Effect of Participatory Learning Model on Functional Literacy Education

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Abstract

Participatory learning model in functional literacy education attempts to involve learners completely to contribute and to participate actively in any stages of learning activity. This research aimed to apply participatory learning model and to find out the effect of participatory learning application on functional literacy education in rural community learners. This study was a research and development by producing a participatory learning model product applied to motivate the learners in rural community learning group of Semarang Regency. The design used in developing the model product was ADDIE model. Learning model trial was carried out using experimental research with pretest-posttest control group design. The participants of research involved 2 learning group with 35 learners in experiment group and 30 learners in control group. The result of trial was analyzed using statistic t-test. The result of research showed that (1) the application of participatory learning model could grow active participation and learner independency by utilizing their self-potency and environment, 2) Participatory learning affected positively the improvement of learners’ learning motivation with the mean score difference between pretest and posttest of 12.95 experiment group higher than 4.76 control group, and the learning outcome of learners improved with the mean score difference between pretest and posttest of 0.59 experiment group higher than 0.3 control group. The application of participatory learning model was made the literacy acceleration process by involving the learners in functional literacy education as the attempt of empowering the rural community. The implications of the participatory learning model on functional literacy education can increase the active participation of the learning community, the motivation of learning, and the competence of the learning community. The implications for this participant learning model tutor can increase the creativity and innovation in teaching the learners of functional literacy education in rural communities.
INTRODUCTION

Illiteracy is a fundamental issue of poverty and community helplessness as one trigger of education untouchability. Education for All (EFA) strengthens and spurs developing countries to act on and to attempt to keep their commitment to give every member of society the opportunity of long life learning (Kemendikbud, 2010: 67). An attempt of dealing with illiteracy is to organize literacy education. This program is considered as strategic campaigned comprehensively through implementing the functional literacy education as the literacy acceleration.

Illiterate rural members of community work as small farmers, laborers, sailors, and are the poor with very low income or earning level. The illiterate rural people are left behind in the term of knowledge, skill, and mentality against reformation and development. Because of the low knowledge, they are left behind in obtaining access to important information and communication to open the world’s life horizon they should acquire due to illiteracy. In rural people, illiteracy problem should get serious attention because it is one determinants of community development level, measured from its population’s literacy level (Papen, 2005).

The more rapid and complex development of rural community in Indonesia requires the community’s commitment to ongoing learning, following and anticipating development evolution. By residence, rural populations have higher illiteracy proportion. This condition is consistent for all age groups. From age group perspective, the group with highest illiteracy level is the 25-year and above one. Rural women aged 25 years and above are the population component with high illiteracy rate (Kemendikbud, 2010). Ziegler and Davis (2008) describe the illiteracy condition of rural people in the community context. Economic condition, education opportunity, and resource of rural community are left behind that of urban community. To deal with such the conditions, there should be a sustainable learning opportunity as the community development strategy. Sumardi’s (2009) study found that the literacy learners need the learning method involving them corresponding to daily activity and material that can be used in their work and life.

Data of national socio-economic survey 2013 shows that in Semarang Regency the illiteracy rate is 9.55% for populations aged 15 year and above. This high illiteracy rate for the 15-year age group is affected by the 45-49 year group. The proportion of illiterate populations for the 45-49 year group is 7.78% (BPS of Central Java, 2015: 10). Semarang is one of regencies in Central Java with adult illiterate number of 174,025 people. Illiteracy occurring in Semarang is dealt with by various learning groups organized by Sanggar Kegiatan Belajar (Learning Activity Study), Pusat Kegiatan Belajar Masyarakat (Community Learning Activity Center), Majelis Taklim, and Taman Bacaan Masyarakat (Community Reading Center).

Suryadi (2006) found that tutor as a teacher in literacy education has very limited literacy learning ability. Knowledge and skill the learners want have not utilized natural potency, local culture and environment to improve their ability. Kuntoro (2007) stated that the implementation of illiterate eradication in adult literacy education still have some weaknesses in academic and methodological aspects. Learning activity in adult education is conducted using inappropriate approach. Arbarini (2013) suggested that adult literacy education in rural community in Semarang uses school children learning model applied by tutor in adult literacy education in rural community. Didactic-pedagogic technique is still used widely so that the learners are treated like children not having participation in solving the life problem. The findings of studies above indicate that literacy education learning organized so far has not involved yet the learners actively for maximal communication and interaction process so that the learners’ literacy competency is still low.

An innovative learning model is required considering the preexisting learning
model. Participatory learning model in learning is used effectively not only to improve learning motivation but also to develop learning attitude and achievement (Duze; 2010, Mundir; 2011, Arbarini; 2013). Furthermore, Yuliadi (2009) found that the development of participatory learning model in functional skill training affects positively the learning effectiveness measured from objective achievement, participant activeness, and knowledge, attitude, and skill improvements. Kim (2011) concluded that the application of Participatory learning process in community empowerment showed that more than 80% out of 95 participants respond positively to the participatory learning application. Recalling the importance of participatory learning model application, bottom-up approach concept is also developed. For that reason, learning media and material developed in literacy always refers to local design and local context. It, in addition to bringing about individual behavior, can also bring about mutual action to meet the demand of living within society. Chambers (1987: 108) called it rural community’s knowledge emphasizing on the community-owned knowledge rarely poured into writing.

The development of participatory learning is designed corresponding to the need for functional literacy education learning for rural community. The Participatory learning design gives the learners the opportunity of searching for, processing, finding themselves the knowledge in order to develop their basic skill. Participatory learning in functional literacy education program is designed to help the learners acquire reading, writing, speaking, listening, and counting abilities by synergizing local potencies and resources in learner environment, to improve learning motivation and learning competence.

METHODS

This research employed Gall, Gall, and Borg’s (2007: 560) research and development approach. This approach was selected considering that this study was intended to produce a participatory learning model product in learners’ literacy education in rural community learning group. The research procedure was simply divided into three stages: preliminary study, model development, and model trial. Model development design used to prepare this Participatory learning model prototype is ADDIE model consisting of 5 stages: analysis, design, development, implementation, and evaluation. This analysis stage is the process of defining what to be learnt by learners through need analysis, identifying problem and need, and conducting task analysis. Design stage started with determining learning objective, and then determining learning strategy, learning media, and supporting and relevant learning sources. Development stage is the process of realizing blue-print. Implementation stage is the real measure to apply the learning developed. Evaluation stage occurs in every four stages before by conducting formative evaluation for revision requirement. Evaluation on Participatory learning model aims to find out the change of learning motivation and learning outcome competency of learners in learning implementation. This ADDIE is the guidelines in building learning set and program infrastructure that an effective, dynamic, and supporting this Participatory learning performance. Learning model prototype was then verified by involving experts, practitioners and author.

The subject of research consisted of organizers, tutors and learners in literacy education for rural community in Semarang Regency. This experimental research (Sugiyono, 2012; 98) was conducted with learners in literacy learning group that were 25-55 years old, have passed successfully the basic literacy education and continue to intermediate literacy education. Sample technique uses purposive sampling. There were 2 learning groups in literacy education in Semarang Regency becoming the subject of research. Each learning group consisted of 65 learners, 4 tutors, and 4 organizers. Focus group discussion activity consisted of non-
formal education experts, linguists and literacy practitioners aiming to verify the participatory learning model applied.

Instrument and technique of collecting data used were: interview guideline instrument, observation, and documentation. The data collection was carried out through studying result of interview, observation, and documentation descriptively and qualitatively. The data obtained through interview guideline instrument, observation, and documentation aims to obtain maximum and complete description and result.

Data analysis of exploratory study started with data collection process encompassing data reduction, data display, and ended conclusion drawing. Considering the result of theoretical study and field data analysis conducted descriptively and qualitatively, the procedures of participatory learning model of literacy education were described. The participatory learning model was trialed using experiment to find out its effectiveness. Technique of analyzing data to find out the difference of learners' motivation and learning outcome before and after treatment using T-test, with the precondition that all data normality and homogeneity assumption tests were fulfilled. Data computation was carried out to calculate normality, homogeneity and t-test using SPSS program for Windows version 20.

RESULTS AND DISCUSSION

This analysis stage is the process of defining what to be learnt by learners through need analysis, identifying problem and need, and conducting task analysis. Design stage started with determining learning objective, and then determining learning strategy, learning media, and supporting and relevant learning sources. Development stage is the process of realizing blue-print. Implementation stage is the real measure to apply the learning developed. In the last stage, evaluation occurs in every four stages by conducting formative evaluation for revision requirement. Evaluation stage can occur in the four stages passed through before.

This participatory learning model is a series of events in learning process involving the learners to contribute actively to learning activity from planning, implementation, and assessment. This participatory learning model in literacy education of rural community has the following characteristics: 1) tutor serves as the one not knowing all learning materials, 2) tutor helps the learning conducting learning activity and motivates the learners, 3) tutor puts him/herself equally to the learners and learns from each other with the learners, 4) tutor serves to help learners create conducive situation to learn, 5) tutor develops learning activity in group, pays attention to individual interest, and helps learners optimize their response to stimulus, 6) tutor encourages learners to improve their achievement motivation, and 7) tutor encourages the learners to develop their problem solving ability. The learners’ role in Participatory learning is realized into very dominant activeness and participation of learners in Participatory learning.

The application of participatory learning in functional literacy education includes 6 stages. 1) Building intimacy. This stage is applied with learners to be conditioned to know each other to grow intimacy between fellow learners and between learners and tutor. 2) Identifying need, source and potential constraint, by motivating learners to articulate their learning need. 3) Formulating the learning objective. Learning objective is organized and formulated together by learners with tutor help based on learner need, available source and potential constraint. 4) Organizing learning activity program, characterized with learners’ participation in managing learning activity. The participation of learners is related to their task and responsibility in organizing learning program. 5) Implementing learning activity. 6) Assessing process, result, and effect of learning activity. This stage is characterized with the learners’ participation in assessing participatory learning program activity. The
role of learners in participatory learning is realized into their very dominant activeness and participation in participatory learning. The learners involved in learning process should understand the learning objective to be achieved corresponding to the need in their relationship with problem solving encountered in order to adjust themselves with their environment.

This participatory learning effect can be seen from the data of experimental research related to the effectiveness of Participatory learning application in functional literacy education to improve the learners’ learning motivation. The data analyzed using Paired Sample T-Test method to find out whether or not there is a difference of learning motivation in control group before and after learning process is presented in Table 1.

<table>
<thead>
<tr>
<th>Table 1. Learning Motivation of Learners in Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paired Differences</td>
</tr>
<tr>
<td>Motivation Pretest</td>
</tr>
</tbody>
</table>

Table 1. shows the difference of mean score of 4.77 for learning motivation of control group between pretest and posttest. T-test (T statistic) score of -3.047 with statistic significance of 0.005 is obtained as well. It can be found that \( t \) statistic = -3.047 < -t table = -2.045, so \( H_0 \) is not supported. Similarly, the statistic significance is 0.005 < 0.05, so \( H_0 \) is not supported. It means that there is a difference of learning motivation in the learners of control group before and after literacy learning.

Final results of learning motivation is higher compared to the initial condition before functional literacy learning takes place. Overall, learning motivation gain score as much as pretest=87.57 < post test=92.33. Average score learning participants in control group from respective learning motivation, that is attention aspect, gain average score of pretest=3.19 < post test 3.39. It means that learning motivation in attention aspect after learning is higher than before. Relevant aspect, confidence, and satisfaction. Learning motivation from relevant aspect gain average score of pretest=3.18 < post test=3.25. Confidence aspect gain average score of pretest=3.04 < post test=3.22. Satisfaction aspect gain average score of pretest=3.12 < post test=3.31. So, learning motivation of the learning participants of control group from the four aspect have higher end motivation compared to the initial motivation, so it can be stated that in average, learning motivation of control group learners after functional literacy learning is higher than before.

The result of analysis conducted using Paired Sample T-Test method to find out whether or not there is a difference of learning motivation in experiment group before and after learning process is presented in table 2.
Table 2. Learning Motivation of Learners in Experiment Group

<table>
<thead>
<tr>
<th>Paired Samples Test</th>
<th>Paired Differences</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Deviation</td>
<td>Mean</td>
<td>Error95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Deviation</td>
<td>Mean</td>
<td>Lower</td>
</tr>
<tr>
<td>MotEksPretest</td>
<td>-12.94286</td>
<td>6.78642</td>
<td>1.14711</td>
<td>-15.27407</td>
</tr>
</tbody>
</table>

Table 2. shows the difference of mean score of 12.94 for learning motivation of experiment group between pretest and posttest. T-test (T statistic) score of -11.283 with statistic significance of 0.000 is obtained as well. It can be found that \( t = \frac{-11.283}{-2.032} < -t \) table = -2.032, so H0 is not supported. Similarly, the statistic significance is 0.005 < 0.05, so H0 is not supported. It means that there is a difference of learning motivation in the learners of experiment group before and after literacy learning.

End result of learning motivation of experiment group is higher than initial condition before functional literacy learning with score as much as pretest=86.71 < post test=99.66. Average score learning participants of experiment group from respective learning motivation aspect, that are, attention, relevance, confidence, and satisfaction. Attention aspect gain average score as much as pretest=3.19 < post test=3.51. That means, learning motivation attention of learning participants after learning is higher than before. Learning motivation from relevant aspect gain average score as much as pretest=3.10 < post test=3.62. Confidence aspect gain average score as much as pretest=2.99 < post test=3.54. And satisfaction aspect gain average score as much as pretest=3.09 < post test=3.59. So it can be stated that learning motivation of learning participants of experiment group from all aspect of final learning motivation is higher than initial motivation. It can be said that the average learning motivation of learning participants of experiment group after functional literacy learning is higher than before.

Data of research related to the effect of Participatory learning on functional literacy education in growing learning motivation is summarized in table 3.

Table 3. Learning Motivation of Learners

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Pretest</th>
<th>Mean Posttest</th>
<th>Mean difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>30</td>
<td>87.57</td>
<td>92.33</td>
<td>4.76</td>
</tr>
<tr>
<td>Experiment</td>
<td>35</td>
<td>86.71</td>
<td>99.66</td>
<td>12.95</td>
</tr>
<tr>
<td>MEAN</td>
<td>87.14</td>
<td>95.99</td>
<td>8.85</td>
<td></td>
</tr>
</tbody>
</table>

Learning motivation in control group has score of 87.57 in pretest and 92.33 in posttest. Meanwhile in experiment group it is 86.71 in pretest and 99.66 in posttest. The mean score difference of pretest and posttest is 12.95 in experiment group higher than that in control group (4.76). It means that the improvement of learning motivation occurs in experiment group is higher than that in control group. Therefore, participatory learning model in functional literacy education can improve learning motivation.

The effect of participatory learning can be seen from the data of experiment result related to the effectiveness of participatory learning application in functional literacy education to improve the learning outcome of learners. The result of analysis using Paired Sample T-Test to find out whether or not there is a difference of learning outcome in control group before and after learning process is presented in table 4.
Table 4. Learning Outcome of Learners in Control Group

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td>Learning outcome of Pretest</td>
<td>Learning outcome of Posttest</td>
<td>.30000</td>
<td>.11142</td>
</tr>
</tbody>
</table>

Table 4. shows the difference of mean score of 0.3 for learning outcome of control group between pretest and posttest. T-test (T statistic) score of 14.748 with statistics significance of 0.000 is obtained as well. It can be found that t statistic = 14.748 < t table = 2.045, so H0 is not supported. Similarly, the statistics significance is 0.000 < 0.05, so H0 is not supported. It means that there is a difference of learning outcome in the learners of control group before and after literacy learning.

It can also be seen from the analysis using Paired Sample T-Test conducted to find out whether or not there is a difference of learning outcome in experiment group before and after learning process as shown in table 5.

Table 5. Learning Outcome of Learners in Experiment Group

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error</td>
<td>95% Confidence Interval of the Difference</td>
</tr>
<tr>
<td>Learning outcome of Pretest</td>
<td>Learning outcome of Posttest</td>
<td>.59143</td>
<td>.11472</td>
</tr>
</tbody>
</table>

Table 6. Learning Outcome of Learners

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Pretest</th>
<th>Mean Posttest</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>30</td>
<td>6.98</td>
<td>7.28</td>
<td>0.3</td>
</tr>
<tr>
<td>Experiment</td>
<td>35</td>
<td>7.25</td>
<td>7.84</td>
<td>0.59</td>
</tr>
<tr>
<td>MEAN</td>
<td></td>
<td>7.12</td>
<td>7.56</td>
<td>0.45</td>
</tr>
</tbody>
</table>
Table 6 shows the difference of mean score between pretest and posttest in control and experiment groups. Control group has the mean score of 6.98 in pretest and 7.28 in posttest. Experiment group as mean score of 7.25 in pretest and 7.84 in posttest. From those data, it can be seen that the difference of mean score between pretest and posttest is 0.59 in experiment higher than that that in control group (0.3). It can be said that the improvement of learning outcome occurring in experiment group is higher than that in control group. From the treatment, it can be concluded that the Participatory learning improves both learning motivation and learning outcome.

Based on the finding results, it can be stated that high motivation learning able to encourage learners to learn consistently and persistently. Consistent means to learn steadily in accordance with the arranged learning schedule. Persistent means durability in learning, not easy to be bored in learning. Furthermore, it can be said that learning result is a competence of the participants, as knowledge, skill as well as attitude after participating in learning process.

Learning results are gained through assessment activity that can be used to see the level of success that is done by learners and tutors. If the learning results gained by the learners haven’t been met required target achievement, then, it can be said that learning process hasn’t succeeded so it should be identified which problem prohibiting the learning process. The development of participative learning model in enhancing learning results of learning participants deemed successful if in its application includes the following indicators: (1) criteria in learning process if the content of this learning model could be understood, accepted, and applied by learning participants, tutors, and functional literacy learning organizer, (2) learning participants and tutors in learning process feel conducive situation, nice atmosphere, appreciate each other and having strong desire in learning and teaching, (3) learning participants feel that learning materials are suitable with the need of learning participants so they see that by participating in this learning process they can get benefits and this will be useful for their future life, (4) learning participants actively participating in learning process and feel comfortable to stay steadily in the learning room because of their learning activity.

Learning results criteria cover: 1) learning participants reach a score according to required standard of literacy competence, 2) learning participants experience knowledge enhancement, attitude, and skill compared to the last situation. The end goal of participative learning as suggested by Knowles are: 1) awareness of their rights and responsibilities as citizens, 2) being informed about the social and political world, 3) being concerned about the welfare of others, 4) being able to articulate their opinions and arguments, 5) raising the relevance of participation to the families’ own lives, 6) being active in their communities, 7) being responsible in how they act as citizens.

Learning model is a conceptual framework to design and to implement learning, to organize learning experience to achieve the objective or competency, and as a guideline in learning process depicting a systematic procedure. It is confirmed by Sudjana (2005;113) stating that learning model aims to help students learn basic skill and knowledge that can teach the procedure of learning. For that reasons, learning model refers to the approach to be used including learning objectives, procedure of learning activity, and learning environment. The involvement of learners in participatory learning is realized into the learners’ activeness and participation in learning in 6 stages: building intimacy, identifying need, formulating learning objective, organizing learning activity program, implementing learning activity, and assessing process and product.

The efficacy of participatory learning model in improving learning motivation and learning outcome supported with previous studies finding that participatory learning
model in adult learning is used effectively not only to improve learning motivation but also to develop learning attitude and achievement (Sudjana;2003, Ajiboye; 2008, Duze;2010, Mundir; 2011, Arbarini; 2013). In addition, Missingham (2013) also found that participatory learning approach is implemented through cooperation, sharing and involvement in understanding theory and knowledge with problem-based approach supporting critical and creative thinking in participative perspective for social change.

The participatory learning activity process is learner-centered. Learning activity is conducted based on and adjusted with life background of learners. In addition, participatory learning uses experiential learning leading the learning activity to be organized and to be implemented starting with the material the learners master and posses. Participatory learning model in functional literacy in Semarang regency is characterized with tutors and learners having different but closely related roles in learning process. Tutor as the organizer learning process serves as motivator, facilitator, and partner in learning process. In addition, tutor should create conducive learning climate, feeling of cooperation in group and responsibility to conduct a variety of learning activities.

The effectiveness of participatory learning model can be seen from the experiment data showing that the mean score difference of learning motivation between pretest and posttest in experiment group is 12.95 higher than that in control group4.76. It indicates the efficacy of participatory learning model in improving learning motivation. In addition to learning motivation, participatory learning model can also improve the learning outcome. It can be seen from the mean score difference of control and experiment group in pretest and posttest. Control group has mean score of 6.98 (pretest) and 7.28 (posttest). Experiment group has mean score of 7.25 (pretest) and 7.84 (posttest).

From the data, it can be seen that the mean score difference of pretest and test in experiment group is (0.59) higher than that in control group (0.3). This result is supported with Yuliadi’s (2009) study finding that the development of Participatory learning model in functional skill training has a positive effect on learning effectiveness measured from objective achievement, participant activeness, and knowledge, attitude and skill improvements. Kim (2011) also concludes that the result of participatory learning process application in community empowerment shows that 80% of 95 participants respond positively to the application of participatory learning. Recalling the importance of participatory learning model application, bottom-up approach concept is also developed. For that reason, learning media and material developed in literacy always refers to local design and local context. It, in addition to bringing about individual behavior, can also bring about mutual action to meet the demand of living within society.

The efficacy of participatory learning model in functional literacy education is in line with Wen Ma’s (2008) study finding that participatory learning approach is used to improve the students’ ability in learning literacy competency aiming to understand text and to obtain academic knowledge. This research is confirmed by George’s (2011) study describing how to encourage the generic skill in workplace through participatory learning strategy with learner-centered approach with participatory learning strategy to improve the learners’ skill started with exploring authentic experience.

CONCLUSION

Participatory learning model is applied in functional literacy education in Semarang regency by involving the learners completely, as realized into three stages of learning activity: planning program, implementing, and assessing the learning activity. This development of participatory learning model employed ADDIE model based on the learning need, oriented to learning activity objective, learner-centered, and departing from learning experience as the basis of
learning. The involvement of learners in participatory learning is realized into the learners’ very dominant activeness and participation in learning in 6 stages: building intimacy, identifying need, formulating learning objective, organizing learning activity program, implementing learning activity, and assessing process and result.

The effect of participatory learning model could improve the learners’ learning motivation in functional literacy education. This finding is based on the data showing that the mean score difference of learning motivation in pretest and posttest is 12.95 for experiment group and 4.76 for control group. Learning motivation is expected to be basic motivation encouraging the learners to implement learning to achieve certain objective as the change of learners’ behavior based on experience obtained. In addition to learning motivation, participatory learning model can improve the learning outcome. It can be seen from the difference of mean score between control and experiment groups in both pretest and posttest. Control group has mean score of 6.98 in pretest and 7.28 in posttest. Experiment group has mean score of 7.25 (pretest) and 7.84 (posttest). From the data, it can be seen that the mean score difference of pretest and test in experiment group is (0.59) higher than that in control group (0.3). The improvement of learning motivation and outcome is expected to be the process of accelerating literacy as the process of empowering the rural community.

REFERENCES


