COLLABORATIVE-COOPERATIVE LEARNING MODEL TO IMPROVE THEOLOGY STUDENTS' CHARACTERS: IS IT EFECTIVE?

GP Harianto[1,2]*, Rusijono Rusijono[1], Siti Masitoh[1], WH Setyawan[3]
[1]Universitas Negeri Surabaya, Indonesia
[2]Sekolah Tinggi Theology Excelsius Surabaya, Indonesia
[3]Universitas Islam Kadiri, Indonesia
*e-mail: hariantogp@sttexcelsius.ac.id

Abstract: The Collaborative-Cooperative Learning Model (CCL) helps improve students' characters. This study is aimed at finding out the effectiveness of the CCL instructional model in improving the characters of the theology students in the subject matter class Self Development. This study used a quasi-experimental research design. The research sample consisted of 58 students of the Surabaya Excelsius Institute of Theology. Data were collected through a pre-test and post-test for the experiment and control groups and analyzed using an independent sample t-*test* on the SPSS software program of Amos 25. The results show that (1) the CCL model was found to be able to improve students' characters. Experts' reviews concluded that the CCL syntax could be categorized as having innovative aspects based on the rationality model on the score of 3.29; (2) The CCL model was found to be effective in improving students' characters by the *Mann-Whitney* test (*sig*. = .012) and the paired sample *t*-tes (*sig*. = .000) showed a significant difference in the mean scores; (3) the CCL model could improve the characters of self-discipline, social discipline, and religious discipline in the theology students in the subject matter class Self Development and could be used for subject matter classes with the same characteristics, be followed-up by research in wider subject-matter contexts, and be integrated with research from other academic fields.

Keywords: CCL model of instruction, group learning, theology, students' character

MODEL PEMBELAJARAN KOLABORATIF-KOOPERATIF TERHADAP KARAKTER MAHASISWA TEOLOGI: EFEKTIFKAH?

Abstrak: Model *Collaborative-Cooperative Learning* (CCL) dapat membantu meningkatkan karakter mahasiswa. Tujuan penelitian ini adalah untuk mengetahui keefektifan model CCL untuk meningkatkan karakter mahasiswa teologi pada mata kuliah Pengembangan Diri. Penelitian ini menggunakan desain penelitian eksperimental semu. Sampel penelitian adalah 58 mahasiswa di Sekolah Tinggi Teologi Excelsius Surabaya. Teknik pengumpulan data menggunakan tes untuk pretes postes pada mahasiswa kelompok eksprimen dan kontrol. Teknik analisis data menggunakan independent sample t-*test* dengan SPSS Amos 25. Hasil penelitian menunjukkan (1) model CCL terbukti dapat meningkatkan karakter mahasiswa. Berdasarkan *review* para ahli didapatkan hasil bahwa kesimpulan sintaks CCL dapat dikategorikan memiliki kebaruan berdasarkan aspek rasionalitas model dengan nilai 3,29. (2) Model CCL teruji efektif untuk meningkatkan karakter mahasiswa melalui uji *Mann Whitney* dengan *sig.* 0,012 dan hasil uji paired sample t-tes menunjukkan bahwa *sig.* 0,000 artinya ada perbedaan yang signifikan. (3) model CCL dapat meningkatkan karakter tertib diri, tertib bergaul dan tertib kerohanian mahasiswa teologi pada mata kuliah Pengembangan diri dan dapat meningkatkan karakter mahasiswa melalui mata kuliah dengan karakteristik yang sama, melanjutkan penelitian dalam konteks mata kuliah yang lebih luas dan diintegrasikan dengan berbagai disiplin ilmu.

Kata Kunci: model pembelajaran CCL, belajar kelompok, teologi, karakter mahasiswa

INTRODUCTION

A character is the "*wholeness of man's soul"* as a soul "*which is based on spiritual laws*", which is constant and exact (Dewantara, 1997). A character is implanted in a learner character building wholly, integrated, and balanced according to the graduate competency standard. Some characters that are basic and significant are

self-control (decent in getting along), interactive control (decent in getting along), and religiosity (decent in spirituality). The implantation of these characters is conducted by way of education both through subject matters and extra-curricular activities. Ki Hadjar Dewantara has far-reaching thoughts about character education. Sharpening the behaviour wit is truly noble since it will build behavioral deeds that are good and sturdy so as to produce personality and character (soul based on spiritual laws). When it happens, man will always be able to overcome passions (cruelty, rage, anger, meanness, harshness, etc.) (Warsito & Teguh, 2018).

Chaplin (2001) defines self-control as one's ability to guard his behaviours in accord with his values and beliefs as a basis for making a decision and acting. It is a process of one consciously controlling himself from his passions so that he brings goodness to others (Gandawijaya, 2017) and is able to socialize with rules that apply in the society (Baumeister, Vohs, & Tice, 2007). Self-control is in unity with self-command (Rotter, 1990) and self-discipline or self-efficacy (Bandura, 1977).

Discussion about self-control is part of psychology starting from 1977 with Bandura's term "self-efficacy". Bandura describes self-efficacy as one's confidence of his behaviours (Gandawijaya, 2017). Rosenbaum (1980) refers to self-control as "self-control schedule" containing the sense of one's ability to regulate oneself that can be learned and managed so as to produce the expected behaviour. Rosenbaum's study on self-control as related to "internal locus of control" shows that one's tendency to manage self is derived from his personality behaviour and character. In another study, Rotter (1990) states that the early concept of self-control a part of internal locus of control.

Baumeister *et al*. (2007) find that self-control is one's ability to regulate one's self to give reactions in his adaptation with the society based on his values and beliefs. Baumister (Gandawijaya, 2017) is of the opinion that there is a basic dimension in the building of self-control in the forms of (1) standard process (related to objective, perception, and norms) that is oriented towards decency of life in the social environment, (2) supervision process related to how one performs expected specific behaviours , and (3) capacity process related to one's ability to change to the expected character.

Tangney, Baumeister, & Boone (2004) proposes five aspects of self-control. *First* is self-discipline which leads to the ability of self-decency in order to adapt with the norms of the environment in which he lives. *Second* is non-impulsive behaviour which leads to one's ability perform mature reactions in his interactions. *Third* is healthy habit which is one's ability to manage his behaviour to be good and is acceptable to the environment. *Fourth* is work ethic which leads one to have good manners in doing one's job. *Fifth* is reliability which leads one to be stable and consistent in getting his life objectives

The foregoing discussion suggests that self-control is one's ability to manage his behaviours in a way that is decent and not breaking the norms that apply in the society in which he lives. In relation to this understanding, the researchers find phenomenon in the field in which the character of the students of the Surabaya Excelsius Theology Institute is weak seen from the following observation.

First, students' character can be said as low. This can be seen from the results of the field observation that many students are late in submitting assignments; some students take other students' belongings in the classroom, they are egoistic and do not like to help their classmates; they quarrel in the classroom; they have inferior feelings and do not dare to express opinions, there are unhealthy competitions in and outside the classroom. *Second*, students' learning outcomes have not given an impact that improves their characters. Some students do make improvement in their learning achievement; however, they do not show to have improvement in their characters. *Third*, the students, who everyday study about characters, their religious decency does not seem to improve, however. Some students are found to be lazier in attending religious services. *Fourth,* some lecturers have not made use of instructional strategies that suit the characteristics of the subject Self Development or some other subjects related to character building. On the other hand, these lecturers stay with the preaching strategies or merely giving assignments to students.

These phenomena can give an indication of the low quality of the students' characters. Benninga, Berkowitz, Kuehn, & Smith (2003) state that character education that is conducted

doi:10.21831/cp.v39i2.31272

at school has a stronger impact than that at home or other environments. Characters can be built by way of various strategies through a process. One of the most effective processes of character building is that conducted at school (Suyanto, 2010). It is mostly true that the improvement of students' self-decency, interaction decency, and religious decency depends on the instructional model that is designed by teachers at school.

Nurgiyantoro & Efendi (2013) voices the needs for subject matters that prioritize on character values so that the learning process focuses more on the intended characters. Nur (2011) states that a solution to the improvement of students' characters can be done by way of co-operative learning in the instructional process. Cooperative learning offers solution to the following instructional problems: students' inability to adapt to the team, deviating behaviours, noisy class, time consuming for group practices, wide diversity in students' abilities, too much teacher's assignment.

A study by Farrell & Farrell (2008) about students' satisfaction on the group learning in the subject matter Accounting shows that group work is able to improve students' intellects, interpersonal capacities, and professional skills. In another study, Yamarik (2007) uses cooperative learning in the field of Economics. Small groups are formed as control groups (participation, preparation, participation, attendance, and performance) in the class. The study produces highly satisfactory results in that students in the groups are able to think and act in line with the economics concepts (Adams, 2013).

Cooperative learning helps students to improve their thinking skills, ways of collecting information from various sources, giving arguments, and appreciation among each other (Yamin & Ansari, 2008); academic skills and characters (Rao, Collins, & DiCarlo, 2002), tolerance among students and teachers (Cabrera, Crissman, Bernal, Nora, Terenzini, & Pascarella, 2002), and motivation to find theoretical concepts (Eymur & Geban, 2016). Meanwhile, Resta & Laferrière (2007) emphasize that collaborative learning can be applied in all fields of learning and supported by technology of the global era.

The superiority of collaborative learning is shown by Barkley, Cross, & Major (2016) in their study to include the following. *First*, on peer influence, students show statistically significant improvement in intellectual and general cognitive skills and experience the process of obtaining character values and self-independence. *Second*, on campus environment, students are more active and involved in their participation in the learning processes. *Third*, on classroom collaborative learning, students who are in the small groups show higher academic achievement, better attitudes towards the subject matter, and more persistence in participating in the program. In addition, Springer, Stanne, & Donovan (1999) emphasize the effectiveness of collaboration in improving students' competences in small-group learning.

Subsequently, there emerges the Collaborative-Cooperative Learning (CCL) model of instructional programs which is an integration between cooperative learning and collaborative learning. The CCL model can be used as an alternative in character building of self-discipline, interaction-discipline, and religious-discipline. These matters are answered by the present study which is aimed at 1) producing a CCL model to improve theology students' characters in the subject matter of self development, and 2) testing the effectiveness of the CCL model in improving theology students' characters in the subject matter of Self Development.

METHODS

The study applies the quasi-experimental design with two groups (nonequvalent pretest posttest control group design), involving Group A, the experimental group receiving the CCL treatment and Group B receiving conventional treatment. The CCL model is the result of an R & D study that has been validated and stated as feasible by the experts in the model, design, and contents by the score of 3.78 (very good). The research groups, Experimental Group A and control Group B are pre-tested and post-tested (Creswell, 2010). The quasi-experimental design is shown in Figure 1.

The research subjects were students of the class Self Development in the Excelsius Institute of Surabaya, 58 in number. Sampling was done by the disproportionate Stratified random sampling technique (Sasmoko, 2005), by using all members of the population as the sample (Sharma, 2017). The 58 students were divided

into two classes; one for the experimental group, the other the control group, each group consisting of 29 students.

The research instrument to find the model effectiveness was an achievement test for the pre-test and post-test. The table of specification for the test items is presented in Table 1.

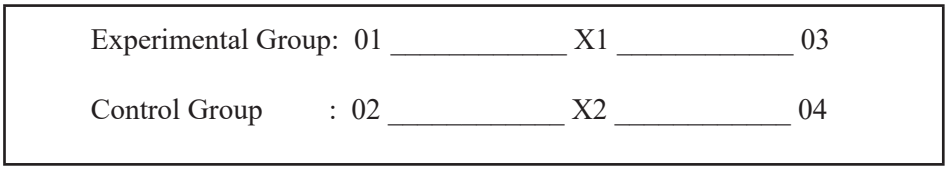
Validation of the test is done by way of expert judgement; meanwhile, reliability measure is obtained from a Cronbach's alpha statistic. The reliability index of the total test is .933. A reliability index of lower than .60 is considered unvalid; within .70 is acceptable; and above .80 is highly valid (Setiaji, 2004). For the subtests, Self-discipline is .949, Interaction discipline is .959, and Religious discipline is .891.

Data was collected by using the pre-test and post-test and analyzed using the *t* statistic for mean differences (t-test for independent samples). Prior to the *t* analysis, the pre-requite tests for normality and homogeneity had been conducted. Subsequently, to know the effectiveness of the CCL model, data were analyzed by using the *t-tes* for paired samples. Statistical calculation was aided by the SPSS software program, Release 25.

RESULTS AND DISCUSSION

Results

Results of the data analyses to find the effectiveness of the CCL model are presented in three items. These include: *first*, descriptive presentation of the pre-test and post-test data of the experimental and control groups; *second*, data analyses of the pre-test and post-test of the experimental and control groups; and three, results of the *t*-test for paired samples.



Notes: 01 & 02: Initial observation (*pre-test*)
03 & 04: Final observation (*post-test*)
X1 : CCL Experimental group
X2 : Conventional control group
_____ : Instructional period

Figure 1. The Quasi-Experimental Design

Table 1. Table of Specification for the Achievement Test

No.	Indicator	Item	Item Number	Test Form
1.	Self-discipline	Let myself improve the quality of my personality directly or indirectly.	1	Objective
2.	Self-discipline	Decency in clothes and shoes wearing and in my appearance.	1	Objective
3.	Self-discipline	I don't let myself come late to class.	1	Objective
4.	Self-discipline	I submit class assignments before the deadline given by the lecturer.	1	Objective
5.	Social discipline	I guard my self-reputation by not involving myself in bad groups.	1	Objective
6.	Social discipline	I have friends from all life backgrounds.	1	Objective
7.	Social discipline	I help everybody regardless of their backgrounds.	1	Objective
8.	Religious discipline	Diligence in religious practices.	1	Objective
9.	Religious discipline	I attend Sunday services on time.	1	Objective
10.	Religious discipline	When I'm being humiliated, I just stay still.	I	Objective

doi:10.21831/cp.v39i2.31272

Results of Pre-test and Post-test Descriptive Analyses

After the administering of the pre-test, score recapitulation of the results can be seen as presented in Table 2.

Normality and Homogenity of the Pre-test Data

Results of the normality test on the pre-test data for the experimental and control groups can be seen in Table 3.

The pre-test scores of the experimental and control groups are analyzed using the Kolmogorov-Smirnov and Shairo-Wilk statistics. Results show that the significance scores for both the experimental and control group are .000 signifying that the distribution of the data is not normal. Therefore, the *t* statistic cannot be applied. Subsequently, the Mann Whitney test is applied and the results can be seen in Table 4. As can be seen in Table 4, the results of the Mann-Whitney test on the data of the pre-test show that the significance level (2-tailed) is .871. It can be concluded that there is no difference in the pre-test scores between the experimental group and control group.

Results of the Post-test on Mann-Whitney and Wilcoxon Statistics

After the administering of the post test, score recapitulation of the results can be seen as presented in Table 5. As can be seen in the Table 5, there is a score difference between the experimental group (93.1034) and the control group (81.3793).

Table 2. Descriptive Data of the Pre-test Results

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test experiment	29	60.00	90.00	76.5517	8.13979
Pre-test control	29	60.00	90.000	75.1724	8.28971
Valid N	29				

Table 3. Results of the Normality Test on the Pre-test Data

	Class	Kolmogorov-Smirnov[2]			Shapiro-Wilk		
		Statistic	*df*	*Sig.*	Statistic	*df*	*Sig.*
Test	Pre-test experiment	.319	29	.000	.835	29	.000
	Pre-test control	.306	29	.000	.838	29	.000

a. Liliefors Significance Correction

Table 4. Results of Mann-Whitney Test on the Pre-test Data

Test	Score
Mann-Whitney U	410.500
Wilcoxon W	845.500
Z	-.163
Asymhlm. Sig. (2-tailed)	.871

a. Grouping Variable: Class

Table 5. Descriptive Data on the Results of the Post-test

	N	Minimum	Maximum	Mean	Std. Deviation
Post-test experiment	29	80.00	100.00	93.1034	6.03765
Post-test control	29	70.00	90.00	81.3793	6.93034
Valid *N*	29				

Test of Normality dan Homogeneity of the Post-test Data

Results of the Mann-Wheteney statistics for the normality and homogeneity of the post-test data are presented in Table 6.

The post-test scores of the experimental and control groups are analyzed using the Kolmogorov-Smirnov and Shairo-Wilk statistics. Results show that the significance scores for both the experimental and control group are .000 signifying that the distribution of the data is not normal. Therefore, the *t statistic* cannot be applied. Subsequently, the Mann Whitney test is applied and the results can be seen in Table 7.

As can be seen in Table 7, results of the Mann Whitney statistical analysis show that there is significance (2-tailed) of .012 so that it can be stated that there is a significance in the students' achievement between the experimental group and control group. In other words, it can be stated that learning using the CCL model is more effective than learning using the conventional model.

Effectiveness of the Collaborative-Cooperative Model

Results of the effectiveness test of the CCL instructional model between the experimental group and control group can be seen in Table 8. This is obtained from the score difference between the pre-test and post-test from the *t-statistic* of paired samples.

Table 8 shows a significance level of .000 for the *t*-statistic (2-tailed). This means that there is a significant difference in the score means between the experimental group and control group in the implementation of the CCL instructional model. Subsequently, it can be stated that the CCL model can be recommended to be used in the instructional process to improve students' characters.

Tabel 6. Results of Normality dan Homogenity of the Post-test Data

	Class	Kolmogorov-Smirnov[2]			Shapiro-Wilk		
		Statistic	*df*	*Sig.*	Statistic	*df*	*Sig.*
Test	Post-test experiment	.317	29	.000	.755	29	.000
	Post-test control	.269	29	.000	.802	29	.000

a. Liliefors Significance Correction

Tabel 7. Results of Mann-Whitney Test on the Post-test Data

	Post-test
Mann-Whitney *U*	268.500
Wilcoxon *W*	703.500
Z	-2.512
Asymhlm. *Sig.* (2-tailed)	.012

a. Grouping Variable: Class

Table 8. Results of Effectiveness Test between the Pre-test and Post-test (*t*-test Paired Samples)

		Paired Differences					*t*	*df*	*Sig. (2-tailed)*
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test - Post-test	-19.10714	7.07808	1.33763	-21.85174	-16.36255	-14.284	29	.000

doi:10.21831/cp.v39i2.31272

Discussion

Feasibility of the Collaborative-Cooperative Learning Model

Results of the experts' assessment on the *CCL* reach the score of 3.78 (94%) belonging to the category of highly feasible. It can be stated that the *CCL* instructional model is highly feasible to be used in the learning process of the character-education class or other related classes.

The study by Nyikos & Hasminoto (1977) on the use of the collaborative group-group strategy suggests that the use of cooperative learning is successful in (1) evaluating learning in groups, and (2) improving students' positive thinking. Meanwhile, the study by Caulfield and Persell shows that collaborative learning in group-group learning systems have the following advantages: (1) students are more motivated and work harder in group learning than in individual learning, and (2) collaborative learning is an effective tool for the teacher-student interaction in the learning process (Caulfield & Caroline, 2006).

An instructional model is a guide for the teacher to run the learning teaching processes in the class. As a learning guide, it leads to the instructional targets, steps, environment, and management systems (Slavin, 2010). In another view, Joyce & Weil (Rusman, 2012) state that an instructional model is a format that must be applied in the learning patterns, instructional materials, and advocation processes of the instruction in or outside the classes.

These views are in line with Uno (2007) in that learning will be more procedural, following specific steps while the learning strategy, the instructional method, is more implementative. The model is more procedural in that it describes the tasks that the teacher must take in relation to the reality of life and in the understanding of the topic being discussed within a limited data support (Richey, 1986).

Based on the foregoing discussion, it can be stated that the *CCL* model of instruction is highly feasible to be used in the teaching learning process in classes like Self Development.

Effectiveness of the Collaborative-Cooperative Learning Model

In the statistical calculation in the data analyses, the pretes scores of both the experimental group and control group are analyzed by using the Kolmogorov-Smirnov and Shapiro-Wilk for the normality of the distribution of the scores. It is found that the significance level of the experiment group (.003) and control group (.001) are under .05, meaning that the scores do not conform to the normal distribution. Consequently, the *t* statistic for the mean difference cannot be used. The analysis for the mean differences is then shifted to the Mann Whitney procedure.

The same thing happens with the post test scores. Both the scores of the experiment group (.001) and control group (.000) do not qualify for a *t* statistic test since they do not conform to the normal distribution pattern. The analysis for the score difference is done by using the Mann Whitney statistics. These shifts in the use of the statistical tests are in accord with the research conventions. Hidayat (2014), for example, states that the Mann Whitney *U*-Test and Wilcoxon Rank Sum Test are used for non-parametric data to find mean differences for scores that do not have normal distribution.

Based on the results of the Mann Whitney analyses on the post test scores of the experiment and control groups, it is found that the difference test score (2-tailed) is .012, lower than .05. It therefore can de stated that there is a significant difference in the scores between the experiment group and control group so that it can be further stated that the instructional CCL model developed in this study is effective in improving the students' characters. Webb, Troper, & Fall (1995) conduct a study integrating collaborative and cooperative learning and find that students are active in working in a group, are able to solve problems and assignments given by the teacher, acquire new learning strategies, have high learning motivation, improve their learning achievement, and practise healthy competition (Amiruddin, 2019).

In conclusion, the advantages of the use of the CCL instructional model in helping students can be summarized as follows. *First*, the CCL model improves students' characters in a way that is learning and playing. The study by Redes (2016), "Collaborative learning and teaching in practice", shows how the students in collaborative and cooperative learning are more discipline in obeying rules and more focused in finishing assignments given by the teacher in the group. Students also show a high level

of responsibility without being controlled by the teacher. Characters of the members of the group change at the same time, in accord with the objective and process of the instructional program.

Second, the CCL instructional model helps in avoiding negative competition and individualism and improving collaborativeness instead in group work. Negative competition is an obstruction to students' creative processes in their cooperative work in the group (Simonton, 2003). In a group, all characters need to be integrated in all the members of the group to merge into a unity. Competition, unlike cooperation, tends to be individualistic which is in contrast with the nature of cooperation. Competition must be replaced by cooperation.

In their study, "Boundary crossings: Cooperative learning, collaborative learning, and problem-based learning", Davidson & Major (2014) find that, in collaborative and cooperative learning, there is a strong cooperation among the members of the group in solving problems. They have high work power as "models, scaffolding, and social skills" through negotiation within or among groups. In a similar study, Schnittka & Schnittka (2016) find that learning in groups through teamwork can improve students' critical and creative thinking since every member of the group must cooperate.

Third, the CCL model transfers characters among group members. Rohadi (2019), in his study, "A Multi-Level Collaborative and Cooperative Writing Class in Inducing Character Building", finds that the interaction of the two learning models results in the building of integrity and honesty in the students' characters in confronting problems, differences, and interaction to achieve the common objective to complete assignments given by the teacher.

Fourth, the CCL model helps in achieving the shared objective of the group. In their study, "Promoting Collaborative Classrooms: The Impacts of Interdependent Cooperative Learning on Undergraduate Interactions and Achievement", Premo, Cavagnetto, Davis, & Brickman (2018) find that collaborative and cooperative class activities are effective in promoting students' behaviours that are facilitative to the achievement of the instructional goals constructed by the teacher.

Pelaez, Anderson, Gardner, Yin, Abraham, … & Stevens (2018) study on commitment, collegiality, communication, consensus, dan continuity among students and find that these five elements are not separate entities but work in concert during network activities. These elements work in an integrative manner for the optimization of network collaborations. Colaborativeness is the key and has a strong and effective impact in the achievement of the instructional objectives laid out in the teaching learning process. Collaboration can be used as a unifying tie among the members of the team work to achieve the shared goal of the group.

Fifth, CCL instruction helps in solving problems, both individual and group. Le, Janssen, & Wubbels (2018) in their study, "Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration", find that the integration of collaboration and cooperation in a learning process is effective in improving the quality of the students and teacher in their learning teaching process. Students become productive in their learning work and the teacher acquires new experiences to look at the difficulties faced by students to be able to help them give solutions. Park measures "different types of cognitive load separately and examines the relationship between motivation and each type of the cognitive loads" and finds different types of cognitive loads and motivation among different students in the team work. He shows an example of how to integrate mathematics learning and social learning to become one learning unity to help students solve a problem (Park, 2015).

Sixth, the CCL instructional model helps improve students' academic skills (cognitive abilities). Group members work together to achieve the instructional objectives laid out by the teacher. Sawyer & Obeid (2007), in their study "Cooperative and collaborative learning: Getting the best of both methods", find that students are able to think critically, are skilful in communicating, have high motivation, and enjoy new learning experiences in group work in the classroom.

A similar study is conducted by Akinnuwesi, Odumabo, & Aribisala (2020) by examining "knowledge drid". It is found that the extent to how the students develop cognitive knowledge depends on how far the group members have the knowledge of what is being

studied. The less they know about the knowledge, the slower they learn about it. The researchers further explain the knowledge management system is employed by using collaboration and knowledge in improving the academic environment among the group members. Subsequently, Kalyuga & Liu (2015) state that students' academic development depends on the continuity of the student groups. The more active students work continually in the team work, the wider academic knowledge they acquire. This situation will help students solve problems accurately and effectively.

Seventh, the CCL model helps improve students' characters (affective or behavioral). Baker (2015) in a study "Collaboration in Collaborative learning", finds that interaction between the two learning models can produce negotiation processes for changes in terms of self-images, identities, affects, cognitive, and communicative and discursive processes. A similar study conducted by Sugiman, Retnowati, Ayres, & Murdanu (2019) examines the impact of collaborative learning in mathematics using the "goal-free" strategy finds that students experience cognitive improvement and achieve high scores.

Eighth, finally, the CCL instructional model improves skill abilities. A study ("Collaborative and Cooperative Learning in Malaysian Mathematics Education") by Hossain, Tarmizi, & Ayub (2012), concludes that collaborative and cooperative learning is markedly effective in improving interpersonal competencies and communication skills among the group members. This notion is supported by the study by Lee (2008) in that collaboration is needed to provide step-by-step scaffolding at key moments to focus on form and use students' cognitive skills. Collaboration makes students able to "self-repair" their errors and further incorporate correct forms into their follow-up turns.

These studies are in harmony with Akbar's (2013) who, based on try-out results and learning effects and limitation of lesson-plan units, conducts revision in a small-scale try-out to produce better and more effective learning designs, lesson plans, and instructional materials. This is in accord with Ravenscroft, Buckless & Hassall (1999) who state that collaborative and cooperative learning is an instructional model that can be used to improve students' skill development in the group processes. Güvenç (2010) mentions that teachers can cooperate with students' parents in providing positive information to motivate students to work harder in completing assignments given by the teacher in groups.

CONCLUSION

It can be concluded that, based on the data and discussion in the foregoing sections, three items of conclusion can be presented thus. *First*, the CCL model of instruction is found to be highly feasible to be used in improving students' characters. Reviews by the experts show that the CCL syntax can be categorized as having innovative aspects based on the rational model by the score of 3.29. *Second,* the CCL model is found to be effective in improving students' characters as seen in the results of the Mann-Whitney statistical analysis on the post test scores of the experiment and control groups (.012) and that of the paired sample *t*-tes (.000) showing that there is a significant difference in the mean scores. *Third,* the CCL model is found to be able to improve the characters of self-discipline, interaction discipline, and religious discipline of the theology students in the class Self Development and to be used to improve students' characters in classes with the same characteristics.

ACKNOWLEDGMENTS

The researcher is thankful to the participants of this study especially students of the Surabaya Excelcius Theology Institute, Mustaji (lecturer of the Educational Technology Training of Surabaya State University, I Nyoman Degeng (lecturer of the Educational Technology Training of Malang State University, and all others who have voluntarily contributed and participated in this study.

REFERENCES

Adams, A. R. (2013). *Cooperative learning effects on the classroom*. Michigan: Northern Michigan University.

Akbar, S. (2013). *Instrumen perangkat pembelajaran*. [Instrument learning device]. Bandung: PT Remaja Rosdakarya.

Akinnuwesi, B. A., Odumabo, A. & Aribisala, B. S. (2020). Knowledge grid: An intelligent

system for collaboration and knowledge management in Nigerian Universities. *Data Science Journal*, *19*(1), 1-12. doi:10.5334/dsj-2020-002.

Amiruddin, A. (2019). Pembelajaran kooperatif dan kolaboratif. [Cooperative and collaborative learning]. *Journal of Education Science*, *5*(1), 1-10. doi:10.3314/jes.v5i1.357.

Baker, M. J. (2015). Collaboration in collaborative learning. *Interaction Studies*, *16*(3), 451-473. doi:10.1075/is.16.3.05bak.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215. doi:10.1037/0033-295X.84.2.191.

Barkley, E. F., Cross, K. P., & Major, C. H. (2014). *Collaborative learning techniques: A handbook for college faculty*. San Francisco, CA: John Wiley & Sons.

Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science*, *16*(6), 351-355. doi:10.1111/j.1467-8721.2007.00534.x.

Benninga, J. S., Berkowitz, M. W., Kuehn, P., & Smith, K. (2003). The relationship of character education implementation and academic achievement in elementary schools. *Journal of Research in Character Education*, *1*(1), 19-32. https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/ReferencesPapers.aspx?ReferenceID=1394844.

Cabrera, A. F., Crissman, J. L., Bernal, E. M., Nora, A., Terenzini, P. T., & Pascarella, E. T. (2002). Collaborative learning: Its impact on college students' development and diversity. *Journal of College Student Development*, *43*(1), 20-34. https://eric.ed.gov/?id=EJ642665.

Chaplin, J. P. (2001). *Kamus lengkap psikologis*. [Complete psychological dictionary]. Jakarta: Grafika Persada.

Caulfield, S. L., & Caroline, H. P. (2006). Teaching social science reasoning and quantitative literacy: The role of collaborative groups. *Teaching Sociology*, *34*(1), 39-53. doi:10.1177/0092055X0603400104.

Creswell, J. W. (2010). *Research design: Pendekatan kualitatif, kuantitatif, dan mixed.* [Research design: Qualitative, quantitative and mixed approaches]. Yogyakarta: Pustaka Pelajar.

Davidson, N., & Major, C. H. (2014). Boundary crossings: Cooperative learning, collaborative learning, and problem-based learning. *Journal on Excellence in College Teaching*, *25*(3&4), 7-55. http// http://northweststate.edu/wp-content/uploads/files/BoundaryCrossings.pdf.

Dewantara, K. H. (1977). *Bagian pertama: Pendidikan*. [First part: Education]. Yogyakarta: Majelis Luhur Persatuan Taman Siswa.

Eymur, G., & Geban, Ö. (2016). The collaboration of cooperative learning and conceptual change: Enhancing the students' understanding of chemical bonding concepts. *International Journal of Science and Mathematics Education*, *15*(5), 853-871. doi:10.1007/s10763-016-9716-z.

Farrell, B., & Farrell, H. (2008). Student satisfaction with co-operative learning in an accounting curriculum. *Journal of University Teaching and Learning Practice*, *5*(2), 39-54. https://ro.uow.edu.au/jutlp/vol5/iss2/4.

Gandawijaya, L. E. (2017). *Hubungan antara kontrol diri dan agresi elektronik pada pengguna media sosial di masa transisi menuju dewasa*. [The correlation between self-control and electronic aggression on social media users in emerging adulthood] (Undergraduate Thesis, Sanata Dharma University).

Güvenç, H. (2010). The Effects of cooperative learning and learning journals on teacher candidates' self-regulated learning. *Educational Sciences: Theory and Practice*, *10*(3), 1477-1487. https://eric.

ed.gov/?id=EJ919859.

Hossain, M. A., Tarmizi, R. A., & Ayub, A. F. M. (2012). Collaborative and cooperative learning in Malaysian mathematics education. *Journal on Mathematics Education*, *3*(2), 103-114. doi:10.22342/jme.3.2.569.103-114.

Kalyuga, S. & Liu, T. C. (2015). Guest editorial: Managing cognitive load in technology-based learning environments. *Educational Technology & Society*, *18*(4), 1-8. https://www.jstor.org/stable/jeductechsoci.18.4.1.

Lee, L. (2008). Focus-on-form through collaborative scaffolding in expert-to-novice online interaction. *Language Learning & Technology*, *12*(3), 53-72. doi:10125/44155.

Nur, M. (2011). *Model pembelajaran kooperatif.* [Cooperative learning model]. Surabaya: Pusat Sains dan Matematika Unesa.

Nurgiyantoro, B., & Efendi, A. (2013). Prioritas penentuan nilai pendidikan karakter dalam pembelajaran sastra remaja. [Determining the priority of the character education values in adolescent literature teaching]. *Cakrawala Pendidikan*, *3*(3), 382-393. doi:10.21831/cp.v3i3.1626.

Nyikos, M., & Hashimoto, R. (1997). Constructivist theory applied to collaborative learning in teacher education: In search of ZPD. *The Modern Language Journal*, *81*(4), 506-517. doi:10.1111/j.1540-4781.1997.tb05518.x.

Premo, J., Cavagnetto, A., Davis, W. B., & Brickman, P. (2018). Promoting collaborative classrooms: the impacts of interdependent cooperative learning on undergraduate interactions and achievement. *CBE—Life Sciences Education*, *17*(ar32, , Summe), 1-16. doi:10.1187/cbe.17-08-0176.

Rao, S. P., Collins, H. L., & DiCarlo, S. E. (2002). Collaborative testing enhances student learning. *Advances in Physiology Education*, *26*(1), 37-41. doi:10.1152/advan.00032.2001.

Park, S. (2015). The Effects of social cue principles on cognitive load, situational interest, motivation, and achievement in pedagogical agent multimedia learning. *Educational Technology & Society*, *18*(4), 211-229. https://www.jstor.org/stable/jeductechsoci.18.4.211.

Ravenscroft, S. P., Buckless, F. A., & Hassall, T. (1999). Cooperative learning: A literature guide. *Accounting Education*, *8*(2), 163-176. doi:10.1080/096392899330991.

Redes, A. (2016). Collaborative learning and teaching in practice. *Educaţia Plus*, *16*(2), 334-345. https://www.uav.ro/jour/index.php/jpe/article/view/750.

Pelaez, N., Anderson, T. R., Gardner, S. M., Yin, Y., Abraham, J. K., … & Stevens, M. T. (2018). A Community-building framework for collaborative research coordination across the education and biology research disciplines. *CBE – Life Sciences Education*, *17*(2), 1-10. doi:10.1187/cbe.17-04-0060.

Resta, P., & Laferrière, T. (2007). Technology in support of collaborative learning. *Educational Psychology Review*, *19*(1), 65-83. doi:10.1007/s10648-007-9042-7.

Richey, R. (1986). *Theoretical and conceptual bases of instructional design*. New York, NY: Nichols publishing company.

Rosenbaum, M. (1980). A schedule for assessing self-control behaviors: Peliminary findings. *Behavior Therapy*, *11*(1), 109-121. doi:10.1016/S0005-7894(80)80040-2.

Rotter, J. B. (1990). Internal versus external control of reinforcement: A case hosti. *American Psychologist*, *45*(4), 489-493. doi:10.1037/0003-066X.45.4.489.

Rohadi, T. (2019). A Multi-Level collaborative and cooperative writing class in inducing character building: A model of an integration between teaching writing and character education. *English Journal*

Literacy Utama, *3*(1), 9-17. doi:10.33197/ejlutama.vol3.iss1.2019.35.

Rusman, D. (2012). *Model-model pembelajaran*. [Learning models]. Jakarta: Raja Grafindo Persada.

Sasmoko, E. (2005). *Metode penelitian pengukuran dan analisis data*. [Measurement research methods and data analysis]. Tangerang: HITS.

Sawyer, J., & Obeid, R. (2017). Cooperative and collaborative learning: Getting the best of both words. In R. Obeid, A. Schwartz, C. Shane-Simpson, & P. J. Brooks (Eds.). *How we teach now: the GSTA guide to student-centered teaching*. Washington, DC: Society of the Teaching of Psychology, pp.163-177.

Schnittka, J., & Schnittka, C. (2016). ''Can I drop it this time?'' Gender and collaborative group dynamics in an engineering design-based afterschool program. *Journal of Pre-College Engineering Education Research (J-PEER), 6*(2), 1-10. doi:10.7771/2157-9288.1120.

Setiaji, B. (2004). *Panduan riset dengan pendekatan kuantitatif*. [A research guide with a quantitative approach]. Surakarta: Program Pascasarjana UMS.

Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research*, *3*(7), 749-752. http://www.allresearchjournal.com/archives/?year=2017&vol=3&issue=7&part=K&ArticleId=4130.

Simonton, D. K. (2003). Scientific creativity as constrained stochastic behavior: The integration of product, person, and process perspective. *Psychological Buletin*, *129*(4), 475-494. doi:10.1037/0033-2909.129.4.475.

Slavin, R. E. (2010). Co-operative learning: what makes group-work work. In H. Dumont, D. Istance, & F. Benavides (Eds.). *The nature of learning: Using research to inspire practice*. French: OECD Publishing, pp. 161-178. doi:10.1787/9789264086487-9-en.

Springer, L., Stanne, M. E., & Donovan, S. S. (1999). Effects of small-group learning on undergraduates in science, mathematics, engineering, and technology: A meta-analysis. *Review of Educational Research*, *69*(1), 21-51. doi:10.3102/00346543069001021.

Sugiman, S., Retnowati, E., Ayres, P., & Murdanu, M. (2019) Learning Goal-Free problems: Collaborative or individually? *Cakrawala Pendidikan*, *38*(3), 590-600, doi:10.21831/cp.v38i3.26914.

Suyanto, P. D. (2010). *Model pembinaan pendidikan karakter di lingkungan sekolah*. [Model of fostering character education in the school environment]. Jakarta: Dirjen Dikdasmen Direktorat Pendidikan Dasar dan Menegah Kementerian Pendidikan Nasional.

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*(2), 271-324. doi:10.1111/j.0022-3506.2004.00263.x.

Uno, H. B. (2007). *Model pembelajaran menciptakan proses belajar mengajar yang kreatif dan efektif.* [The learning model creates a creative and effective teaching and learning process]. Jakarta: Bumi Aksara.

Warsito, R. & Teguh, S. (2018). Implementasi nilai-nilai luhur ajaran Ki Hajar Dewantara dalam perkuliahan pendidikan Pancasila untuk mengembangkan karakter mahasiswa. [Implementation of the noble values of Ki Hajar Dewantara's teachings in Pancasila education lectures to develop student character]. *Jurnal PKn Progresif*, *13*(1), 1-22. doi:10.20961/pknp.v13i1.22448.

Webb, N. M., Troper, J. D., & Fall, R. (1995). Constructive activity and learning in collaborative small groups. *Journal of Educational Psychology*, *87*(3), 406-423. doi:10.1037/0022-0663.87.3.406.

Yamarik, S. (2007). Does cooperative learning improve student learning outcomes? *Journal of Economic Education*, *38*(3), 259-277. doi:10.3200/JECE.38.3.259-277.

Yamin, M., & Ansari, B. I. (2008). *Taktik mengembangkan kemampuan individual siswa*. [Tactics to develop individual abilities of students]. Jakarta: Gaung Persada Pers.

York, T. T., Gibson, C. G., & Rankin, S. (2015). Defining and measuring academic success. *Practical assessment, research, and evaluation*, *20*(5), 1-20. doi:10.7275/hz5x-tx03.