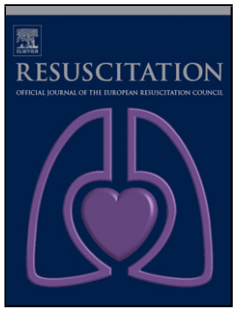
# Structured training in assessment increases confidence amongst basic life support instructors

Thorne, Christopher J.; Jones, Christopher; Coffin, Nicholas J.; Hulme, Jonathan; Owen, Andrew

*DOI:*
10.1016/j.resuscitation.2015.05.028




Title: Structured Training in Assessment Increases Confidence Amongst Basic Life Support Instructors

Author: Christopher J. Thorne Christopher M. Jones Nicholas J. Coffin Jonathan Hulme Andrew Owen

PII: S0300-9572(15)00241-5
DOI: http://dx.doi.org/doi:10.1016/j.resuscitation.2015.05.028
Reference: RESUS 6433

To appear in: *Resuscitation*

Received date: 16-3-2015
Revised date: 21-4-2015
Accepted date: 11-5-2015

Please cite this article as: Thorne CJ, Jones CM, Coffin NJ, Hulme J, Owen A, Structured Training in Assessment Increases Confidence Amongst Basic Life Support Instructors, *Resuscitation* (2015), http://dx.doi.org/10.1016/j.resuscitation.2015.05.028

# Structured Training in Assessment Increases Confidence Amongst Basic Life Support Instructors

Christopher J Thorne[1,2*], Christopher M Jones[1,3], Nicholas J Coffin[1], Jonathan Hulme[1,4] & Andrew Owen[1,3]

[1] Resuscitation for Medical Disciplines Research Group, The Medical School, University of Birmingham, Edgbaston, Birmingham, B15 2TT, United Kingdom

[2] Heart of England NHS Foundation Trust, Bordesley Green East, Birmingham, B9 5SS, United Kingdom

[3] Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham NHS Foundation Trust, Birmingham, B15 2WB, United Kingdom

[4] Sandwell and West Birmingham Hospitals NHS Trust, Birmingham City Hospital, Dudley Road, Birmingham, B18 7QH, United Kingdom

*Corresponding author; email address: cj.thorne@doctors.org.uk

Word count: 2,795

Abstract word count: 241

Number of tables: 2

Number of figures: 2

ABSTRACT

Aim:

Assessment skills are often neglected in resuscitation training and it has been shown that the ERC BLS/AED instructor course may be insufficient to prepare candidates for an assessment role. We have introduced an Assessment Training Programme (ATP) to improve assessors' decision making. In this article we present our ATP and an observational study of candidates' confidence levels upon completing both an ERC BLS/AED instructor course and our ATP.

Methods:

Forty seven candidates undertook the ERC instructor course and 20 qualified ERC BLS/AED instructors undertook the ATP. Pre-and post-course questionnaires were completed. Confidence was assessed on ten-point Visual Analogue Scales (VAS).

Results:

Overall confidence on the ERC BLS/AED instructor course rose from 5.9 (SD 1.8) to 8.7 (SD 1.4) (P<0.001). A more modest improvement was witnessed on the ATP, rising from 8.2 (SD 1.4) to 9.6 (SD 0.5) (P<0.001). Upon completion of their respective courses, assessors (mean 9.6, SD 0.5) were significantly more confident at assessing than instructors (mean 8.7, SD 0.5) (P<0.001). Confidence in assessing individual algorithm components was similar on both courses. On the post-course questionnaire those on the ATP remained significantly more confident at assessing borderline candidates compared to instructors (P<0.001), with no difference for clear pass (P=0.067) or clear fail (P=0.060) candidates.

Conclusion:

The ATP raises the confidence of assessing BLS/AED candidates to a level above that of the ERC instructor course alone. We advocate that resuscitation organisations consider integrating an ATP into their existing training structure.

*Key words: basic life support (BLS); adult; assessment; cardiopulmonary resuscitation (CPR); 2010 European Resuscitation Council (ERC) guidelines;*

## INTRODUCTION

Prompt and effective delivery of cardiopulmonary resuscitation (CPR) combined with the other links in the 'Chain of Survival' significantly improves outcomes from sudden cardiac arrest (SCA)[1]. Increasing the dissemination of CPR skills throughout the population has been shown to improve survival from SCA,[2] in-part due to an increased willingness of lay-persons to initiate CPR.[3] Consequently, widespread community based Basic Life Support (BLS) tuition is strongly advocated by the European Resuscitation Council (ERC) in their most recent guidelines.[4] These guidelines also dictate the criteria for the training and assessment of BLS providers.[4] Current ERC BLS/AED provider accreditation procedures allow either continuous assessment or formative assessment at the end of their course. This is carried out by an ERC accredited instructor who has successfully passed an ERC instructor course. Formal training in BLS assessment currently constitutes only a small component of the ERC instructor course. Previous work by our group has demonstrated that this may be insufficient to prepare instructors for an assessment role and that there is scope for additional training focussing on assessment skills.[5]

There is ample evidence within the literature that conventional instructor courses still fail to achieve standardisation of assessment decisions in the practical assessment of life support.[6,7] For almost two decades, the Resuscitation for Medical Disciplines (RMD) group at the University of Birmingham has run a unique, peer-led basic life support course that has been described previously.[8] At the outset of each academic year a new cohort of 48 healthcare-student instructors undertake an ERC BLS/AED instructor course in order to gain formal ERC BLS/AED instructor accreditation status. In 2007, RMD Birmingham introduced an additional Assessment Training Programme (ATP) in an attempt to standardise the inherent subjective nature of BLS assessments.[5] The ATP runs in parallel with the ERC instructor course and trains a cohort of 20 student assessors annually, each of whom has previous experience as an ERC BLS/AED instructor (Fig 1).

Assessment in medical education is a complex topic with numerous techniques described as effective.[9] Berden et al. proposed a template for assessment of BLS during training which has been adopted by a number of courses;[10] a modified version of which is used by our course during the formal assessment of BLS skills.[8] Training of assessors is an area of medical and resuscitation education which is often neglected and frequently experience alone is used as a

tool to qualify an individual to assess students. The ATP seeks to teach relatively inexperienced assessors how to assess in the style of a more experienced assessor and elevate their decision making skills to a level above that of an ERC BLS/AED instructor. A previous study by the authors identified that the ATP significantly improved the decision making of ATP-trained assessors when compared to ERC instructors.[5] This article aims to ascertain the confidence of both ERC instructors and ATP-trained assessors in facilitating an ERC BLS/AED provider assessment. The authors also describe the ATP components in detail so that this model may be more widely disseminated.

## METHODS

We sought to compare instructors' confidence in making decisions in the context of assessing BLS competence. This was assessed before and after they had completed a standard ERC BLS/AED instructor course and before and after undertaking the ATP. Forty seven candidates attending an ERC BLS/AED instructor course participated, in addition to 20 qualified ERC BLS/AED instructors who undertook the ATP as additional training, in line with local requirements. All participants completed a questionnaire which sought to evaluate their confidence in assessment decision making on two occasions. The first was prior to undertaking assessment training and second was after they had undergone training (Fig 2). Both questionnaires were identical and consisted of standardised questions with the same stem, for example: *'Please rate your confidence in facilitating a BLS/AED assessment of a borderline candidate'*. Confidence was assessed on a ten-point Visual Analogue Scales (VAS). Participants were also provided with space for free text answers in order to describe anything not captured by the more structured questions.

Data were analysed by SPSS version 22 *(IBM, New York, USA)*. Differences between the instructor and assessor groups were analysed using independent t-tests. Differences between pre and post-course responses from individuals were analysed by paired t-tests. P-values of $<0.05$ were considered statistically significant. All participants were provided with information relating to the study prior to providing their consent to participate, were free to withdraw from the study at any time and were free to choose not to participate without any impact on their progression on either the ERC instructor course or the ATP. Each participant signed an informed consent sheet and all participants' responses were kept anonymous from the outset. Ethical self-assessment was carried out as per institutional policy and formal ethical approval was not required for this study.

## The Birmingham Assessment Training Programme

The ATP focuses upon the role of the assessor, with its primary intention being to standardise intra-assessor decision making. This transforms the decision making of more junior assessors to become more in-line with that of an experienced assessor. Whilst this is achieved in part through utilisation of a BLS algorithm checklist, the ATP especially focuses on decision making in equivocal situations.

The ATP is a five hour course (see Supplementary Material for timetable). As a pre-requisite, participants possess a minimum of one years' experience as a BLS/AED instructor. The course is facilitated by experienced BLS instructor trainers at a ratio of one instructor trainer to six trainee assessors. Whilst it has been shown that the ERC BLS/AED instructor course is enough to train inexperienced student assessors to examine their peers,[11] when carrying out internal audit of the assessors it was noted that the assessment decision making process and candidate outcomes are variable when compared with more experienced instructor trainers. Thus, the ATP has evolved to primarily focus on 'grey areas'; or areas of uncertainty that more junior assessors appeared to struggle with. Potential assessors are given training on scene setting and communication skills including 'how to break pass/fail decisions to a candidate'. Following small group practice with straightforward pass/fail scenarios the concept of 'grey areas' is introduced and scenarios with more subtle errors made by the candidate are practised and then discussed in small groups with a facilitator. A reflective focus on explaining the reasons behind the decision making process with regard to these 'grey areas' is encouraged, using the 'learning conversation'.[12] These discussions allow a consensus to be reached between the assessors which ultimately results in the standardisation of inter-assessor decision making.

After the successful completion of the course, each assessor is required to attend three out of four assessment sessions that take place throughout the academic year. On each session they will undertake between 9-12 assessments of ERC BLS/AED providers. Should a candidate fail their assessment they have the opportunity for immediate further tuition and a single re-sit opportunity. The re-sit assessments are carried out by experienced BLS instructor trainers and the course director. Should a candidate fail on both attempts they must re-attend the entire BLS/AED provider course. To provide ongoing support to assessors, external assessors (who are experienced BLS/AED instructor trainers) observe and positively critique the assessors' performance throughout the year. This

permits standardisation of pass/fail decisions and a means for improving their assessment skills in a constructive manner.

## RESULTS

### Participant Demographics

A total of 67 participants took part in this study. Of these, 27 were male and 40 female. There were 43 new instructors, 4 returning instructors, 13 new assessors and 7 returning assessors. The median age for instructors was 19 (range 18-22) and 21 (range 20-27) for assessors. Of the returning assessors, three possessed one years' experience as an assessor, two possessed two years' experience and a further two possessed three years' experience. One new assessor's responses were excluded from the analyses due to failure to complete the post-course questionnaire.

### Confidence in Assessment

A breakdown of participant responses to the questionnaires can be seen below in Table 1. Those undertaking the ERC BLS/AED instructor course demonstrated the greatest improvement in assessment confidence, rising from 5.9 (SD 1.8) to 8.7 (SD 1.4) (P<0.001). Those undertaking the ATP demonstrated a more modest improvement rising from 8.2 (SD 1.4) to 9.6 (SD 0.5) (P<0.001). The mean increase of 2.8 (SD 1.7) in the instructor group was significantly greater than the respective increase in the assessor group of 1.4 (SD 1.4) (t(64)=3.21, P=0.002). Upon completion of their respective courses, assessors (mean 9.6, SD 0.5) were significantly more confident at performing an assessment than instructors (mean 8.7, SD 0.5) (t(64)=-3.79, P<0.001).

Table 1: Assessment Confidence between the ERC BLS/AED Instructor Course and the ATP

| Component | | Instructors Pre-Course | Instructors Post-Course | P-Value | Assessors Pre-Course | Assessors Post-Course | P-Value |
|---|---|---|---|---|---|---|---|
| *Assessment Confidence of BLS Algorithm Components* | *Correct Algorithm VAS Score (SD)* | 7.5 (1.0) | 9.5 (0.7) | <0.001 | 8.7 (1.1) | 9.7 (0.5) | 0.001 |
| | *Checking for Danger VAS Score (SD)* | 8.8 (1.0) | 9.9 (0.5) | <0.001 | 9.5 (1.1) | 9.8 (0.4) | 0.282 |
| | *Assessing Casualty VAS Score (SD)* | 7.4 (1.5) | 9.7 (0.6) | <0.001 | 8.9 (1.0) | 9.6 (0.6) | 0.002 |
| | *Chest Compression Depth VAS Score (SD)* | 5.7 (1.5) | 8.9 (0.7) | <0.001 | 7.1 (1.8) | 8.7 (1.4) | 0.001 |
| | *Chest Compression Rate VAS Score (SD)* | 6.6 (1.6) | 9.4 (0.7) | <0.001 | 8.4 (1.0) | 9.5 (0.8) | 0.001 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Chest Compression Hand Position VAS Score (SD)* | 7.2 (1.2) | 9.4 (0.7) | <0.001 | 8.3 (1.2) | 9.4 (0.7) | 0.001 |
| | *Rescue Breaths VAS Score (SD)* | 7.3 (1.4) | 9.4 (0.7) | <0.001 | 8.6 (1.0) | 9.6 (0.7) | 0.001 |
| | *AED VAS Score (SD)* | 7.5 (1.4) | 9.4 (0.7) | <0.001 | 9.1 (0.8) | 9.6 (0.7) | 0.014 |
| *Assessment Confidence of Provider Quality* | *Clear Pass VAS Score (SD)* | 7.3 (1.2) | 9.4 (0.8) | <0.001 | 8.8 (1.5) | 9.7 (0.5) | 0.015 |
| | *Borderline VAS Score (SD)* | 5.2 (1.6) | 7.6 (0.9) | <0.001 | 6.4 (2.0) | 8.5 (1.1) | 0.001 |
| | *Clear Fail VAS Score (SD)* | 7.3 (1.5) | 9.2 (0.9) | <0.001 | 8.7 (1.7) | 9.7 (0.6) | 0.021 |
| *Assessment Decision Confidence* | *Informing a candidate that they have passed VAS Score (SD)* | 7.8 (1.2) | 9.4 (0.7) | <0.001 | 9.3 (1.1) | 9.7 (0.5) | 0.130 |
| | *Informing a candidate that they have failed VAS Score (SD)* | 6.5 (1.6) | 8.8 (1.0) | <0.001 | 8.3 (2.0) | 9.5 (0.8) | 0.010 |
| *Overall Mean Confidence VAS Score (SD)* | | 5.9 (1.8) | 8.7 (1.4) | <0.001 | 8.2 (1.4) | 9.6 (0.5) | 0.001 |
| *Mean Difference Between Overall Pre and Post-course Confidence (SD)* | | 2.8 (1.7) | | | 1.4 (1.4) | | 0.002 |

With regards to components of the BLS algorithm, the greatest improvement in confidence was in relation to assessing chest compression depth. The mean increase between the instructors was 3.2 (SD 1.5) and 1.6 (SD 1.2) in the assessor group. Upon the completion of both courses, both instructors and assessors had very similar confidence levels for assessing the individual aspects of the BLS/AED algorithm.

In relation to assessing candidates who were described as either: clear passes, borderlines or clear fails; assessors were significantly more confident in the pre-course questionnaire (P<0.001, P=0.013, p=0.002 respectively). On the post course questionnaire however, there were no significant differences between the groups for assessing the clear pass (P=0.067) and clear fail (P=0.060) candidates. Assessors remained significantly more confident at assessing borderline candidates (P<0.001). Both courses made candidates significantly more confident at assessing each quality category. Of the 47 instructors, 83.0% (39/47) indicated on the pre-course questionnaire that they required further training prior to performing an assessment. Following completion of an ERC instructor course this fell to 12.8% (6/47). The corresponding value for assessors before the ATP was 42.1% (8/19) and upon completion, 0% (0/19).

In the assessor group there was a moderately-strong positive correlation between the number of years' experience as an assessor and the pre-course overall confidence in assessing (Spearman's = 6.32, P=0.004). By the conclusion of the course this correlation was non-existent. New instructors had an overall post-course confidence of 8.7 (SD 1.4),

but those instructors who had completed a years teaching and returned for the ATP had a lower overall pre-course confidence of 8.2 (1.4).

Table 2 demonstrates a sub-group analysis that was undertaken on returning instructors (n=4) and new assessors (n=14), who were therefore standardised with regards to teaching experience. Mean change in confidence over the course was greater in the new assessors (2.1, SD 1.3) compared to the returning instructors (1.8, SD 1.7), although it did not reach significance (t(14)=0.30, P=0.767).

Table 2: Sub-group Analysis of Assessment Confidence of returning ERC BLS/AED Instructors and New Assessors

| Component | Returning Instructors Pre-Course | Returning Instructors Post-Course | P-Value | New Assessors Pre-Course | New Assessors Post-Course | P-Value |
|---|---|---|---|---|---|---|
| *Overall Mean Confidence VAS Score (SD)* | 6.5 (3.0) | 8.3 (SD 1.7) | 0.001 | 7.5 (1.2) | 9.6 (0.5) | 0.001 |
| *Mean Difference between pre and post-course (SD)* | 1.8 (1.7) | | | 2.1 (1.3) | | 0.767 |

Free Text Answers

Twenty seven candidates (40.3%) identified chest compression depth as the aspect of BLS that they felt least confident at assessing on the pre-course questionnaire. On the post-course questionnaire this lack of confidence was reversed and all instructors and assessors felt confident in the assessment of chest compression depth.

## DISCUSSION

Our results demonstrate that the greatest absolute improvement in assessment confidence was across the ERC BLS/AED instructor course. This change was significantly greater than the increase witnessed over the ATP. These results consolidate the effectiveness of both courses in preparing instructors and assessors for the role of BLS/AED assessment. Importantly, the overall end confidence of the assessor group was significantly greater than the instructor group which clearly demonstrates that the ATP raises assessors to a level above BLS/AED instructors. Significantly, this difference was still present when participants were standardised for teaching experience in the sub-group analysis.

With regards to candidates' confidence in facilitating an ERC provider assessment, 12.8% of instructors indicated on the post-course questionnaire that they required further assessment-focused tuition before they were competent enough to facilitate a BLS/AED provider assessment. These results reinforce the conclusions of a previous objective study by the authors which found that instructors' decision making in assessments was occasionally suboptimal.[5] Surprisingly, 42.1% of assessors, each with a minimum of one years' teaching experience, also indicated that they required additional assessment-focussed tuition in their pre-course questionnaires. This reduction in confidence may be due to assessment skill attrition over the course of the year; because instructors are not required to perform regular formal assessments as these are entirely carried out by assessors trained on the ATP. This pattern is also highlighted by the mean post-course confidence being 8.7 (SD 1.4) at the end of the BLS/AED instructor course, but only 8.2 (1.4) for those instructors who have returned to train as assessors, following one years' teaching experience.

As expected, naïve candidates trained on the ERC instructor course demonstrated significant improvements in all areas of assessment confidence as this represented their first formal training in assessment. Following the ATP the improvements which showed significance were those areas which show more ambiguity and subjectivity in assessment such as borderline candidates and chest compression depth. This clearly demonstrates the added benefit of a formal ATP and explains why when measured objectively, assessors trained in this way make decisions that more closely resemble those of experienced assessors. A lower level of confidence in these more ambiguous areas was also demonstrated in the free text questions. The challenge of determining correct chest compression depth is well reported,[11,13–15] and ensuring that candidates achieve the required depth is of paramount importance. High-quality chest compressions are a critical component of the chain of survival, with the importance of correct depth being highlighted in the most recent ERC guidelines which increased the target depth from 3-5cm to 5-6cm.[1] As a direct result of this finding, there is now a greater emphasis on chest compression depth training during both instructor and assessor training and appears often in the aforementioned 'grey-areas' section on the ATP.

## Limitations

The authors acknowledge that the prior teaching experience of the assessors may be a confounding factor that lends them to possess greater confidence than their instructor counterparts. This does not however, negate the fact that ultimately assessors did display more confidence in assessing than instructors and therefore consolidates the rationale behind the ATP. Furthermore, due to the hierarchical structure of our course, it is practically impossible to

standardise for teaching experience, as it would be ill-advised to allow student assessors to assess in the absence of pre-requisite teaching experience.

A further limitation is the fact that the questionnaire was designed in-house and was not externally validated. To the best of the authors' knowledge there are no validated questionnaires for the purpose of determining assessment confidence in the field of BLS. Visual analogue scales are however a well-recognised method of assessing confidence and therefore make the comparisons that have been drawn between the groups more reliable.

## CONCLUSIONS

This is the first study to compare the assessment confidence of candidates partaking in an ERC BLS/AED instructor course. This study has added further evidence to the need for an additional course that equips participants with the skill set necessary to perform an accurate and reproducible assessment of a candidate's BLS/AED performance. We believe that the ATP has wide ranging benefits for candidates and assessors alike, setting them in good stead for further practical assessments in their chosen careers. Given that the ATP has now been shown to improving both the decision making[5] and assessment confidence of BLS instructors, we believe that there is a need for a bespoke course that directly teaches assessment skills. We advocate that centres who already utilise peer-peer tuition consider integrating the ATP into their training structure.

## CONFLICT OF INTEREST

The authors declare that they have no competing interests relating to this article.

## FUNDING

No funding was required for this study. AO is funded by an MRC Clinical Fellowship.

## ACKNOWLEDGEMENTS

We are grateful to both past and present members of the University of Birmingham Resuscitation for Medical Disciplines for their participation in this study.

REFERENCES


1. Koster RW, Baubin MA, Bossaert LL, et al. European Resuscitation Council Guidelines for Resuscitation 2010 Section 2. Adult basic life support and use of automated external defibrillators. Resuscitation 2010;81:1277–92.

2. Sasson C, Rogers M a M, Dahl J, Kellermann AL. Predictors of survival from out-of-hospital cardiac arrest: a systematic review and meta-analysis. Circ Cardiovasc Qual Outcomes 2010;3:63–81.

3. Axelsson Å, Thorén A, Holmberg S, Herlitz J. Attitudes of trained Swedish lay rescuers toward CPR performance in an emergency. Resuscitation 2000;44:27–36.

4. Soar J, Monsieurs KG, Ballance JHW, et al. European Resuscitation Council Guidelines for Resuscitation 2010 Section 9. Principles of education in resuscitation. Resuscitation 2010;81:1434–44.

5. Thorne CJ, Jones CM, Harvey P, Hulme J, Owen A. An analysis of the introduction and efficacy of a novel training programme for ERC basic life support assessors. Resuscitation 2013;84:526–9.

6. Perkins GD, Hulme J, Tweed MJ. Variability in the assessment of advanced life support skills. Resuscitation 2001;50:281–6.

7. Dankbaar MEW, Stegers-Jager KM, Baarveld F, et al. Assessing the assessment in emergency care training. PLoS One 2014;9:e114663.

8. Harvey PR, Higenbottam C V, Owen A, Hulme J, Bion JF. Peer-led training and assessment in basic life support for healthcare students: synthesis of literature review and fifteen years practical experience. Resuscitation 2012;83:894–9.

9. Epstein RM. Assessment in medical education. N Engl J Med 2007;356:387–96.

10. Berden HJ, Pijls NH, Willems FF, Hendrick JM, Crul JF. A scoring system for basic cardiac life support skills in training situations. Resuscitation 1992;23:21–31.

11. Bucknall V, Sobic EM, Wood HL, et al. Peer assessment of resuscitation skills. Resuscitation 2008;77:211–5.

12. Resuscitation Council (UK). Debrief as a Learning Conversation 2010. Available at www.resus.org.uk/pages/gicDbflc.pdf. Accessed 04/04/2014.

13. Aufderheide TP, Pirrallo RG, Yannopoulos D, et al. Incomplete chest wall decompression: a clinical evaluation of CPR performance by trained laypersons and an assessment of alternative manual chest compression-decompression techniques. Resuscitation 2006;71:341–51.

14. Odegaard S, Saether E, Steen PA, Wik L. Quality of lay person CPR performance with compression: ventilation ratios 15:2, 30:2 or continuous chest compressions without ventilations on manikins. Resuscitation 2006;71:335–40.

15. Wik L, Kramer-Johansen J, Myklebust H, et al. Quality of cardiopulmonary resuscitation during out-of-hospital cardiac arrest. JAMA 2005;293:299–304.

LEGENDS TO FIGURES

Figure 1: Flow-chart illustrating candidate selection for the Assessment Training Programme

Figure 2: Flow-chart illustrating data collection process for the observational study

The authors declare that they have no competing interests relating to this article.

Figure 1

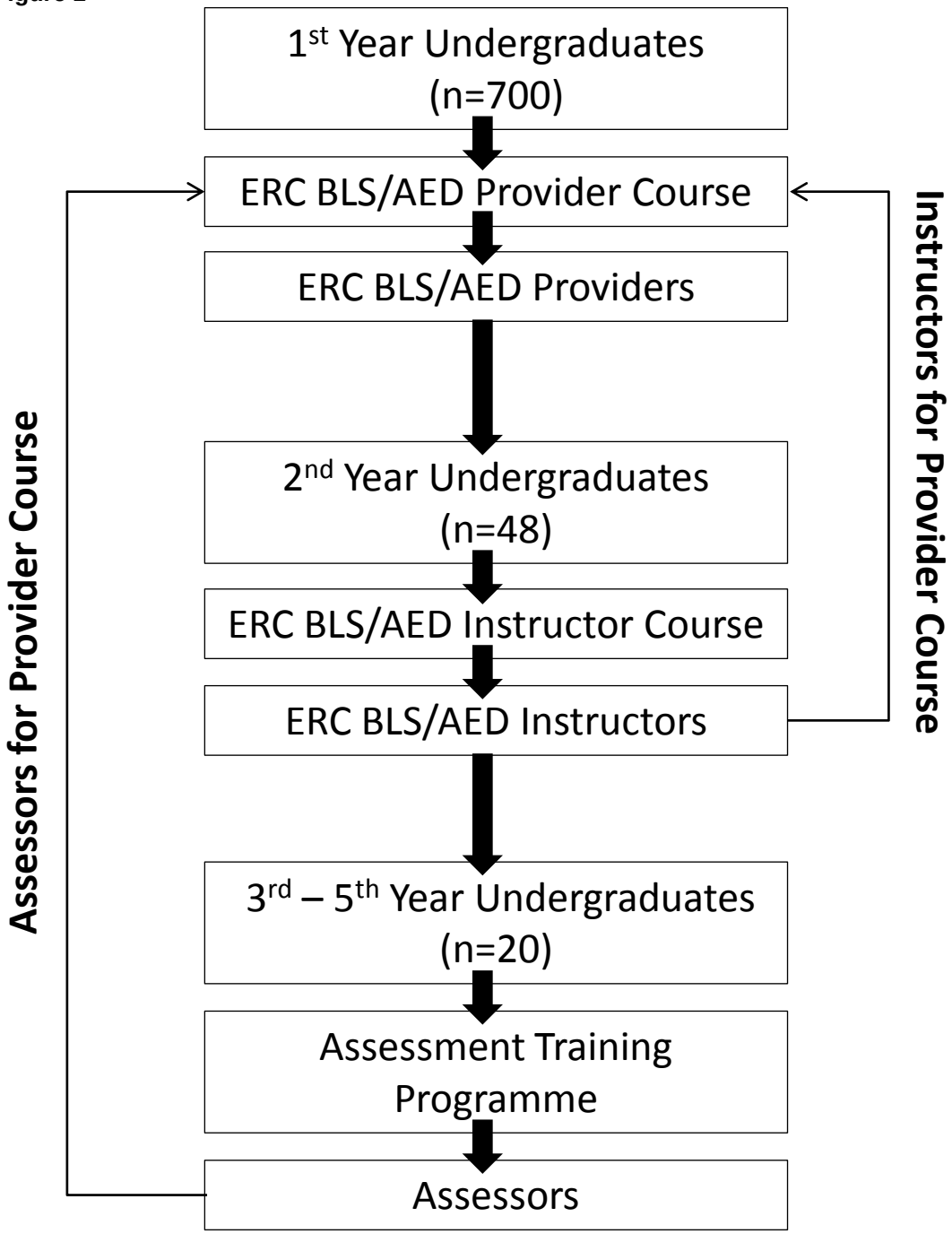
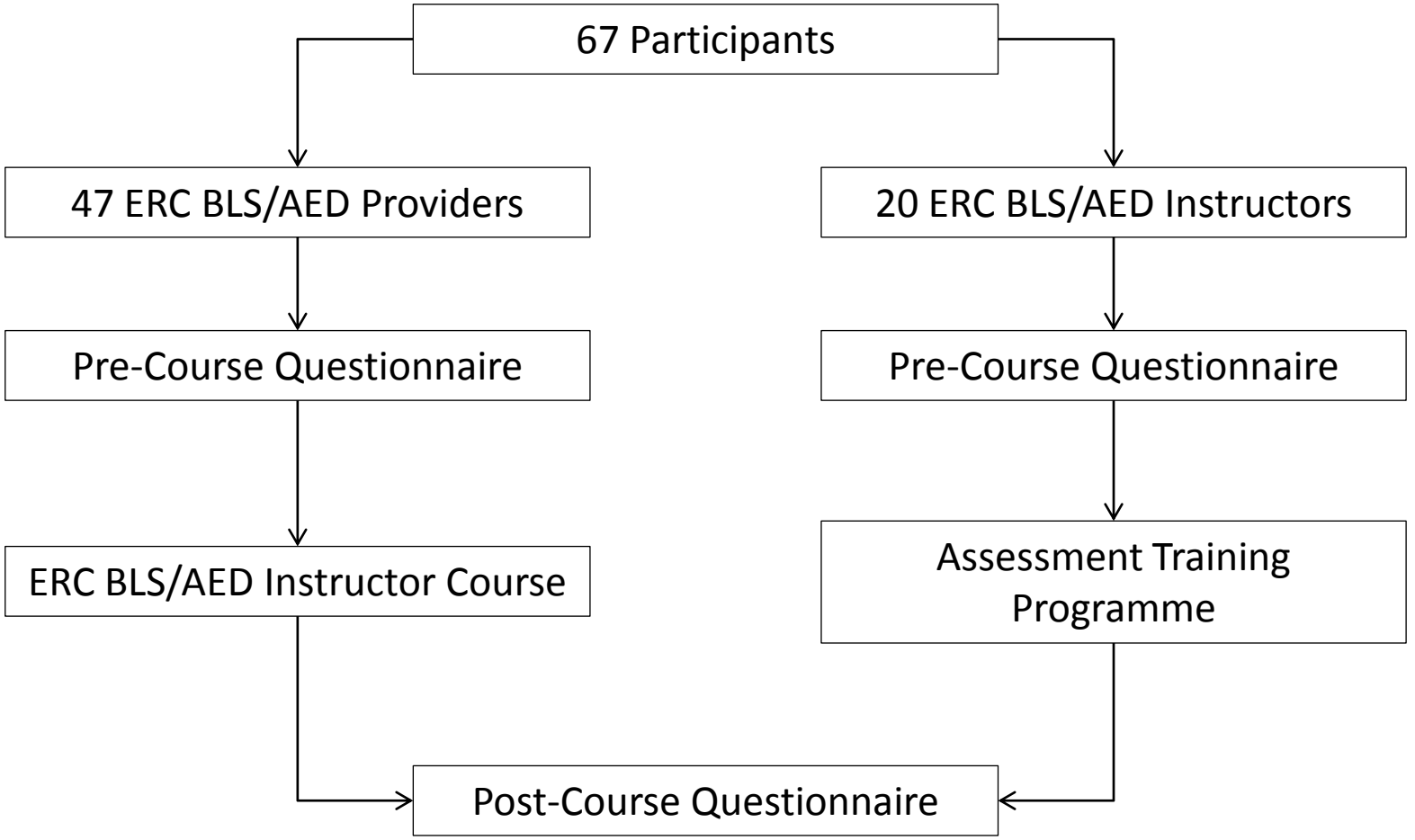

1st Year Undergraduates (n=700)
ERC BLS/AED Provider Course
ERC BLS/AED Providers
2nd Year Undergraduates (n=48)
ERC BLS/AED Instructor Course
ERC BLS/AED Instructors
3rd – 5th Year Undergraduates (n=20)
Assessment Training Programme
Assessors
Instructors for Provider Course
Assessors for Provider Course

Figure 2


67 Participants
47 ERC BLS/AED Providers
20 ERC BLS/AED Instructors
Pre-Course Questionnaire
Pre-Course Questionnaire
ERC BLS/AED Instructor Course
Assessment Training Programme
Post-Course Questionnaire