

Nursing and midwifery students' communication skills training: a systematic review

ABSTRACT

Background: Communication skills is reported to be of high importance for nursing and midwifery practice. Communication skills refers to how actions are used in sending messages. The necessity for nurses and midwives to be good communicators has been demonstrated.

Objective: To investigate the quality of evidence of communication skills training for nursing and midwifery students on patients' outcome in nursing and midwifery colleges.

Methods: Firstly, a search in the databases of Ovid Medline (1946 - present), Ebscohost and CINAHL (1960 - present) to find relevant studies were conducted. Secondly, there was hand searching of three journals from Africa. Thirdly, the reference lists of studies found were searched for additional studies. Fourthly, there was consultation with professionals around communication skills training and the leadership of Ghana Nurses and Midwives Association.

Results: Quality assessment using the Grading of Recommendations Assessment, Development and Evaluation system found that out of the 10 studies that were included, only one was of moderate quality. The other nine studies were of low quality.

Conclusions: The literature on enhancing communication skills training in nursing and midwifery students shows that the quality of evidence is generally low. This study has implications on how communication is handled in nursing schools and also demonstrated which communication has high evidence.

Systematic review registration: This systematic review was not registered in a registry.

Keywords: communication; delivery of health care; education; midwifery; nurses; systematic review;

1.0 INTRODUCTION

The literature review was set out to do a review of studies on effectiveness of communication skills training for nursing and midwifery students. Studies have shown the important role effective communication plays in nurses and midwives' interaction with patients h.

Communication skills is reported to be of high importance for nursing and midwifery practice [8]. Communication skills refers to how actions are used in sending messages [9]. The necessity for nurses and midwives to be good communicators has been demonstrated [10]. Researchers have demonstrated that there are better health outcomes with the use of good communication [11,12]. Good communication skills is said be an essential skill for nurses and midwives [13].

The recognition for education in communication has been reported by researchers [14–17]. Good communication is based on individual differences. However, it has been reported that training and experience can enhance it [18]. Effective communication skills enable nurses and midwives to have a good knowledge and understanding of their patients. In contrast, ineffective communication may lead to an increased number of medical errors and reduced quality of patient care [15].

Experimental communication is reported to be more effective than discussion [19,20]. Other reported effective methods are simulations [21–23], role-play [24–27] and Objective Structured Clinical Examinations (OSCE) [28–31].

To account for systematic reviews on communication skills training for nursing and midwifery students, searches in Ovid Medline, Ebscohost CINAHL, Cochrane Library for systematic reviews, Joana Briggs

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38 Institute (JBI) Database of systematic reviews and implementation reports were performed in
39 September 2018 and 2 systematic reviews were published [32,33].

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41 One of the reviews was on “Communication skills training in healthcare: a review of the literature.
42 They reported that there were relative lack of sound research studies on the nature and effectiveness
43 of communication skills teaching” [32].

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45 The second review was on “Effective teaching of communication to health professional undergraduate
46 and postgraduate students: a systematic review”. The researchers concluded that there were limited
47 studies in this area [33].

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49 In a Cochrane review entitled “Communication skills training for healthcare professionals working with
50 people who have cancer” from a total of 5,742 included studies, only 6 studies were on nurses [34].
51 The authors concluded that various types of training in communication skills seemed effective in
52 enhancing some types of communication skills in healthcare personnel. However, the review pointed
53 out that the sustenance of effectiveness of communication skills training with time cannot be
54 determined [34].

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56 Appraisal of the methodological designs of the reviews shows lack of studies specific to nursing and
57 midwifery students. Also, the period between the first systemic review in 2002 [32] and a second
58 review in 2012 [33] is quite long. This current review will add to the literature and offer an appreciation
59 for the need to provide communication skills training for nursing and midwifery students. Therefore,
60 how can communication skills training for nursing and midwifery students be made effective and
61 relevant? The objective is to investigate the literature on the quality of evidence of communication
62 skills training for nursing and midwifery students on patients’ outcome in nursing and midwifery
63 colleges.

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65 **2.0 METHODS**

66 This systematic was to investigate the literature on the quality of evidence of communication skills
67 training for nursing and midwifery students on patients’ outcome in nursing and midwifery colleges.

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69 Firstly, searches in the databases of Ovid Medline (1946 - present) and Ebscohost CINAHL (1960 -
70 present) to find relevant studies were conducted. The initial search was in January 2016 by MA and
71 AMS and a re-run in August 2018 by AM for updates to account for any publications that have been
72 disseminated in the meantime. Presented in Table 1 are the full search strategy.

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Table 1: Search strategy**Ebscohost CINAHL – August 2015, re-run from January 2013)**

S1 MH "Education, Nursing, Diploma Programs" (588)
 S2 MH "Schools, Nursing" (8,329)
 S3 MH "Students, Nursing+" (23,714)
 S4 TI ((student# OR pupil# OR school#) N2 (nurs* OR midwi*)) (14,340)
 S5 AB ((student# OR pupil# OR school#) N2 (nurs* OR midwi*)) (18,008)
 S6 S1 OR S2 OR S3 OR S4 OR S5 (42,427)
 S7 MH "Communication Skills Training" (1,451)
 S8 MH "Communication Skills" (3,691)
 S9 MH "Communication/ED" (182)
 S10 TI (communication N2 (skills OR training OR program* OR education*)) (1,296)
 S11 AB (communication N2 (skills OR training OR program* OR education*)) (4,484)
 S12 S7 OR S8 OR S9 OR S10 OR S11 (9,131)
 S13 S6 AND S12 (580)
 S14 MH "Treatment Outcomes+" OR MH "Experimental Studies+" OR random* (329,393)
 S15 S13 AND S14 (89)

Ovid MEDLINE (R) in-process & other non-indexed citations and Ovid <1946 to Present> August 2018, re-run from January 2016)

1 Schools, Nursing/ (5405)
 2 Students, Nursing/ (17725)
 3 ((student? or pupil? or school?) adj2 (nurs* or midwi*).tw. (22755)
 4 or/1-3 (35446)
 5 Communication/ed [Education] (9)
 6 (communication adj2 (skills or training or program* or education*).tw. (9959)
 7 or/5-6 (9965)
 8 4 and 7 (295)
 9 randomised controlled trial.pt. (405863)
 10 controlled clinical trial.pt. (91271)
 11 randomi?ed.ab. (394826)
 12 placebo.ab. (166576)
 13 drug therapy.fs. (1814688)
 14 randomly.ab. (237251)
 15 trial.ab. (342478)
 16 groups.ab. (1482123)
 17 or/9-16 (3624121)
 18 exp animals/ not humans/ (4082574)
 19 17 not 18 (3118854)
 20 8 and 19 (52)

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104 Secondly, there were hand searching of journals from Africa conducted by AMS. Three journals from
 105 Africa that were search were the International Journal of Africa Nursing Sciences, Africa Journal of
 106 Nursing and Midwifery, and African Journals Online.

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108 Thirdly, MA and AMS searched the reference lists of studies found for additional studies.

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110 Fourthly, there were consultations with professionals by MA in the area of communication skills
 111 training and the leadership of Ghana Nurses and Midwives Association.

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2.1 SEARCH STRATEGY

114 The key words and terms used in the searches were: communications skills training, communication
 115 skills, education, nursing, midwifery, diploma programmes, students, school, randomised controlled
 116 trial, controlled clinical trials (Table 1). Studies identified from these searches were entered into Zotero
 117 bibliographic software and duplicates were removed.

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2.2 INCLUSION AND EXCLUSION CRITERIA

120 The inclusion and exclusion criteria are presented in Table 2.

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Table 2: Literature review inclusion and exclusion criteria*Inclusion criteria*

- Population of nursing students and midwifery students.
- Studies and interventions that involved evaluating communication skills training programmes in nursing and midwifery students regardless of duration type, frequency and timing of the intervention.
- Studies that used experimental studies, and quasi-experimental studies and mixed methods.
- Outcome measures were on students and midwifery students communication skills with patients.
- English language studies

Exclusion criteria

- Students in nursing colleges other than students and midwifery students.
- Studies and interventions that does not involve evaluating communication skills training programmes in students and midwifery students
- Studies that did not use randomised control trials (RCT), pseudo-randomised trials, experimental studies, and quasi-experimental studies.
- Outcome measures that were not on students and midwifery students' communication skills with patients.
- Non-English language studies

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2.3 DATA EXTRACTION AND QUALITY ASSESSMENT

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The researcher (AM) conducted the database searches and reviewed the study titles to exclude those that were obviously ineligible. The abstracts of the remaining studies were used in identifying studies that were potentially eligible. Thereafter, reviews of the full texts of all studies were conducted for potentially eligible studies. Then the reference lists of the selected full-text studies were examined and AMS did follow-up reviews of the additional studies for potential inclusion conducted.

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2.4 DATA ANALYSIS

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Extraction of descriptive data on author, number of participants, age, and gender were summarised.

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The Grading of Recommendations Assessment, Development and Evaluation (GRADE) system [35] was used in summarising the total quality of evidence.

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3.0 RESULTS

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3.1 Search Results

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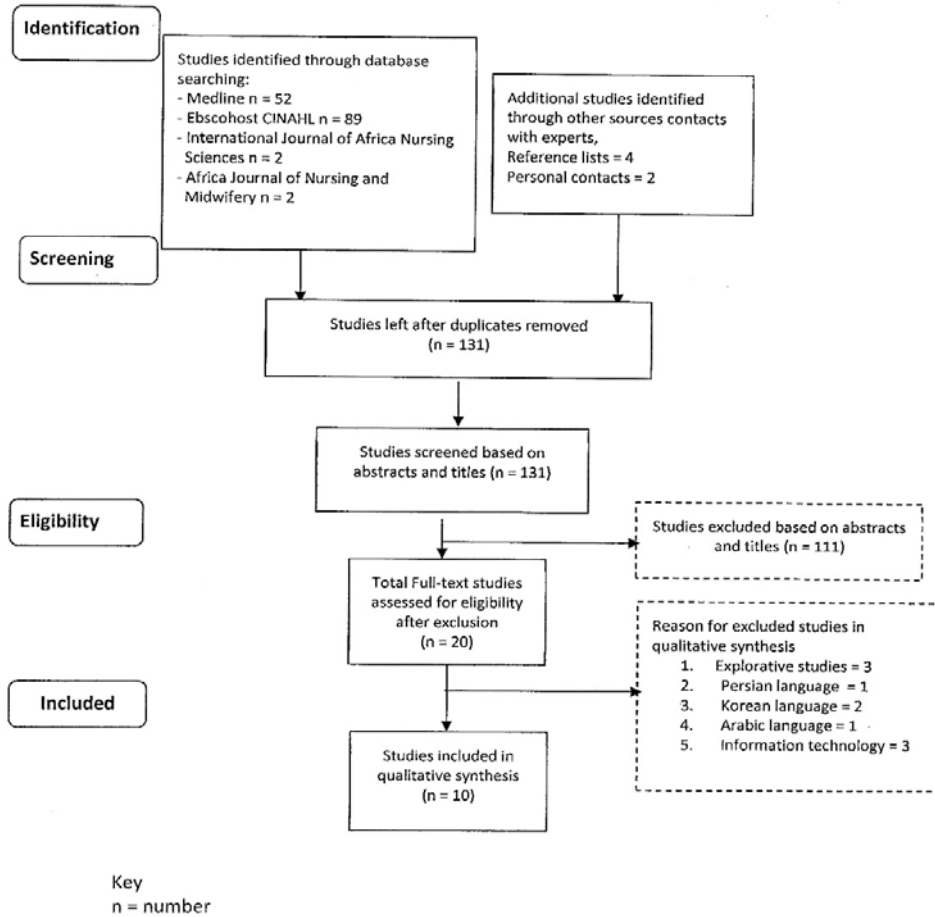
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Searches in Ovid Medline, Ebscohost CINAHL, International Journal of Africa Nursing Sciences, Africa Journal of Nursing and Midwifery, and African Journals Online databases and other sources yielded 151 citations. After removing duplications of 20 studies, 131 studies remained. Of these, 111 studies were removed because they did not meet the inclusion criteria. Detail examinations of the full texts of the remaining 20 abstracts were conducted. A total of 20 studies were identified for inclusion in the review. Out of the 20 studies only 10 studies evaluated communication skills training for nursing and midwifery students and therefore were included [13,36–44]. The main reasons for excluding studies were as follows: 3 were explorative studies, 1 was Persian language, 2 were Korean language, 1 was Arabic language and 3 studies were on information technology. The process of selection of studies that were included in qualitative syntheses has been summarised using the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) flowchart of selection process- Moher et al. [45] (Fig. 1).



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Fig. 1: PRISMA Flowchart of selection process- Moher et al. [45]

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3.2 Descriptive Statistics of Included Studies

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Descriptive statistics of included studies are on author, number of participants, age, and gender. Results of the descriptive data are presented in Table 3. The author, design, country and setting, intervention and comparison are presented in Table 3. There was one study each from Iran, Taiwan, China, Canada, Australia, Turkey, South Korea, and the United States of America (USA). Two of the studies Daniels et al. [36] and Norris [37] countries and settings were not determined because they were not provided in their studies.

Table 3: Descriptive statistics of included studies

Nr	Study	N	Age (years)	Females	Males	Design	Country and setting	Intervention and comparison
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Nr	Study	N	Age (years)	Females	Males	Design	Country and setting	Intervention and comparison
1.	Baghcheghi et al. [38]	34	19-22	18	16	Experimental observer-blinded, pre-test post-test	Iran	Traditional learning and cooperative learning methods
2.	Daniels et al. [36]	53	18 - 36	36	0	Experimental – with covariate	-	Micro-counselling training
3.	Hsu et al. [39]	116	20 - 39	116	0	Experimental – randomised controlled trail	Taiwan	scenario-based simulation course
4.	Lau and Wang [40]	62	19 -23	53	9	Mixed method - quantitative and qualitative	China	Quasi-experimental longitudinal pre-post-test quantitative design
5.	McDaniel [41]	53	NA	NA	NA	Experimental- pre-test post-test	Canada	Assertion education
6.	Mullan and Kothe [13]	09	18 - 49	191	17	Mixed methods- quantitative and qualitative	Australia	Counselling and communication course
7.	Norris [37]	147	20 - 55	147	0	Factorial design with random assignment	-	Role-play and lecture instruction.
8.	Ozcan et al. [42]	83	19 - 20	83	0	pre-post-test quasi-experimental	Turkey	Structured empathy course
9.	Yoo and Chae [43]	47	NA	NA	NA	Non-equivalent control with pre-test post-test design	South Korea	Video-based peer review
10.	Zavertnik et al. [44]	41	19 - 32	41	0	Quasi-experimental two-group post-test	USA	Role play

Legend: N = sample

NA = Not available

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3.3 Data Synthesis

3.3.1 Characteristics of included studies

In this review, various designs were used for communication skills training in the studies included. There was one each of the following: experimental observer-blinded pre-test post-test; experimental (with covariate); experimental (randomised controlled trial); experimental (pre-test post-test); factorial design with random assignment; pre-post-test (quasi-experimental); non-equivalent control with pre-test post-test; non-equivalent control with pre-test post-test; quasi-experimental two-group post-test; and two mixed method (quantitative and qualitative) (Table 3).

3.2.2 Summary of the total quality of evidence

In this review, quality assessment using the Grading of Recommendations Assessment, Development and Evaluation GRADE system [35] found that out of the 10 studies that were included, only one was of moderate quality evidence. The other nine studies were of low quality (Table 4).

Table 4: Summary of findings

Communication skills training compared to no communication skills training in nursing and midwifery students

Patient or population: students and midwifery students

Setting: students and midwifery students

Intervention: communication skills training

Comparison: no communication skills training

Outcomes	Relative effect (95% CI)	Nº of participants (studies)	Quality of the evidence (GRADE)
Cooperative learning and traditional learning	not estimable	68 (1 observational study)	⊕⊕ LOW
Learner-centred training course	not estimable	62 (1 observational study)	⊕ LOW
Innovative Approach	not estimable	41 (1 Randomised control trail)	⊕ LOW

Communication skills training compared to no communication skills training in nursing and midwifery students

Patient or population: students and midwifery students

Setting: students and midwifery students

Intervention: communication skills training

Comparison: no communication skills training

Outcomes	Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)
Structured empathy course	not estimable	226 (1 observational study)	⊕ LOW
Peer Review	not estimable	47 (1 observational study)	⊕ LOW
Role-play	not estimable	147 (1 observational study)	⊕ LOW
Structured empathy	not estimable	257 (1 observational study)	⊕ LOW
Self-rated ability	not estimable	249 (1 observational study)	⊕ LOW
Assertion Education	not estimable	53 (1 observational study)	⊕ LOW
Scenario-based stimulation	not estimable	232 (1 Randomised control trial)	⊕⊕⊕ MODERATE

GRADE Working Group grades of evidence

“High quality: We are very confident that the true effect lies close to that of the estimate of the effect,

Moderate quality: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different,

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect,

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect” [35]

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202 **4.0 DISCUSSIONS**

203 **4.1 Summary of evidence**

204 In this review, Lau and Wang [40] reported that learner-centred communication skills training has been
 205 effective in enhancing communication skills. Zavertrnik [44], agrees with the claim by Lau and Wang
 206 [40] and reported that an intervention group did improved than the control group ($p = .0257$). On the
 207 other hand Scenario-based learning has been reported to be effective than traditional communication
 208 skills training [39].

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 210 Furthermore, the effect of empathy and communication skills course has been reported to have
 211 positive influence on both female and male students empathic communication skills [42]. A similar
 212 study by Daniels et al. [36], reported that an experimental group made lesser communication mistakes
 213 after training. However, the study did not provide the population and the year in which the study was
 214 conducted.

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 216 Mullan and Kothe [13] had reported that a nurse training course made students to be satisfied. The
 217 findings by Mullan and Kothe [13] are in agreement with Yoo and Chae [43] studies that also reported
 218 that peer-review is an effective communication skills learning method for nursing students. However,
 219 Yoo and Chae [43] reported one item was excluded from the assessment tool as being inappropriate
 220 to the study and yet did not mentioned the item or provide reasons for the exclusion. In contrast to the
 221 effectiveness of communication skills training, Norris [37] found that there were no differences in
 222 overall mean performance in role play and lecture instruction method.

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 224 Furthermore, there is a report of no significant difference effect between traditional learning and
 225 cooperative learning methods in teaching nursing students' communication skills [38].

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227 Another method that has been reported to be of statistically significant difference is assertive training
228 ($p < .05$) one tailed t-test (1.99, 47.9 df; $p = .025$) [41].

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230 4.2 Limitations

231 The number of included studies were 10 and this is small. A larger number of included studies can
232 lead to a good generalisation.

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234 4.3 Conclusions

235 The above review of the current literature on enhancing communication skills training in nursing and
236 midwifery students shows that the quality of evidence is generally low. There is also evidence that
237 there is lack of research on communication skills training for nursing and midwifery students as one of
238 the reviews was on "Communication skills training in healthcare: a review of the literature. They
239 reported that there were relative lack of sound research studies on the nature and effectiveness of
240 communication skills teaching" [32] and another on "Effective teaching of communication to health
241 professional undergraduate and postgraduate students: a systematic review" concluded that there
242 were limited studies in this area [33].

243

244 There are few studies on nursing and midwifery student's communication skills training. More so the
245 available studies have used different methods for communication skills training. Therefore, this
246 literature review will complement the emerging literature base of nursing and midwifery communication
247 skills training.

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249 4.4 Recommendations

250 The review of nursing and midwifery communication skills training should be a continues process
251 since new technologies are available almost on daily bases.

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253 This review will recommend an enhancement communication skills training in nursing and midwifery
254 students since the quality of evidence is generally low.

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256 There should be a continues search by researchers for evidence base communication skills training
257 for nursing and midwifery students.

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259 Declarations

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261 **Ethics approval and consent to participate:** Not applicable

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263 **Consent for publication:** Not applicable

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265 **Availability of data and material:** Not applicable

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372 **Abbreviations**

373 CINAHL: Cumulative Index of Nursing and Allied Health Literature

374 GRADE: The Grading of Recommendations Assessment, Development and Evaluation

375 JBI: Joana Briggs Institute

376 OSCE: Objective Structured Clinical Examinations

377 PRISMA: Preferred Reporting Items for Systematic reviews and Meta-Analyses

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