63.
- 32 13. Kleinheksel AJ. Transformative learning through virtual patient simulations:
33 Predicting critical student reflections. *Clin Simul Nurs.* 2014;10(6).
- 34 14. Nurjannah I, Husniyah F, Harjanto T. Teacher-Centered Learning and Student-
35 Centered Learning Approaches in Nursing School: Which One Is Better? *Belitung*
36 *Nurs J.* 2017;3(2).
- 37 15. Dimoula M, Kotronoulas G, Katsaragakis S, Christou M, Sgourou S, Patiraki E.
38 Undergraduate nursing students' knowledge about palliative care and attitudes
39 towards end-of-life care: A three-cohort, cross-sectional survey. *Nurse Educ*
40 *Today.* 2019;74(November 2018):7–14. Available from:
41 <https://doi.org/10.1016/j.nedt.2018.11.025>
- 42 16. Jiang Q, Lu Y, Ying Y, Zhao H. Attitudes and knowledge of undergraduate nursing
43 students about palliative care: An analysis of influencing factors. *Nurse Educ*
44 *Today [Internet].* 2019;80(May):15–21. Available from:
45 <https://doi.org/10.1016/j.nedt.2019.05.040>
- 46 17. Simbolon I, Br Perangin-angin MA. Evaluation of Self-transformational and
47 Authenticity Among Students in College of Nursing. *Klabat J Nurs.* 2020;2(1).
- 48 18. Gustin J, Wood G, Childers J, Jacobsen J, DeLima Thomas J. Becoming a

- 1 Clinician Educator in Palliative Care: Finding a Path (408). *J Pain Symptom*
 2 *Manage.* 2012;43(2).
 3
 4 19. Becker R. The development of core competencies for palliative care educators. *Int*
 5 *J Palliat Nurs.* 2007;13(8).
 6
 7 20. Park S-G, 김영석. A Study on Transformative Learning of Older Adults' Media
 8 Education. *Andragogy Today Interdiscip J Adult Contin Educ.* 2015;18(1).
 9
 10 21. Sunaryo S, Nasbey H, Amelia H. Learning Media Development using
 11 Transformative Learning Strategy Android Application as a Distance Learning
 12 Support on Static Fluid. *J Penelit Pengemb Pendidik Fis.* 2021;7(1).
 13
 14 22. Lee AL, DeBest M, Koeniger-Donohue R, Strowman SR, Mitchell SE. The
 15 feasibility and acceptability of using virtual world technology for interprofessional
 16 education in palliative care: a mixed methods study. *J Interprof Care.*
 17 2020;34(4):461–71.
 18
 19 23. Mezirow J. *Transformative Learning: Theory to Practice.* New Dir Adult Contin
 20 *Educ.* 1997;1997(74).
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49

50 **Table 1. Respondents' characteristics**

51 Respondents' characteristics	52 Frequency	53 Percentage
	54 N=189	
55 Age (y.o)	56 Mean (Range): 20.60±0.64 (20 to 23)	
57 20	58 90	59 47.6
60 21	61 87	62 46.0
63 22	64 10	65 5.3
66 23	67 2	68 1.1

1	Experience of caring for patients with		
2	chronic diseases		
3	Yes	167	88.4
4	No	22	11.6
5	Experience of caring for their dying family		
6	members		
7	Yes	53	28.0
8	No	136	72.0
9	Experience of caring for their dying friends		
10	Yes	5	2.6
11	No	184	97.4
12	Experience of caring for dying patients		
13	Yes	112	59.3
14	No	77	40.7

Table 2. Descriptions of the students' characteristics, educators' characteristics, palliative competencies, learning media, palliative TLT-based learning, and competency achievement

25	Variables and indicators	Frequency	Percentage
26		N=189	N=189
27	X1: students' characteristics factors		
28	X1.1: Gender		
29	Female	161	85.2
30	Male	28	14.8
31	X1.2: Socio-cultural background		
32	Balinese	181	95.8
33	Javanese	7	3.7
34	Others	1	0.5
35	X1.3: Parents' socio-economic background		
36	Unemployed	6	3.2
37	Indonesian civil officer, army, and police	33	17.5
38	Private employee	44	23.3
39	Self-employed	75	39.7
40	Farmer	26	13.8
41	Retired	5	2.6
42	X1.4: Experience of loss		
43	Yes	167	88.4
44	No	22	11.6
45	Experience of grief		
46	Yes	175	92.6
47	No	14	7.4
48	Experience of bereavement		
49	Yes	165	87.3
50	No	24	12.7
51	X1.5: Self-concept		
52	Good	64	33.9

Variables and indicators	Frequency N=189	Percentage N=189
X1: students' characteristics factors		
Poor	125	66.1
Mean (Range)	15.52±1.81 (12-20)	
X1.6: Learning motivation		
Good	73	38.6
Poor	116	61.4
Mean (Range)	24.86±2.25 (19-32)	
X1.7: Learning readiness		
Good	78	41.3
Poor	111	58.7
Mean (Range)	25.62±2.81 (20-32)	
X1.8: Learning orientation		
Good	92	48.7
Poor	97	51.3
Mean (Range)	41.19±4.87 (29-32)	
X1.9: Learning experience		
Good	75	39.7
Poor	114	60.3
Mean (Range)	22.09±2.57 (15-28)	
X2: educator characteristics factors		
X2.1: Professional ability		
Good	67	35.4
Poor	122	64.6
Mean (Range)	30.93±4.38 (16-40)	
X2.2: Personal quality		
Good	121	64
Poor		
Mean (Range)	40.57±5.29 (26-52)	
X2.3: Interpersonal relationships with students		
Good	60	31.7
Poor	129	68.3
Mean (Range)	33.67±4.28 (22-44)	
X3: palliative care competencies factors		
X3.1: Pain and symptom management		
Good	48	25.4
Poor	141	74.6
Mean (Range)	3.03±0.69 (2-4)	
X3.2: End of life care		
Good	71	37.6
Poor	118	62.4
Mean (Range)	2.53±0.81 (1-4)	
X3.3: Hospice care		
Good	83	43.9
Poor	106	56.1
Mean (Range)	2.60±0.75 (2-4)	

Variables and indicators	Frequency N=189	Percentage N=189
X1: students' characteristics factors		
X3.4: Loss, grief, and bereavement		
Good	43	22.8
Poor	146	77.2
Mean (Range)	2.87±0.75 (2-4)	
X4: learning media factors		
X4.1: Classroom management		
Good	92	48.7
Poor	97	51.3
Mean (Range)	23,12±3,07 (17-28)	
X4.2: Teaching devices		
Good	77	40.7
Poor	112	59.3
Mean (Range)	22.28±3.04 (14-28)	
X5: Transformative Learning Theory (TLT)-based palliative learning		
X5.1: Disorienting dilemma		
Good	36	19
Poor	153	81
Mean (Range)	20.89±1.55 (12-24)	
X5.2: Critical self-reflection		
Good	88	46.6
Poor	101	53.4
Mean (Range)	20.06±1.97 (14-26)	
X5.3: Reflective discourse		
Good	44	23.3
Poor	145	76.7
Mean (Range)	21.92±1.62 (14-26)	
X5.4: Action		
Good	24	12.7
Poor	165	87.3
Mean (Range)	21.28±1.52 (16-24)	
Y1: competencies achievement		
Y1.1: Physical aspect of care		
Good	18	9.5
Poor	171	90.5
Mean (Range)	2.66±0.65 (1-4)	
Y1.2: Psychological aspect of care		
Good	32	16.9
Poor	157	83.1
Mean (Range)	2.90±0.65 (2-4)	
Y1.3: Social/ cultural aspect of care		
Good	36	19
Poor	153	81
Mean (Range)	2.75±0.76 (1-4)	
Y1.4: Spiritual aspect of care		
Good	25	13.2

Variables and indicators	Frequency N=189	Percentage N=189
X1: students' characteristics factors		
Poor	164	86.8
Mean (Range)	2.68±0.69 (2-4)	
Y1.5: Care of patient at the end of life		
Good	76	40.2
Poor	113	59.8
Mean (Range)	2.52±0.71 (1-4)	

Table 3. Hypothesis testing of Palliative Learning Model on the competency achievement among nurse students

Hypothesis	Original Sample (O)	T Statistics (IO/STDEVI)	P Values	Significance
Students' characteristics (X1) to Palliative Learning (X5)	0.149	2.693	0.007	Significant
Educators' characteristics (X2) to Palliative Learning (X5)	0.627	9.868	0.000	Significant
Palliative competencies (X3) to Palliative Learning (X5)	0.108	2.392	0.017	Significant
Learning Media (X4) to Palliative Learning (X5)	0.321	4.975	0.000	Significant
Palliative Learning (X5) to Competency achievement (Y)	0.843	33.516	0.000	Significant

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

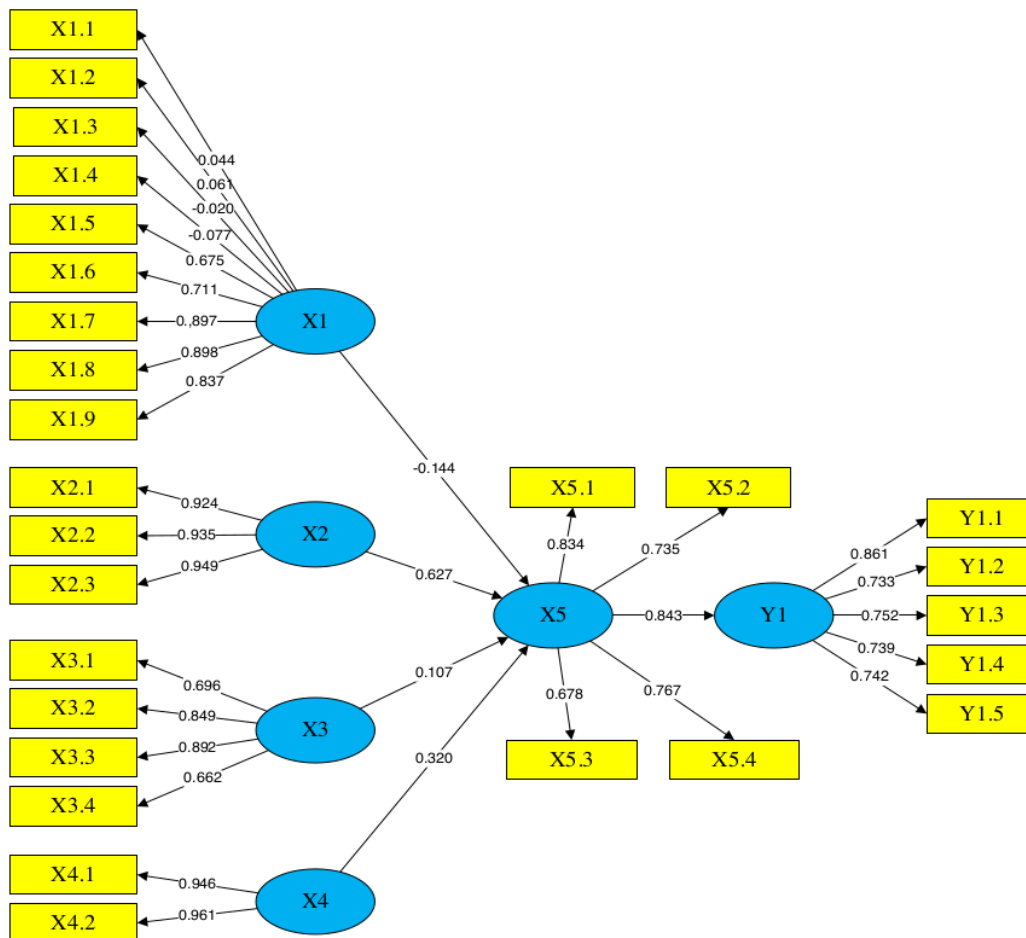


Figure 1. Constructs of PLS Algorithm (Outer Model) Palliative Learning Model Based on Transformational Learning Theory

X1: students' characteristics factors, i.e., X1.1: gender. X1.2: socio-cultural background. X1.3: parents' economic background. X1.4: experience of loss, grief, and bereavement. X1.5: self-concept. X1.6: learning motivation, X1.7: learning readiness, X1.8: learning orientation, and X1.9: a learning experience. X2: educators' characteristics factors, i.e., X2.1: professional ability, X2.2: personal quality, and X2.3: interpersonal relationships with students. X3: palliative care competencies factors, i.e., X3.1: pain and symptom management, X3.2: End of life care, X3.3: hospice care, and X3.4: loss, grief, and bereavement. X4: learning media factors, i.e., X4.1: classroom management, and X4.2: teaching aids. X5: palliative Transformative Learning Theory (TLT)-based learning, i.e., X5.1: disorienting dilemma, X5.2: critical self-reflection, X5.3: reflective discourse, and X5.4: action. Y1: competency achievement, i.e., Y1.1: the physical aspect of care, Y1.2: psychological aspect of care, Y1.3: social/ cultural aspect of care, Y1.4: spiritual aspect of care, and Y1.5: care of a patient at the End of life.

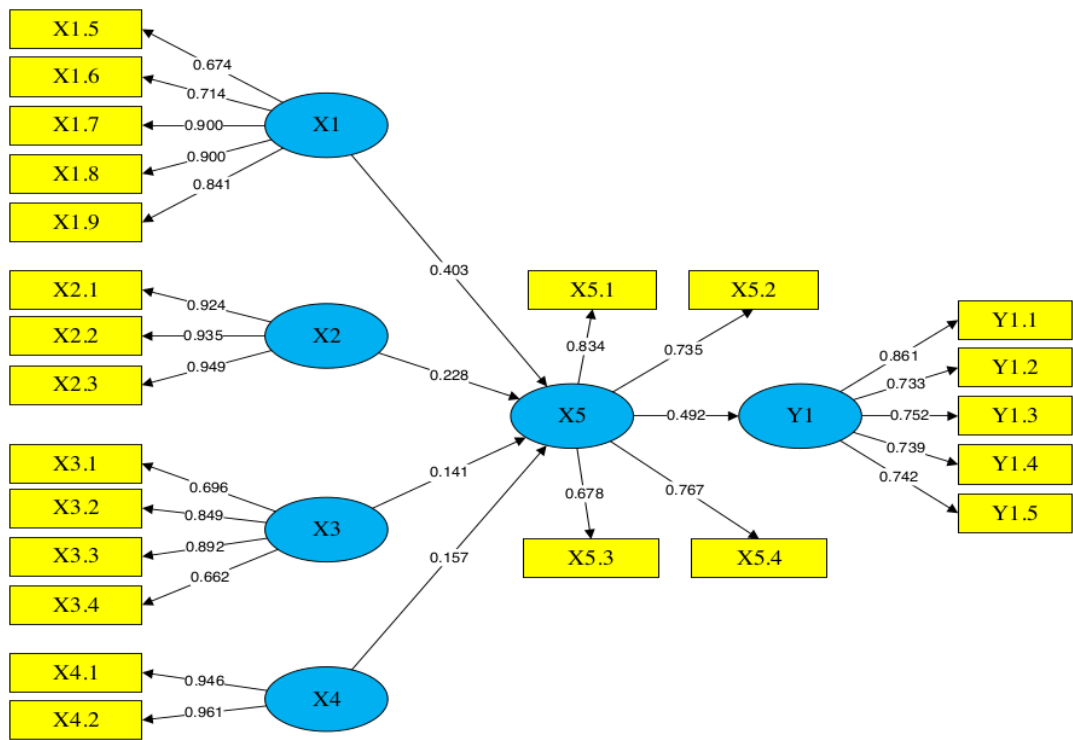


Figure 2. Constructs of Palliative Learning Model Based on Transformational Learning Theory (with the exclusion of several constructs in Figure 1).

X1: students' characteristics factors, i.e., X1.5: self-concept, X1.6: learning motivation, X1.7: learning readiness, X1.8: learning orientation, and X1.9: a learning experience.

X2: educators' characteristics factors, i.e., X2.1: professional ability, X2.2: personal quality, and X2.3: interpersonal relationships with students.

X3: palliative care competencies factors, i.e., X3.1: pain and symptom management, X3.2: End of life care, X3.3: hospice care, and X3.4: loss, grief, and bereavement.

X4: learning media factors, i.e.: X4.1: classroom management, X4.2: teaching aids.

X5: palliative Transformational Learning Theory (TLT)-based learning, i.e., X5.1: disorienting dilemma, X5.2: critical self-reflection, X5.3: reflective discourse, dan X5.4: action.

Y1: competencies achievement, i.e., Y1.1: the physical aspect of care, Y1.2: psychological aspect of care, Y1.3: social/ cultural aspect of care, Y1.4: spiritual aspect of care, and Y1.5: care of a patient at the End of life.

DEVELOPMENT OF PALLIATIVE LEARNING MODEL BASED ON TRANSFORMATIONAL LEARNING THEORY ON STUDENTS' COMPETENCIES IN PALLIATIVE CARE

ORIGINALITY REPORT

8%

SIMILARITY INDEX

5%

INTERNET SOURCES

5%

PUBLICATIONS

0%

STUDENT PAPERS

PRIMARY SOURCES

1	ijhss.net Internet Source	1%
2	jultika.oulu.fi Internet Source	1%
3	repository.wima.ac.id Internet Source	1%
4	Sameh Eltaybani, Ayumi Igarashi, Noriko Yamamoto - Mitani. "Palliative care in adult intensive care units: A nationwide survey", <i>Nursing in Critical Care</i> , 2020 Publication	<1%
5	www.econjournals.com Internet Source	<1%
6	Dicky Retmawadi. "THE INFLUENCE OF LEARNING ACTIVITIES AND LEARNING MEDIA ON LEARNING OUTCOMES OF CLASS VIII HEALTH OF EDUCATION STUDENTS AT SMP N	<1%

1 KALIBARU", Journal of Education Technology and Inovation, 2022

Publication

7	"Education Innovation and Mental Health in Industrial Era 4.0", Walter de Gruyter GmbH, 2019 Publication	<1 %
8	openaidsjournal.com Internet Source	<1 %
9	sigma.nursingrepository.org Internet Source	<1 %
10	K. Lowell, B. Christy, K. Benke, G. Day. "Modelling fundamentals and the quantification and spatial presentation of uncertainty", Journal of Spatial Science, 2011 Publication	<1 %
11	I Dewa Ayu Rismayanti, Nursalam, Virgianti Nur Farida, Ni Wayan Suniya Dewi et al. "Early Detection to Prevent Foot Ulceration among Type 2 Diabetes Mellitus Patient: A Multi-Intervention Review", Journal of Public Health Research, 2022 Publication	<1 %
12	ejournal.iainkendari.ac.id Internet Source	<1 %
13	Sopiah Sopiah, Elfia Nora, Dediak Tri Kurniawan, Etta Mamang Sangadji, Bagus	<1 %

Shandy Narmaditya, Mahirah Kamaludin.
"Green human resource practice, green life
and organizational environmental
performance: Lesson from Indonesia", Walter
de Gruyter GmbH, 2022

Publication

14

Syafrizal Helmi Situmorang. "chapter 8 Middle
Class Millennial Experiences in the Digital
Market", IGI Global, 2021

Publication

15

www.wrbrpapers.com

Internet Source

<1 %

16

core.ac.uk

Internet Source

<1 %

17

repository.unwira.ac.id

Internet Source

<1 %

18

Michel Rod, Nicholas J. Ashill. "The effect of
customer orientation on frontline employees
job outcomes in a new public management
context", Marketing Intelligence & Planning,
2010

Publication

<1 %

19

journals.sagepub.com

Internet Source

<1 %

20

research.edgehill.ac.uk

Internet Source

<1 %

21 www.belitungraya.org

Internet Source

<1 %

22 Augustina Asih Rumanti, Indryati Sunaryo,
Iwan Inrawan Wiratmadja, Dradjad Irianto.
"Cleaner Production for Small and Medium
Enterprises: An Open Innovation Perspective",
IEEE Transactions on Engineering
Management, 2023

Publication

<1 %

23 iiste.org

Internet Source

<1 %

24 repository-tnmgrmu.ac.in

Internet Source

<1 %

Exclude quotes Off

Exclude matches < 10 words

Exclude bibliography On

DEVELOPMENT OF PALLIATIVE LEARNING MODEL BASED ON TRANSFORMATIONAL LEARNING THEORY ON STUDENTS' COMPETENCIES IN PALLIATIVE CARE

GRADEMARK REPORT

FINAL GRADE

/1000

GENERAL COMMENTS

Instructor

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14

PAGE 15

PAGE 16

PAGE 17

PAGE 18

PAGE 19

