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## Manuscripts with Decisions

ACTION	STATUS	ID	TITLE	SUBMITTED	DECISIONED
	EO: <a href="#">Gunderson, David</a> EO: <a href="#">Farnsworth, Clifton</a>  <ul style="list-style-type: none"> <li>Accept (26-Jul-2019)</li> </ul> <a href="#">view decision letter</a>	UICE-2018-1178.R2	Exploring the Potential of Low Cement Concrete through a Student Concrete Competition <a href="#">View Submission</a>	04-Jun-2019	26-Jul-2019
a revision has been submitted (UICE-2018-1178.R2)	EO: <a href="#">Gunderson, David</a>  <ul style="list-style-type: none"> <li>Minor Revision (14-May-2019)</li> <li>a revision has been submitted</li> </ul> <a href="#">view decision letter</a>	UICE-2018-1178.R1	Exploring the Potential of Low Cement Concrete through Student Concrete Competition <a href="#">View Submission</a>	28-Mar-2019	14-May-2019
a revision has been submitted (UICE-2018-1178.R1)	EO: <a href="#">Gunderson, David</a> EO: <a href="#">Farnsworth, Clifton</a>  <ul style="list-style-type: none"> <li>Major Revision (22-Feb-2019)</li> <li>a revision has been submitted</li> </ul> <a href="#">view decision letter</a>	UICE-2018-1178	The Potential Application of Low Cement Concrete in Construction <a href="#">View Submission</a>	15-Nov-2018	22-Feb-2019

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**From:** International Journal of Construction Education and Research  
**Sent:** Saturday, February 23, 2019 1:45 AM  
**To:** antoni@petra.ac.id; antoni.shie@gmail.com  
**Subject:** International Journal of Construction Education and Research -Decision on Manuscript ID UICE-2018-1178

22-Feb-2019

**Dear Dr Antoni:**

Your manuscript entitled "The Potential Application of Low Cement Concrete in Construction", which you submitted to International Journal of Construction Education and Research, has been reviewed. The associate editor and peer reviewer comments are included at the bottom of this letter, along with those of the managing editor who coordinated the review of your paper.

The reviewer(s) would like to see some revisions made to your manuscript before publication. Therefore, I invite you to respond to the reviewer(s)' comments and revise your manuscript.

When you revise your manuscript, you will be prompted to respond to the decision letter. In this response, please highlight the changes made to the manuscript and explain how you have addressed reviewer concerns.

To submit the revision, log into <https://mc.manuscriptcentral.com/uice> and enter your Author Center, where you will find your manuscript title listed under "Manuscripts with Decisions." Under "Actions," click on "Create a Revision." Your manuscript number has been appended to denote a revision. Please enter your responses to the comments made by the reviewer(s) in the space provided. You can use this space to document any changes you made to the original manuscript. Please be as specific as possible in your response to the reviewer(s).

Alternatively, once you have revised your paper, it can be resubmitted to International Journal of Construction Education and Research by way of the following link:

\*\*\* PLEASE NOTE: This is a two-step process. After clicking on the link, you will be directed to a webpage to confirm. \*\*\*

[https://mc.manuscriptcentral.com/uice?URL\\_MASK=8abd86a2bec7454b83adbb0487abb6e3](https://mc.manuscriptcentral.com/uice?URL_MASK=8abd86a2bec7454b83adbb0487abb6e3)

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Because we are trying to facilitate timely publication of manuscripts submitted to International Journal of Construction Education and Research, your revised manuscript should be uploaded as soon as possible. If it is not possible for you to submit your revision in a reasonable amount of time, we may have to consider your paper as a new submission.

Once again, thank you for submitting your manuscript to International Journal of Construction Education and Research and I look forward to receiving your revision.

Sincerely,  
Andrew Patton McCoy, Ph.D.

Editor, International Journal of Construction Education and Research  
[apmccoy@vt.edu](mailto:apmccoy@vt.edu)

Associate Editor Reviewer(s)' Comments to Author:

**AE Reviewer: 1**

Comments to the Author

UICE 2018 1178 The Potential Application of Low Cement Concrete in Construction

This paper will be of interest to CM educators. The author(s) will need to review the paper further in order that it might be accepted in the IJCER. Currently there are a number of aspects that need attention and that needs to be addressed before the paper should be submitted for review.

The abstract needs attention as currently it does not provide the potential reader with a sufficient overview.

The introduction might have provided more of an overview of the topic and then go on to write about the research project.

The introduction of the student competition, while an interesting research opportunity, is not fully addressed by the author(s). The rationale behind this type of activity should have been clearly identified. Why use a student competition to research low cement concrete; how can you validate that the students involved have the required experience and or knowledge/ competences. Not addressing this is a weakness in the paper. might have been appropriate to include and encourage research

Also, an opportunity to discuss the issues associated with the research in the paper is problematic. This could be addressed as part of a review.

Methods: ad materials:

This is where the author(s) set and articulated the competition rules and regulations. What might have been done was include the justification for that approach along with a narrative on why the particular aspects of the project were positioned on the research.

The conclusion section might have been stronger in terms of what has been learnt from the research and how might this be embedded in CM education and who the most likely users of the findings might be. Also, there is no real connect with the technical research carried out in the field. This is poor and lacks any real depth of comparison of with the depth of research that has emerged. This should be addressed in order that the paper be accepted.

**AE Reviewer: 2**

Comments to the Author

In general, the paper is well written and presents a contribution to the field. That said, there are some important items that need to be considered before it can be published by the journal.

1) General Note: The authors need to review the entire paper for grammar and edit the paper from the top-down for English language grammatical errors. The journal does not necessarily catch sentence grammar issues.

2) Introduction: the introduction presents the problem and the contribution well. The problem is that there is no literature review as a separate section. The authors need to have a basic introduction that presents the problem at hand and the goals of the work and then a separate section that contains a full literature review for the topic. This literature review is currently extensive in the paper for LCC, but you also need to discuss the literature on competitions and methodologies common to this type of work.

3) Methods: The paper has a methods section but does not contain the methodologies used for the work. What are the testing methods? Are they common and accepted in the field? Do they allow us to have faith in the findings? These methodologies used to analyze the LCC and the competition process need to be clearly presented. For example, what is "water-immersion" as a method and why would it be used and why is it appropriate here?

4) Findings: The findings are interesting and well-done. The locations for placing the figures need to be shown in the body of the text as line breaks that say "INSERT FIGURE X HERE" to make it clear where they will be inserted and where it is most appropriate. Figure 7, the grey line is not labeled and needs to be.

5) Conclusions: the authors need to present limitations for the work.

Peer Reviewer(s)' Comments to Author:

**Peer Reviewer: 1**

Comments to the Author

Results appear to be valid, but chart titles, axis labels & units and even series labels have been redacted on the website so I can't be certain. Why are the authors writing a paper on low-cement concrete? Are they simply reporting on the results of the Concrete Compressive Strength Competition. It appears that several papers could be produced by simply expanding on the results of the Concrete Compressive Strength Competition during successive years. Other reasons for writing the paper might include the high CO<sub>2</sub> output associated with cement production, but that is not stated.

Compressive strength of concrete depends upon the water to cementitious (w/c) material ratio of the mix, not the quantity of cement in the mix. Both fly ash and silica fume are cementitious materials, so both decrease w/c and improve concrete compressive strength when included. Concrete with almost any slump (and with significant compressive strength) can be created at all but the lowest w/c ratio by use of sufficient quantities of superplasticizer. However use of even a small quantity of superplasticizer greatly increases the cost of a cubic meter of concrete. Is the cost of a cubic meter of concrete a consideration for this study?

The authors discuss segregation of water from aggregate when using superplasticizers. This type of segregation should be referenced and possibly even a picture included to illustrate this phenomena. The authors state "minimum slump value should be specified ..... while specifying the mix does not segregate". How could this type of segregation be prevented?

Slump is expected to increase as the quantity of superplasticizer increases. That is why superplasticizer is added to a concrete mix. Superplasticizers also reduce mix viscosity. Based on the maximum aggregate sizes specified, the concrete appears to be a pumpable mixture, where viscosity is much more relevant than slump.

**Peer Reviewer: 2**

Comments to the Author

Include English equivalents with SI units. Express cement content as water:cement as well as kg/cu m.

Also, it would be helpful to western audiences to see how the fly ash that was used compares to Class C and Class F ashes. Perhaps a table with class C and F specifications alongside the properties of the ash used in the experiment.

#### Peer Reviewer: 3

##### Comments to the Author

I highly appreciate the authors efforts. However, I have neither found any significant technical contribution to industry practitioners nor to the teaching educators from the authors. Based on the information provided in the paper, I came to the conclusion that authors organized the Lomba Kuat Tekan Beton competition and facilitated all the teams to conduct their mix design and tests. In the paper it was not clear whether the authors had made any technical contributions in the mix design or not. The technical information provided by the authors in the paper on LCC is very basic. As the authors were involved in organizing the competition, it would be helpful to the readers if the authors have elaborated their challenges in organizing the competition and challenges encountered by different teams over years.

##### Managing Editor's Comments to Author:

Thank you for your submittal to the IJ CER. The majority decision amongst reviewers is that this paper has potential for publication within the IJ CER. However, the general consensus is that the paper needs major revisions to reach that level. If you are able to successfully satisfy reviewer comments, your paper may be eligible for publication in the IJ CER.

I have two quick comments for you as well: First, will you please address within the paper how these results should be used by others. Since the audience for this journal includes both academics as well as industry professionals, it would be very beneficial if the authors would explicitly state how this information should be used within that context. This would greatly strengthen the paper.

Second, when you upload your revised version of the paper, will you please include a separate supplemental file that includes a point by point explanation about how you addressed EACH of the comments provided by the reviewers. This will greatly help facilitate further review of your paper. Good luck!

## Responses to Associate Editor's Comments

Title : UICE 2018 1178 Exploring The Potential of Low Cement Concrete through Student Concrete Competition

Authors : Antoni, Ph.D., Albertus Yonathan, Hieronimus Enrico Suryo, Christoffel Felio, Kurniawati Ester Ghozali and Djwantoro Hardjito, Ph.D.

### Associate Editor #1

	Associate Editor's Comments	Authors' Responses
1	<p>This paper <b>will be of interest to CM educators.</b></p> <p>The author(s) will need to review the paper further in order that it might be accepted in the IJ CER. Currently there are a number of aspects that need attention and that needs to be addressed before the paper should be submitted for review.</p>	<p>Thank you very much for the appreciation and for the constructive comments given to our paper. We have revised our paper based on the reviewers' comments. We have tried our best to address all reviewers' comments.</p>
2	<p>The <b>abstract needs attention</b> as currently it does not provide the potential reader with <i>a sufficient overview.</i></p>	<p>The abstract has been re-written to better reflect the content of the paper on the potential of low cement concrete through student concrete competition.</p>
3	<p>The introduction might have provided more of an overview of the topic and then go on to write about the research project.</p>	<p>The introduction has been revised with more explanation on the concrete competition and the aims of the paper.</p>
4	<p>The introduction of the student competition, while <i>an interesting research opportunity</i>, is not fully addressed by the author(s). <b>The rationale behind this type of activity should have been clearly identified.</b></p> <p>Why use a student competition to research low cement concrete; how can you <b>validate that the students involved</b> have the required experience and or knowledge/ competences.</p>	<p>Student concrete competition provides a good opportunity to evaluate Civil Engineering students' understanding on the topic. Students participating in the competition are from various parts of Indonesia. Many of them will be our future engineers or contractors. Given the importance of concrete material in sustainable development, effort of reducing cement usage in concrete will be the utmost important.</p> <p>As part of the competition, all participants – all of them were Civil Engineering students - were required to attend a class by the author on the concept of making low cement concrete, the use of cementitious materials as well as the method to produce them. Their understanding of the concept was measured by how well the concrete was made. The results show that not all participants were able to produce good LCC, however the number was decreasing from year to year. To better describe the big picture, the title of the paper has been changed to be 'Exploring the</p>

	<p><b>Not addressing this is a weakness in the paper.</b> might have been appropriate to include and encourage research</p>	<p>Potential of LCC through Student Concrete Competition’.</p> <p>The difficulties faced by participants provide insights on the difficulties that might be faced in real applications. Insufficient knowledge of the materials involved is one of the aspects identified as the problem in the adoption of the mix design concept.</p> <p>The discussion on this topic has been added in the paper.</p>
5	<p>Also, <b>an opportunity to discuss the issues associated with the research in the paper is problematic.</b></p> <p>This could be addressed as part of a review.</p>	<p>Students participating in the competition coming from various universities. Their basic knowledge on concrete technology varies. Many of them only learned the classic mix design method, whereby to address low concrete strength is only by adding more cement content.</p> <p>We have revised the Introduction section to better reflect this issue.</p>
6	<p>Methods: ad materials: <b>This is where the author(s) set and articulated the competition rules and regulations.</b></p> <p>What might have been done <b>was include the justification for that approach along</b> with a narrative on why the particular aspects of the project were positioned on the research.</p>	<p>The methods and materials section has been revised to accommodate reviewer comments.</p> <p>The authors’ previously published paper on fly ash and superplasticizer was also added as the reference for better understanding on the topic.</p> <p>Methods to analyze the results was added.</p>
7	<p>The conclusion section might have been stronger in terms of <b>what has been learnt from the research and how might this be embedded in CM education</b> and who the most likely <b>users of the findings</b> might be.</p>	<p>Two more conclusion points have been added to the paper.</p> <p>The mixture proportion guide presented in the paper can be useful for construction industry, especially the ready mix producers or contractors, in making a more environmentally friendly concrete.</p> <p>For CM educators, the student concrete competition can serve as an example in conducting similarly theme competition. Students normally like to compete, and thus competition can serve as one very effective way to for students to learn new concept in an enjoyable environment.</p>
8	<p><b>Also, there is no real connect with the technical research</b> carried out in the field. <b>This is poor and lacks any real depth of comparison of with the depth of research that has emerged.</b> This should be addressed in order that the</p>	<p>Several previously published paper on the application of superplasticizer and supplementary cementitious materials have been reviewed in the discussion.</p> <p>This paper is part of our ongoing research to</p>

	paper be accepted.	reduce the consumption of cement by adding more supplementary cementitious materials such as fly ash and calcium carbonate. Our previously published papers on the topic have been added to the List of References. The findings were already shared with the participants to increase their knowledge.
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## Responses to Associate Editor's Comments

Title : UICE 2018 1178 Exploring The Potential of Low Cement Concrete through Student Concrete Competition

Authors : Antoni, Ph.D., Albertus Yonathan, Hieronimus Enrico Suryo, Christoffel Felio, Kurniawati Ester Ghozali and Djwantoro Hardjito, Ph.D.

### Associate Editor #2

	Associate Editor's Comments	Authors' Responses
1	<p>In general, <b>the paper is well written and presents a contribution to the field.</b></p> <p>That said, there are some important items that need to be considered before it can be published by the journal.</p>	<p>We really appreciate the comments given by The Associate Editor to improve the quality of our paper. All of the reviewers' comments are given very serious attention.</p>
2	<p>1) General Note: The authors need to review the entire paper for <b>grammar</b> and edit the paper from the top-down for English language <b>grammatical errors</b>. The journal does not necessarily catch sentence grammar issues.</p>	<p>Thank you very much for the suggestion. We have re-read the paper and we have made necessary corrections. The grammar of the paper has been checked again</p>
3	<p>The authors need to have a basic introduction that <b>presents the problem at hand</b> and <b>the goals of the work</b> and then <b>a separate section</b> that contains a full literature review for the topic.</p>	<p>The Introduction section has been revised to become two parts, i.e. the introduction of the low cement concrete and the concrete competition.</p>
4	<p>This literature review is currently extensive in the paper for LCC, but you also need to discuss the <b>literature on competitions</b> and <b>methodologies</b> common to this type of work.</p>	<p>Review of literatures on student competition has been added in the Introduction section.</p>
5	<p>3) Methods: The paper has a methods section but does not contain <b>the methodologies used for the work</b></p>	<p>Analyzing the properties of LCC from the abundant data resulted from the student concrete competition from three consecutive years was aimed to determine the upper or lower bound values of the concrete strength. The upper bound values was considered as the potential strength of LCC produced from the student competition.</p>
6	<p>What are the testing methods? Are they common and accepted in the field? Do they allow us to have faith in the findings?</p>	<p>Slump test was performed on fresh concrete to measure its workability, while compressive strength test was performed to determine the properties of hardened LCC concrete. These two properties are the most common properties to evaluate the quality of concrete.</p> <p>Concrete compressive strength test was conducted by the experienced laboratory technician, while the slump test was performed at the competition</p>

		<p>day, supervised by the authors.</p> <p>The data of mixture proportion and the resulting properties from the competition were gathered in confidence. Large variation of results was mainly due to the large variation in concrete making skill among the participants, and hence the average values would not give any significant meaning. The upper bound values show the potential of the LCC produced with low cement content.</p>
7	<p>These <b>methodologies used to analyze the LCC and the competition process need to be clearly presented</b>. For example, what is "<b>water-immersion</b>" as a method and why would it be used and why is it appropriate here?</p>	<p>The method has been added in the Methods section.</p> <p>Water immersion of the specimens is just normal water curing of the concrete specimens. The sentences have been re-written to avoid confusion.</p>
8	<p>4) Findings: The findings are interesting and well-done.</p>	<p>Thanking you very much for the encouraging comments.</p>
9	<p>The locations for placing the figures need to be shown in the body of the text as line breaks that say "INSERT FIGURE X HERE" to make it clear where they will be inserted and where it is most appropriate.</p>	<p>The line which say 'Insert Figure x or Table x' has been added in the paper.</p>
10	<p>Figure 7, the grey line is not labeled and needs to be.</p>	<p>The figure has been corrected.</p>
11	<p>5) Conclusions: the authors need to present limitations for the work.</p>	<p>Limitation of the study has been added in the Conclusion section.</p>

## Responses to Peer Reviewer's Comments

Title : UICE 2018 1178 Exploring The Potential of Low Cement Concrete through Student Concrete Competition

Authors : Antoni, Ph.D., Albertus Yonathan, Hieronimus Enrico Suryo, Christoffel Felio, Kurniawati Ester Ghozali and Djwantoro Hardjito, Ph.D.

### Peer Reviewer #1

	Peer Reviewer's Comments	Authors' Responses
1	Results appear to be valid, but chart titles, axis labels & units and even series labels have been redacted on the website so I can't be certain.	Thank you very much for the constructive comments. The charts have been checked again, and all units and labels are presented in the figures.
2	Why are the authors writing a paper on low-cement concrete? Are they simply reporting on the results of the Concrete Compressive Strength Competition. It appears that several papers could be produced by simply expanding on the results of the Concrete Compressive Strength Competition during successive years. <b>Other reasons for writing the paper might include the high CO2 output associated with cement production, but that is not stated.</b>	<p>We write paper on low cement concrete as part of our on-going research on reducing the use of cement by the use of significant amount of supplementary cementitious materials, such as fly ash, calcium carbonate and so on.</p> <p>We have published several papers regarding the possibility of using the locally sourced materials in making high performance concrete and improving the understanding of using superplasticizer, however, the masses still use ordinary mix design, and with high content of cement in concrete with normal strength.</p> <p>This paper reports our initiative in introducing a new concept in making concrete by using low cement, with additional supplementary cementitious material and superplasticizer, to produce more environmental friendly concrete with high strength and properties, through student competition.</p> <p>By organizing the student concrete competition, we were able to disseminate the concept of low cement concrete to civil engineers to be, and we can obtain insights on the challenges of the application of the new mix design concept. Furthermore, the mixture proportion guide can be compiled from the results achieved by the participants.</p> <p>Sentences about the environmental distress with the production of cement have been added into the Introduction section.</p>
3	Compressive strength of concrete	Thank you very much for the constructive

	<p>depends upon the water to cementitious (w/c) material ratio of the mix, not the quantity of cement in the mix. Both fly ash and silica fume are cementitious materials, <b>so both decrease w/c and improve concrete compressive strength when included.</b></p>	<p>comments. We agree with the reviewer's statement. Hence we have shown the relationship between w/c and water to cementitious (w/cm) ratios to the compressive strength of the LCC specimens. The w/cm is shown as the more dependable value than only considering the w/c when supplementary cementitious material is used in the mixture.</p> <p>The results shown in Figure 4(c) did not produce any trend with the reduction of the w/c, however when one considering the w/cm (Figure 4(d)), there is an increase in compressive strength with the reduction of w/cm, but it was also shown that the optimum value is around 0.3 – 0.4, hence further reduction was unnecessary.</p>
4	<p>Concrete with almost any slump (and with significant compressive strength) can be created at all but the lowest w/c ratio <b>by use of sufficient quantities of superplasticizer.</b> However, use of even a small quantity of superplasticizer greatly increases the cost of a cubic meter of concrete. <i>Is the cost of a cubic meter of concrete a consideration for this study?</i></p>	<p>The use of superplasticizer is encouraged to reduce the w/c ratio, so we can also reduce the cement content. The idea is that the increase cost of adding superplasticizer can be offset by the reduction of cement content.</p> <p>The participant was also judged based on the mixture proportion, and there is a point given for concrete with lowest cost possible.</p> <p>For simplicity of the paper, the discussion on the cost was not included, but it was implied by the low cement content, hence lowering the cost of cement material, but not necessary lowering the cost of concrete per cubic meter. Discussion about the total cost has been added in the paper.</p>
5	<p>The authors discuss segregation of water from aggregate when using superplasticizers. <b>This type of segregation should be referenced and possibly even a picture included to illustrate</b> this phenomena.</p>	<p>Photos denoting the difference of proper mixture and segregated mixture have been added in the Discussion section (Figure 1). The pictures show that segregated mixture can be identified easily by the edge condition of the mixture. Only water or cement water on the edge of slump test indicates segregated condition.</p>
6	<p>The authors state "minimum slump value should be specified ..... while specifying the mix does not segregate". How could this type of segregation be prevented?</p>	<p>The segregation of the concrete mixture in the competition was mainly due to excessive usage of superplasticizer. The plasticizer dosage requirement was not yet understood by the participants leading to impatient in adding the admixture.</p> <p>The balance of water content and superplasticizer dosage has been emphasized repeatedly during the presentation, however, not all participants understand this skill.</p>

		Reduction of segregation of the concrete mixture can be achieved by adding more cementitious materials and careful control of superplasticizer dosage. Further effort to reduce segregation of concrete mixture can be achieved using viscosity modifying admixture. This will be the next step in the low cement concrete mix design concept.
7	Slump is expected to increase as the quantity of superplasticizer increases. That is why superplasticizer is added to a concrete mix. Superplasticizers also reduce mix viscosity. Based on the maximum aggregate sizes specified, the concrete appears to be a pumpable mixture, where viscosity is much more relevant than slump.	<p>The application of superplasticizer on concrete poses challenges to the participants. The use of over dosage superplasticizer would cause the segregation of the concrete mixture.</p> <p>The application of the low cement concrete can be extended for pumpable mixture, however at the moment we are not exploring that potential. The participants can freely choose any aggregate size that was provided. As for slump value specified, it was mainly as the measurement of the fresh properties and for the easier manual casting.</p>

## Responses to Peer Reviewer's Comments

Title : UICE 2018 1178 Exploring The Potential of Low Cement Concrete through Student Concrete Competition

Authors : Antoni, Ph.D., Albertus Yonathan, Hieronimus Enrico Suryo, Christoffel Felio, Kurniawati Ester Ghozali and Djwantoro Hardjito, Ph.D.

### Peer Reviewer #2

	Peer Reviewer's Comments	Authors' Responses
1	Include English equivalents with SI units. Express cement content as water:cement as well as kg/cu m.	The equivalent value in lb/yd <sup>3</sup> of the cement content has been added in the discussion for easier comprehension on the low cement concrete concept for the readers familiar with the English units.
2	Also, it would be helpful to western audiences to see how the fly ash that was used compares to Class C and Class F ashes. Perhaps a table with class C and F specifications alongside the properties of the ash used in the experiment.	We use class C fly ash or high calcium fly ash as one of the cementitious materials provided. Further properties of this fly ash is mentioned in our previously published paper referred in the paper (Antoni, Widiyanto, et al., 2017). The readers can easily obtained the open accessed paper.

## Responses to Peer Reviewer's Comments

Title : UICE 2018 1178 Exploring The Potential of Low Cement Concrete through Student Concrete Competition

Authors : Antoni, Ph.D., Albertus Yonathan, Hieronimus Enrico Suryo, Christoffel Felio, Kurniawati Ester Ghozali and Djwantoro Hardjito, Ph.D.

### Peer Reviewer #3

	Peer Reviewer's Comments	Authors' Responses
1	<p>I highly appreciate the authors efforts. However, <b>I have neither found any significant technical contribution to industry practitioners nor to the teaching educators from the authors.</b></p>	<p>We really appreciate the constructive comments and suggestions given by the reviewer.</p> <p>The Abstract, Introduction, Method and Conclusion sections of the paper have been revised to improve the clarity of the paper.</p> <p>Our paper explores the potential of low cement concrete that based on the usage of more cementitious materials and controlling the workability by using superplasticizer. Concrete was manufactured in the controlled environment of student concrete competition.</p> <p>For industry practitioners, the results can be used as guidance or case study when designing a similarly low cement concrete, and provide insight on the potential of using low cement content in making high performance concrete.</p> <p>As the authors are also university professors, the LCC concepts was demonstrated to the participants at the beginning of competition. The lecture also highlighted the potential challenges when making LCC.</p>
2	<p>Based on the information provided in the paper, I came to the conclusion <b>that authors organized the Lomba Kuat Tekan Beton competition and facilitated all the teams to conduct their mix design and tests.</b> In the paper <b>it was not clear whether the authors had made any technical contributions</b> in the mix design or not.</p>	<p>The mix design concept of LCC is based mainly on several studies from the authors, and they have been referenced in the paper.</p> <p>Each year, at the start of the competition, the authors presented the proposed methods of LCC mix design. The results obtained from the previous student competitions were analyzed and presented to the participants as part of the lessons learned.</p> <p>Sentences to reflect this method have been added</p>

		in the Method section.
3	<p>The technical information provided by the authors in the paper on LCC is very basic. As the authors were involved in organizing the competition, it would be helpful to the readers if <b>the authors have elaborated their challenges in organizing the competition and challenges encountered by different teams</b> over years.</p>	<p>The aims of the paper are to apply and to evaluate the LCC mix design concepts through concrete student competition. The resulting data from the competition can be used as guidance for the application of LCC in the real construction works.</p> <p>Several remarks on the competitions and insight on the student skills and knowledge have been added in the paper. As the civil engineering students participating in the competition are the future construction practitioners, the introduction of new concept by student competition would give benefit to the construction industry in the future. And more, introduction of a new concept through student competition creates a very conducive learning atmosphere for the students.</p>



## Responses to Managing Editor's Comments

Title : UICE 2018 1178 Exploring The Potential of Low Cement Concrete through Student Concrete Competition

Authors : Antoni, Ph.D., Albertus Yonathan, Hieronimus Enrico Suryo, Christoffel Felio, Kurniawati Ester Ghozali and Djwantoro Hardjito, Ph.D.

### Managing Editor

	Managing Editor's Comments	Authors' Responses
1	<p>Thank you for your submittal to the IJCER. The majority decision amongst reviewers is that this paper <b>has potential for publication within the IJCER</b>.</p> <p>However, the general consensus is that the paper <b>needs major revisions</b> to reach that level.</p> <p>If you are able to successfully satisfy reviewer comments, your paper <b>may be eligible for publication in the IJCER</b>.</p>	<p>We thank the managing editor for the invaluable comments. We really do hope that the revisions that have been made satisfactorily address all the questions and comments given by the reviewers. We really appreciate suggestions and constructive comments given to improve our paper.</p>
2	<p>I have two quick comments for you as well: First, will you please address within the paper <b>how these results should be used by others</b>. Since the audience for this journal includes <b>both academics as well as industry professionals</b>, it would be very beneficial if the authors would <b>explicitly state how this information should be used within that context</b>. This would greatly strengthen the paper.</p>	<p>The Abstract, Introduction, and Methods sections have been revised to accommodate the reviewers' comments and suggestion.</p>
3	<p>Second, when you upload your revised version of the paper, will you please include a separate supplemental file that includes a point by point explanation about <b>how you addressed EACH of the comments provided by the reviewers</b>. This will greatly help facilitate further review of your paper. Good luck!</p>	<p>Thank you very much. We present our responses to the reviewers' comments in table form. We really expect that our responses properly address each of the reviewers' comments.</p> <p>If there is any further explanation or clarification required, the authors are more than happy to prepare it. Thank you very much.</p>

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**From:** International Journal of Construction Education and Research  
**Sent:** Wednesday, May 15, 2019 3:53 AM  
**To:** antoni@petra.ac.id; antoni.shie@gmail.com  
**Subject:** International Journal of Construction Education and Research -Decision on Manuscript ID UICE-2018-1178.R1

14-May-2019

**Dear Dr Antoni:**

Your manuscript entitled "Exploring the Potential of Low Cement Concrete through Student Concrete Competition", which you submitted to International Journal of Construction Education and Research, has been reviewed. The associate editor and peer reviewer comments are included at the bottom of this letter, along with those of the managing editor who coordinated the review of your paper.

The reviews are in general favorable and suggest that, subject to minor revisions, your paper could be suitable for publication. Please consider these suggestions, and I look forward to receiving your "unblinded" revision.

When you revise your manuscript, you will be prompted to respond to the decision letter. In this response, please highlight the changes made to the manuscript and explain how you have addressed reviewer concerns.

To submit the revision, log into <https://mc.manuscriptcentral.com/uice> and enter your Author Center, where you will find your manuscript title listed under "Manuscripts with Decisions." Under "Actions," click on "Create a Revision." Your manuscript number has been appended to denote a revision. Please enter your responses to the comments made by the reviewer(s) in the space provided. You can use this space to document any changes you made to the original manuscript. Please be as specific as possible in your response to the reviewer(s).

Alternatively, once you have revised your paper, it can be resubmitted to International Journal of Construction Education and Research by way of the following link:

\*\*\* PLEASE NOTE: This is a two-step process. After clicking on the link, you will be directed to a webpage to confirm. \*\*\*

[https://mc.manuscriptcentral.com/uice?URL\\_MASK=1a024769edd84d37975dcf6989250232](https://mc.manuscriptcentral.com/uice?URL_MASK=1a024769edd84d37975dcf6989250232)

**IMPORTANT:** Your original files are available to you when you upload your "unblinded" revised manuscript. Please delete any redundant files before completing the submission.

Because we are trying to facilitate timely publication of manuscripts submitted to International Journal of Construction Education and Research, your revised manuscript should be uploaded as soon as possible. If it is not possible for you to submit your revision in a reasonable amount of time, we may have to consider your paper as a new submission.

Once again, thank you for submitting your manuscript to International Journal of Construction Education and Research and I look forward to receiving your "unblinded" revision.

Sincerely,  
Andrew Patton McCoy, Ph.D.  
Editor, International Journal of Construction Education and Research  
[apmccoy@vt.edu](mailto:apmccoy@vt.edu)

Associate Editor Reviewer(s)' Comments to Author:

**Associate Editor Reviewer: 1**

Comments to the Author

I noticed that one of the reviewers asked you to include English units as well as SI units. However, this was really only done with regard to lb/yd<sup>3</sup> comparisons. It seems a little strange to only do this on the density related units and not the pressure or length units. I think it should either be all or none with regard to the extra units. (I don't think that all is a bad thing).

I would like to see one more sentence added to the abstract that supports the idea of the importance and benefit of the student competition aspect. ADDITIONALLY, I think that there should be some supporting conclusions made with regard to the importance and benefit of the student competition. Although the principal focus of the paper is on the technical results obtained through the competition, I think the paper really needs to ALSO highlight the competition aspect and the resulting benefits and experience that the students had. This should probably come at the very end of the results. This can be a reasonably short paragraph.

There are MANY references in the body of the text where multiple authors are listed. These should be reduced within the body of the text to "Author et al. (year)" when more than two authors are included.

I don't know what the acronyms in table 2 are. In the Materials section where this table is discussed, these acronyms should be defined.

**Associate Editor Reviewer: 2**

Comments to the Author

Since this is a revision, I will review based on what was responded and re-submitted by the authors:

- 1) All author comments address the review concerns except 2.
- 2) The authors have still not described the methodologies of the work IN THE TEXT OF THE WORK. In my opinion, the work cannot be published until they do that. To be clear, the authors need to describe their statistical process for analyzing the data in the methodologies section. That is all.

Peer Reviewer(s)' Comments to Author:

**Peer Reviewer: 1**

Comments to the Author

The paper needs to be edited again by a native English speaker for grammar and grammatical errors. For example, from the abstract "This does not always appropriate,...." and ".....all mixture

compositions and its resulting concrete properties....." need corrections made. There are errors of this type throughout much of the paper.

This paper and the Indonesian competition seek to document the affects of substituting various quantities of cementitious mineral admixtures to replace part of the cement in concrete. While there are many reasons for doing the, the subject has been extensively studied and intensely documented. A better title for this paper might be "How Cementitious Admixtures Affect Concrete Properties".

The process used by the students to design mixes during the competition is not well explained. Were the graphs in the paper generated from data produced by participants measuring quantities of materials used and then recording those quantities? Was guidance available to students on the quantity of superplasticizer or cementitious materials commonly used in concrete mixes?

I don't believe there was any new information revealed by this study, other than mix design specific information related to use of the Indonesian aggregates. A future competition could examine fixed quantities of cementitious material with different amounts of superplasticizer to determine the optimal quantity of superplasticizer to add to various mixes.

#### Peer Reviewer: 2

##### Comments to the Author

I highly appreciate the authors efforts in addressing the comments of the reviewers. The paper is well formatted and can be accepted for publication.

#### Managing Editor's Comments to Author:

It appears that the paper is in pretty good shape. It appears that most of the comments are fairly easy for you to address. However, there are still two that I would ask you look at seriously. First, nearly every reviewer still commented on the need for grammatical editing. There are a number of different ways to do this, but please consider getting a third party to help. Second, one of the associate editors expressed concern that the methodology description is still not complete. Of course, all reviewer feedback should be addressed as warranted, but these two items are especially noted within the reviewer feedback as being essential revisions to the paper.

When you resubmit, as before, will you upload a supplemental file with a point by point description of how you addressed reviewer feedback? My intention is to NOT send this out for review again, but our editorial office will check to ensure that reviewer comments were appropriately addressed. Will you also ensure that the paper is submitted in its UNBLINDED form? Please make sure that the author table is included, with author name, institution, and location information, as well as any other blinded locations within the body of the paper.

We look forward to receiving your revised draft.

## Responses to Editors and Reviewers' Comments

Title : UICE 2018 1178 R2 Exploring the Potential of Low Cement Concrete through Student Concrete Competition

### Associate Editor #1

No.	Associate Editor's Comments	Authors' Responses
1.	I noticed that one of the reviewers asked you to include English units as well as SI units. However, this was really only done with regard to lb/yd <sup>3</sup> comparisons. It seems a little strange to only do this on the <b>density</b> related units and not the <b>pressure</b> or <b>length units</b> . I think it should either <b>be all</b> or none with regard to the extra units. <b>(I don't think that all is a bad thing)</b> .	We appreciate the positive comments from the associate editor on improving our paper. We have added the English units on the pressure and length as well.
2.	I would like to see <b>one more sentence</b> added to the abstract that supports the idea of <b>the importance and benefit of the student competition aspect</b> .	The abstract has been revised to include the student competition aspect.
3.	ADDITIONALLY, I think that there should be some <b>supporting conclusions</b> made with regard to the importance and benefit of <b>the student competition</b> .	One conclusion on the competition has been added
4.	Although the principal focus of the paper is on the technical results obtained through the competition, I think the paper really needs to <b>ALSO highlight the competition aspect and the resulting benefits and experience that the students had</b> . This should probably come at the very end of the results. This can be a reasonably short paragraph.	Discussion on the competition aspect has been added.
5.	There are MANY references in the body of the text where <b>multiple authors are listed</b> . These should be reduced within the body of the text to <b>"Author et al. (year)"</b> when more than two authors are included.	The citation style has been edited to use (Author et al, year) format as required.
6.	I don't know what the <b>acronyms in table 2</b> are. In the Materials section where this table is discussed, these acronyms should be defined.	The acronyms of PCE, GS, FM have been added in the Materials section. The brand and admixture types used are omitted from the table, to show only its base chemical contents.

### Associate Editor #2

No.	Associate Editor's Comments	Authors' Responses
1.	Since this is a revision, I will review based on what was responded and re-submitted by the authors: 1) All author comments address the review concerns except 2.	Thank you very much for the review and constructive comments given to our revised paper.
2.	2) The authors have still not described <b>the methodologies of the work</b> IN THE TEXT OF THE WORK. In my opinion, the work cannot be published until they do that. To be clear, the authors need to describe <b>their statistical process for analyzing the data</b> in the methodologies section. That is all.	The methodology had been added with one paragraph describing the analysis method of the results obtained.

### Peer Reviewer #1

No.	Peer Reviewer's Comments	Authors' Responses
1.	The paper needs to be edited again by a <b>native English speaker for grammar and grammatical errors</b> . For example, from the abstract "This does not always appropriate,...." and ".....all mixture compositions and its resulting concrete properties....." need corrections made. There are errors of this type throughout much of the paper.	We appreciate the constructive comments given by the reviewer to our paper. To improve the quality of our paper, we have sent it to third party native English speaker for grammatical check and better English. The certificate is enclosed in the submission.
2.	This paper and the Indonesian competition seek to document the effects of <i>substituting various quantities of cementitious mineral admixtures to replace part of the cement in concrete</i> .  While there are many reasons for doing the, the subject has been extensively studied and intensely documented. A better title for this paper might be " <b>How Cementitious Admixtures Affect Concrete Properties</b> ".	The main idea of the paper is to explore the potential application of the low cement concrete in the construction by disseminating the mix proportion method to the future construction engineers, i.e. civil engineering students from various universities in Indonesia. Cementitious material was used as partial cement replacement, as part of the mixture proportion. With the use of superplasticizer, low cement concrete can be produced. We respect the feedback given by the reviewer, however changing the title with the suggested one would change the whole meaning of the paper, as we did not specifically investigate the type of cementitious material, the replacement ratio and its effect on the concrete properties.
3.	The process used by the students to <b>design mixes during the competition</b> is not well explained. Were the graphs in the paper generated from data produced by participants <b>measuring</b>	We have rewritten some sentences in the methodology section for clearer explanation on the process. The students were given lectures on the mix proportion method of low cement concrete as

	<b>quantities</b> of materials used and then recording those quantities?	well as data from the previous years as guidance. Each team can choose any mix design method that they are most familiar with, however they are to consider the constraints of low cement content given to them.
4.	Was <b>guidance available</b> to students on the quantity of superplasticizer or cementitious materials commonly used in concrete mixes?	Guidance on how to make LCC was made available to all participants. Previously published papers regarding the use of superplasticizer and fly ash were also distributed to the students during the lectures.
5.	I don't believe there was any new information revealed by this study, other than <b>mix design specific information</b> related to use of the Indonesian aggregates.	We thank the reviewer for the comments. We explore the potential application of the low cement concrete and the difficulties that associated with the new method and shift of paradigm in making a more environmentally friendly concrete with the use of low cement content. Any aggregates with sufficient hardness and density can be used to produce the similar quality concrete, however further care should be made on the quality of the cementitious material used.
6.	A future competition could examine fixed quantities of cementitious material with <b>different amounts of superplasticizer</b> to determine the optimal quantity of superplasticizer to add to various mixes.	This year (2019) we have conducted the same concrete competition with the same LCC theme and the combination use of superplasticizer and viscosity modifying admixture (VMA) to control the behavior fresh concrete. The use of VMA can reduce the occurrence of bleeding, but there are still some challenges regarding the optimum dosage. Further improvement is planned for the next year competition.

#### Peer Reviewer #2

No.	Peer Reviewer's Comments	Authors' Responses
1.	I highly appreciate the authors efforts in addressing the comments of the reviewers. The paper is <b>well formatted</b> and <b>can be accepted</b> for publication.	We thank the reviewer for the endorsement on this paper.

#### Managing Editor

No.	Managing Editor's Comments	Authors' Responses
1.	It appears that the paper is <b>in pretty good shape</b> . It appears that most of the comments are fairly easy for you to address. However, there are still <b>two that I would ask you look at seriously</b> .	We thank the managing editor for the comments and encouragement on completing the revision for this paper. We seriously consider all feedback and suggestions from the Associate Editor and Peer Reviewers for the improvement of this paper.
2.	<b>First</b> , nearly every reviewer still commented on the need for <b>grammatical editing</b> . There are a number of different ways to do this, but	The paper has been submitted to the third party for English check and improvement. We hope the English of this paper is up to the standard of the journal.

	please consider getting a third party to help.	
3.	<b>Second</b> , one of the associate editors expressed concern that the <b>methodology description is still not complete.</b>	Method to analyze the data gathered from the competition has been added in the methodology section
4.	Of course, <b>all reviewer feedback should be addressed as warranted</b> , but these two items are especially noted within the reviewer feedback as being essential revisions to the paper.	We have tried our best to address all the reviewer feedbacks and suggestions.
5.	When you resubmit, as before, will you upload a supplemental file with a point by point description of how you addressed reviewer feedback? My intention is to NOT send this out for review again, but our editorial office will check to ensure that <b>reviewer comments were appropriately addressed.</b>	We understand the intention of the managing editor, and we hope this revision is satisfactory to address all feedback and suggestions from the reviewers.
6.	Will you also ensure that the paper is submitted in its UNBLINDED form? Please make sure that the <b>author table is included</b> , with <b>author name, institution, and location information</b> , as well as any other blinded locations within the body of the paper.	The paper is submitted to the system in the unblinded version. Author name, institution and location have been added. Further detail is also recorded in the submission system and title page.
7.	We look forward to receiving your revised draft.	We submit this revised version of the paper and we hope that the revision is acceptable, and the paper will be published in the journal. We will gladly comply if there are any further works needed to be done to improve this paper. Thank you very much for your encouraging comments and reception.



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**From:** International Journal of Construction Education and Research  
**Sent:** Saturday, July 27, 2019 4:40 AM  
**To:** antoni@petra.ac.id; antoni.shie@gmail.com  
**Subject:** International Journal of Construction Education and Research -Decision on Manuscript ID UICE-2018-1178.R2

26-Jul-2019

Dear Dr Antoni:

Ref: Exploring the Potential of Low Cement Concrete through a Student Concrete Competition

Our referees have now considered your paper and have recommended publication in International Journal of Construction Education and Research. We are pleased to **accept your paper** in its current form which will now be forwarded to the publisher for copy editing and typesetting. The reviewer comments are included at the bottom of this letter, along with those of the editor who coordinated the review of your paper.

You will receive proofs for checking, and instructions for transfer of copyright in due course.

The publisher also requests that proofs are checked and returned within 48 hours of receipt.

Thank you for your contribution to International Journal of Construction Education and Research and we look forward to receiving further submissions from you.

Sincerely,  
Andrew Patton McCoy, Ph.D.  
Editor, International Journal of Construction Education and Research  
[apmccoy@vt.edu](mailto:apmccoy@vt.edu)

Managing Editor's Comments to Author:

All comments seem to have now been addressed appropriately. Please check the proofs carefully when they are returned to you, especially to make sure the figures convert correctly.

# CERTIFICATE OF ENGLISH EDITING

This document certifies that the paper listed below has been edited to ensure that the language is clear and free of errors. The edit was performed by professional editors at Editage, a division of Cactus Communications, in cooperation with Taylor & Francis Group. The intent of the author's message was not altered in any way during the editing process. The quality of the edit has been guaranteed, with the assumption that our suggested changes have been accepted and have not been further altered without the knowledge of our editors.

## Title

Exploring the Potential of Low Cement Concrete through a Student Concrete Competition

## Authors

ANTONI, PH.D., ALBERTUS YONATHAN, HIERONIMUS E. SURYO, CHRISTOFFEL FELIO, KURNIAWATI E. GHOZALI, DJWANTORO HARDJITO, PH.D.

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Chief Operating Officer,  
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