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Learning Innovation at PTAI (Analysis of Needs for Implementing Learning Models*Research-based Learning*)

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Abstract:

Being a university that implements research-based education is one of the missions of Islamic Religious Education study program at PTAI East Kalimantan. It will be difficult to realize if students have lack abilities to do research. This study aims to analyze the importance of learning inovations by applying research-based learning and student characteristic of PAI study program by qualitative method. The results showed that implementation of learning in Islamic Religious Education study program at PTAI did not support the improvement of student research abilities, so it needed to be supported through learning innovations that were integrated research activities in the form development and application of research-based learning that was adjusted to the characteristics of the learners were millennial and part-time students.

Keywords: *research-based learning*, learning innovation, and Islamic Religious Education

1. BACKGROUND PROBLEM

The quality of the implementation of education in higher education can be seen from the implementation of the Tri Dharma of higher education, which consists of implementing education, research and community service. A quality higher education institution can also be measured by its ability to meet stakeholder needs, in the form of:*social need* (community needs);*industrial needs* (industrial needs); And*professional needs* (professional needs).[1] In addition, higher education institutions are currently also required to be competitive in terms of making higher education a research/research development center to become*research university*. So that both lecturers and students are required to carry out research until it is published in print or non-print form, such as in scientific journals, both nationally accredited and international publications.

As is known, every student in higher education will be required to compose a final project in the form of a thesis, thesis or dissertation, so the ability to carry out scientific research steps is very necessary. Based on the results of interviews with heads of Islamic Religious Education (PAI) study programs at three PTAIs in East Kalimantan regarding students' ability to carry out research, most of them are still confused in determining research problems, selecting research topics, and the research steps to be carried out. Even though material has been provided in Research Methodology courses and Scientific Writing Techniques (TPKI) courses as well as research workshops, it is felt that this is not enough to provide students with good research skills.[2]

The problems above are caused by learning that has not supported improving students' abilities in conducting research, especially in courses that are not related to research methodology. Learning in the PAI study program at these three PTAIs still uses monotonous learning models and methods, such as class presentations, discussions, lectures and assignments. The paper assignments are still not based

[1] Directorate General of Higher Education, HELTS 2003-2010: Education Development Policy

(Jakarta: Dikti, 2003), p. 34.

[2] Summary of Interview Results with Lecturers in the PAI Study Program at 3 PTAI in East Kalimantan,*Open Interview,*October-November 2018.

simple research from various references/sources and the papers produced are still collections of quotations.

Basically, students' ability to get used to carrying out research and writing down their research results scientifically needs to be supported by students' ability to think and behave scientifically so that they are able to carry out activities using scientific methods. Students' skills in carrying out research can be formed through a learning process that is integrated with research activities, not only in the Research Methodology course but also supported by learning activities in other courses. Learning that supports students' research skills in an effort to build a research culture in higher education, namely*problem-based learning, project-based learning, inquiry-based learning*, and*research-based learning*.[3] As for*research-based learning* characteristically and*syntax* offered has summarized three types of models or other learning approaches because*Research Based Learning* (read further: RBL) or Research Based Learning (PBR) is a learning model that combines the characteristics of research action with meaningful learning (*meaningful learning*), [4] by using*authentic learning, problem- solving, cooperative learning, contextual (hands on & minds on)*, and*inquiry discovery approach* which is based on the philosophy of constructivism.[5]

Combining research with learning requires using certain strategies in order to achieve the expected learning objectives. Griffith University developed RBL as described in the General Guidelines for Research-Based Learning (PUPBR) Gadjah Mada University in 2010, namely: (a) enriching teaching materials with the results of lecturers' research; (b) Using the latest research findings and tracing the history of the discovery of these latest developments; (c) enrich learning activities with contemporary research issues; (d) teaching research methodology material in the learning process; (e) enrich the learning process with small-scale research activities; (f) enrich

[3] Ahmad Nizar Rangkuti, "Research-Based Learning in Higher Education,"*Integration and Interconnection of Sciences "The Reflection of Islam Kaffah", Batusangkar International Conference I, 15-16 October 2016,* h. 148.

[4] Sigit Mangun Wardoyo,*Research Based Learning,*(Jakarta: Akademia, 2013), h. 28.

[5] Education Development Center, Quality Assurance Office, and UGM Research and Community Service Institute,*General Guidelines for Research-Based Learning (PUPBR),*(Yogyakarta: Gadjah Mada University, 2010), p. 8.

learning process by involving students in institutional research activities; (g) enrich the learning process by encouraging students to feel part of the research culture in the faculty/department; and (h) enrich the learning process with the values that researchers must have.[6]

Joyce and Weil illustrate many of the applications of learning models*Biological Science Inquiry Model* in Biology classes.[7]In several studies, research-based learning is implemented with learning activity steps (*syntax*), including Choeisuwana implementing five stages, namely problem identification (*problem identification)*, determining initial assumptions/assumptions (*assumption establishment),* data collection (*data collection),* data analysis and drawing conclusions (*data analysis and result conclusion*).[8] Meanwhile Sotaa & Peltzerb implemented nine (9) stages, namely:
1) identify the research topic (*Identifying research topic*); 2) determine the objectives and research questions (*objectives and research question*); 3) research tools in the form of data collection tools and intervention tools (*research tools both data collection tools and intervention tools*); 4) Application of theory (*theory applying*); 5) methodology and designresearch (*research methodology and design*); 6) data analysis (*data analysis*); 7) results and discussion (*results and discussion*); 8) recommendations (*recommendation*); 9) research strength (*strengthen of the research*).[9]

RBL has been widely applied in learning, especially in universities because it provides many benefits in improving the quality of learning. Choeisuwana's research results prove that research-based learning is useful in that: it can encourage students to work together (*teamwork/cooperation*); provide opportunities to participate in analytical thinking, and synthesizing exercises; Students can learn how to work systematically, thoroughly, and can share ideas and experiences among themselves.[10]

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[6] Education Development Center, Quality Assurance Office, and UGM Research and Community Service Institute,*General Guidelines*…, h. 4-6.

[7] See Bruce Joyce and Marsha Weil,*Models of Teaching,* (New Jersey: Prentice-Hall, Inc, 1986), h. 126-133.

[8] Vacharaporn Choeisuwana, "Effects of Research-Based Instruction in Health System Subject of

Nursing Students, The Royal Thai Navy College of Nursing," *Procedia: Social and Behavioral Sciences* 191, (2015): h. 950.

[9] Chulaporn Sotaa & Karl. Peltzerb, "The Effectiveness of Research Based Learning among Master degree Student for Health Promotion and Preventable Disease, Faculty of Public Health, Khon Kaen University, Thailand," *Procedia: Social and Behavioral Sciences* 237, (2017): h. 1361.

[10] Vacharaporn Choeisuwana, "Effects of Researches..., h. 951.

General guidelines for implementing UGM research-based learning state the benefits of implementing RBL, including: (a) developing and improving students' capabilities and competencies, namely general competencies such as critical thinking, analytics, evaluating information and problem solving, as well as competencies in carrying out and evaluating research; (b) increase students' learning motivation and have the opportunity to be active in the learning process related to the world of practice in the future; (c) Train students with disciplinary values, gain practical and ethical experience; (d) provide students with an understanding of the importance of disciplinary values for society.[11]

Several previous studies found that implementing RBL was successful in improving student learning outcomes,[12] improve students' higher level thinking skills,[13]and by implementing a research-based learning model, students can improve their skills in conducting research or research[14], some of them are even able to publish their research results in indexed journals*google scholar,* others are preparing research reports or theses.[15] In addition, there are also research results that show the application of RBL by using scientific journals as teaching materials.[16] Chulaporn Sotaa & Karl's research results. Peltzerb regarding the effectiveness of RBL proves thatall aspects of the Thai Qualifications framework for Higher Education (*Thai Qualification framework*/TQF) is at a high level. The learning skills in question include cognitive skills, knowledge skills, ethical skills, social skills, communication skills, arithmetic, using numbers and graphs. In fact, the results of this study recommend

[11] Education Development Center, Quality Assurance Office, and UGM Research and Community Service Institute,*General Guidelines*…, h. 7-8.

[12] Hironimus Tangi, "The Influence of Research-Based Learning Models on Chemistry Student Learning Outcomes",*Jipera*1, no. 1 (2016): h. 16-22, dan Vacharaporn Choeisuwana, "Effects of Research…, h. 948.

[13]Slameto, Nanik Sulistya Wardani, and Firosalia Kristin, "Development of a Research-Based Learning Model to Improve Higher Level Thinking Skills",*Proceedings of the National Scientific Work Concert*2 (2016): h. 213-228.

[14] Vacharaporn Choeisuwana, "Effects of Research..., h. 948-952.

[15] Rully Charitas Indra Prahmana, Yaya S. Kusumah, and Darhim, "Student Skills in Conducting Mathematics Education Research Through Research-Based Learning,"*Beta* 9, no. 1 (2016): h. 1-14.

[16] Arif Budi Pratama, "Scientific Journals as Research-Based Learning Materials in Undergraduate Public Administration Education,"*Jurnal Of Public Administration and Local Governance* 1, no. 1 (2017): h. 10-19.

apply the RBL method to other courses and classes.[17] Various previous research results confirm thatThe application of research-based learning has a positive effect on learning processes and outcomes, especially in higher education.

This research is intended as a development of RBL learning in courses*non-exact* because previous research mostly applied RBL to course*exact* like courses at the Faculty of Mathematics and Natural Sciences. In this research, RBL seeks to offer courses related to the science of Islamic religious education in the Islamic Religious Education study program at PTAI. It is hoped that RBL learning can become one of the innovations in learning to answer learning problems, especially in efforts to increase the ability of Islamic Religious Education (PAI) study program students in carrying out research steps to publication.

Offering RBL as a learning model to be developed and then applied to courses in the PAI study program at PTAI East Kalimantan, then first a preliminary study (needs analysis/*need assessment*) qualitatively to find out the reasons for the importance of implementing learning innovation through integrating research in learning and what the characteristics of learners in the PAI study program at three East Kalimantan PTAIs are.

2. RESEARCH METHODS

This research is a type of field research (*field research*) with a qualitative approach to determine the importance of implementing learning innovations and learner characteristics. Data was collected using observation techniques, questionnaires, interviews and documentation.

The collected data was then analyzed using qualitative data analysis, namely by triangulating the data that had been collected from observations, questionnaires, interviews and documentation.

[17] Chulaporn Sotaa & Charles. Peltzerb, "The Effectiveness of ..., p. 1359.

3. THE IMPORTANCE OF LEARNING INNOVATION BY APPLICATION*RESEARCH-BASED LEARNING*

Graduates from each faculty and study program at the Islamic Religious College (PTAI) are expected to function as: 1) prospective Islamic researchers who explore Islamic teachings and values and use them as a basis for developing their knowledge/expertise; 2) prospective Islamic da'wah developers according to their expertise by developing and improving Islamic da'wah orally or in writing or da'wah*bi al-hal*; and 3) a cadre of intellectual-professional ulama by integrating the personality of ulama with intellectual-academic/professionalism.[18]

The Islamic Religious Education (PAI) study program at the three PTAIs in East Kalimantan has more or less the same vision, namely to become a superior study program by producing professional graduates (PAI teachers) who are accompanied by noble morals. Apart from that, it also has a unidirectional mission in carrying out education and teaching, research, community service, as well as expanding cooperation networks in the development of Islamic education, but with the unique characteristics that exist in each PTAI. The mission of one of the PAI study programs at PTAI is to provide research-based undergraduate education, develop methodological abilities, expertise and skills, and instill Islamic moral values and entrepreneurial spirit.[19] Meanwhile, other PAI study programs have the mission of providing education and teaching with an Islamic character based on technology to adapt to the development of the surrounding community's needs for education, carrying out research and community service for the development and application of Islamic education, organizing and strengthening collaboration with various parties. as well as forming a cultural and Islamic academic environment.[20] Furthermore, the vision and mission of the study program become the basis and direction for implementing education in the PAI study program at each PTAI.

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[18] Muhaimin,*Development of the Islamic Religious Education Curriculum in Schools, Madrasas and Universities*(Jakarta: Rajawali Press, 2012), p. 244–245.

[19] Sangatta Islamic High School (STAI), East Kutai,*Tarbiyah Department Curriculum Structure,*2018, h. 1.

[20] Syamsul Ma'arif Bontang Tarbiyah Science College (STIT),*Video Documents Profile STIT*

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The implementation of education consisting of the preparation, implementation and evaluation of the curriculum in each study program including the PAI study program at PTAI East Kalimantan (even though the KKNI is still in the socialization stage) is expected to be in accordance with the national higher education standards stipulated in the Minister of Research, Technology and Higher Education Regulation No. 44 of 2015. The graduate competency standards set refer to the achievements of the Indonesian National Qualifications Framework (KKNI) covering four aspects of learning outcomes, namely knowledge, attitudes, general skills and special skills. Referring to the Learning Outcomes (CP) of graduates at the D-4/S-1 level, the learning content standards contained in the study materials for each course are expected to allow students to be able to master theoretical concepts in certain areas of knowledge and skills in general and theoretical concepts in specific areas of the field. knowledge and skills in depth.[21] Thus, the implementation of learning in each course at PTAI is expected to refer to learning content standards and learning process standards.

The implementation of learning in the study program is expected to be in accordance with the learning process standards which are formulated that the implementation of learning is expected to have interactive, holistic, integrative, scientific, contextual, thematic, effective, collaborative and student-centered characteristics. The learning process, which is an interaction between lecturers, students, resources and the learning environment, can use various forms of learning, namely lectures, responses and tutorials, seminars, practicums, community service and research. This form of learning is adapted using various varied learning methods including group discussions, simulations, case studies, collaborative, cooperative,*project-based learning*, *problem-based learning*, and so on.[22]

From the results of observations, interviews and questionnaires regarding the analysis of learning implementation in the PAI study program at three PTAIs in East Kalimantan, several problems were found that strengthened the need for learning innovation, in the form of implementing RBL. The implementation of learning in the PAI study program at PTAI mostly uses lecture models/methods, presentations and

group discussions. Meanwhile, the use of practical and learning models*inquiry* only applied to a small part

[21] Ministry of Research, Technology and Higher Education,*Minister of Research, Technology and Higher Education Regulation Number 44 of 2015 concerning National Higher Education Standards,*Jakarta: Research, Technology and Higher Education, 2016.

[22] Ministry of Research, Technology and Higher Education,*Ministerial Regulation….*

implementation of learning to assist students in the process of solving problems related to the material being studied. The implementation of this model also found problems in students' lack of ability to describe the results of their observations in the form of reports.[23]

The monotonous application of models, methods and strategies causes several problems related to giving assignments to students, including complaints from students regarding the large number of paper assignments they receive from each course, while some students also work during the day so that the papers they produce are far from standard. scientific. Apart from that, the ease of obtaining literature from the internet causes students to use shortcuts by copying papers published on certain websites and are reluctant to study from original sources or books and scientific articles.[24]

In connection with the problem of preparing student papers which are still considered not in accordance with scientific work standards, basically the PAI study program at the three PTAIs has attempted to help students in preparing good papers through training in writing scientific papers, the TPKI (Scientific Writing Techniques) course. , plus courses in quantitative and qualitative research methodology. Apart from that, most of the lecturers have also explained the correct techniques for preparing papers during lectures, but it turns out that this has not had enough influence in giving students experience in making good scientific work and this also has an impact on students' ability to write their theses. . Most students' thesis exam results are not in the good category, and students' theses have even been found to be the result of plagiarism, although several students from one of the PTAIs have managed to get an A on the thesis exam in the last year.[25]

Apart from that, the lecturers at one of the PTAI also try to train students mentally to compose good scientific work starting from preparing good papers, so some lecturers always ask students to

[23] Summary of Interview Results with Lecturers in the PAI Study Program at 3 PTAI in East Kalimantan,*Open Interview,*October-November 2018.

[24] Summary of Interview Results with Lecturers in the PAI Study Program at 3 PTAI in East Kalimantan,*Open Interview,*October-November 2018.

[25] Summary of Interview Results with the Chair of PTAI, Head of Department, and Chair of the PAI Study Program at 3 PTAI in East Kalimantan,*Open Interview,*October-November 2018.

revise the papers they prepare until the papers are prepared in accordance with scientific standards. Lecturers also implement a plagiarism checking system on students' papers and theses to overcome plagiarism, because many quotations are still found to be plagiarized (more than 75% of the contents of papers are still detected as plagiarized). This is caused by students' lack of ability to rephrase quoted sentences and a lack of understanding of scientific paper writing techniques.[26] However, similar efforts have not been implemented at other PTAIs.

The data above shows that there are several things that encourage the importance of offering innovation in the learning implementation process in the PAI study program at three PTAIs in East Kalimantan, namely**First**, the implementation of learning tends to use monotonous learning models and methods, namely lectures, class presentations and discussions (question and answer) which is caused by the condition of some lecturers who have minimal teaching experience in higher education, especially for new lecturers, only a small number of lecturers want to innovate in learning activities and lack of student motivation to learn, especially for non-regular students because most of the students are working students*part-time*); **second,**The results of preparing papers, both individually and in groups, are still far from the standard of scientific work, for example the papers produced are results*copy paste* from articles on the internet, not the results of literature review. Apart from that, papers written by students still have a high level of plagiarism due to students' lack of ability to restate quoted sentences coupled with not including a clear source of quotation;**third,**The ability to write papers also influences the preparation of final assignments (thesis), as shown by the results of most students' theses which do not meet the standards of good scientific work so that students' thesis exam scores rarely get good grades.

So it is indicated that the important thing that is urgently related to the implementation of learning in the PAI study program at PTAI East Kalimantan for which alternative solutions are immediately offered is the lack of innovation in learning and the lack of student ability in carrying out research procedures. This is proven by;**First,**the learning implementation process is lacking

[26] IM., Chair and Permanent Lecturer of STIT Syamsul Ma'arif Bontang,*Open Interview,*Bontang, 21 November 2018.

supports increasing students' ability to carry out simple research procedures using monotonous methods. Although basically this presentation and discussion learning method has led to the assignment of students to produce scientific work in the form of papers, the drawback is that this method makes it easier for students to carry out acts of plagiarism because it is easy to obtain sources from the internet and not from the results of literature studies. Apart from that, the discussion process also allows students to convey opinions that are not accompanied by scientific arguments;**second,**Insufficient monitoring by lecturers means that students' ability to write simple research reports has not improved, such as not all lecturers providing corrections to student papers for revision or checking for plagiarism.**third,**The results of scientific work in the form of papers do not yet show papers that comply with scientific work standards, such as writing and quoting techniques, sentence construction, lack of student analysis and argumentation on a concept being discussed, as well as the prevalence of plagiarism (*academic cheating*).

Increasing students' ability to carry out research procedures is not only through training and learning in courses related to research methods, but can also be done through implementing learning in almost all courses, namely through learning that is integrated with research procedures by implementing research-integrated learning, namely RBL.. According to Wenning, scientific work does not appear automatically but needs to go through a process of practice and scientific work is a mental process (*hands-on* and*minds on*). [27] Thus, it is also necessary to develop and apply learning models that are integrated with simple research procedures in non-exact subjects, including in the field of Islamic education. As previous research has proven the effectiveness of RBL in improving students' skills in conducting research,[28] and publish research results in scientific journals, and supports the ability to prepare research reports or theses.[29]

[27] Carl. J. Wenning, "Assessing Inquiry Skills as a component of Scientific Literacy," *Journal of Physics Teacher Education Online* 4, no. 2 (2007): h. 22.

[28] Vacharaporn Choeisuwana, "Effects of Research..., h. 948-952.
[29]Rully Charitas Indra Prahmana, Yaya S. Kusumah, and Darhim, "Student Skills..., h. 1-14.

Thus, it is expected that after developing the RBL model and applying it in the learning process in the PAI study program, there will be an increase in students' basic ability in conducting research procedures consisting of three main activities, namely, planning research, conducting research, and communicating research results/publications both within the scope of research on the final assignment as well as on research within the scope of the research community which has a wider scope.

In addition, the development of RBL is in shape*syntax* specifically for courses in the PAI study program, it is hoped that it can inspire teachers to carry out learning innovations and provide reference materials that are ready to be developed into learning plans (RPP). So it is easy to apply to other courses.

Syntax or RBL steps can be developed and applied from learning activities that have been implemented previously. Choeisuwana applies five (five) research-based learning stages in learning with the topic "Nutrition and Health", namely problem identification (*problem identification)*, determining initial assumptions/assumptions (*assumption establishment),* data collection (*data collection),* data analysis and drawing conclusions (*data analysis and result conclusion*).[30] Sotaa & Peltzerb in their research applied research-based learning for students in the course "Improving Health and Preventing Disease Transmission" with Nine
(9) stages, namely: 1) identification of research topics (*Identifying research topic*); 2) determine the objectives and research questions (*objectives and research question*); 3) research tools in the form of data collection tools and intervention tools (*research tools both data collection tools and intervention tools*); 4) Application of theory (*theory applying*); 5) research methodology and design (*research methodology and design*); 6) data analysis (*data analysis*); 7) results and discussion (*results and discussion*); 8) recommendations (*recommendation*); 9) research strength (*strengthen of the research*).[31] The learning activity steps applied in this research can be adopted and adapted to the characteristics of the courses and students in the PAI study program.

The development and implementation of RBL will help implement learning*student*

centered and in accordance with the learning process standards, namely

[30] Vacharaporn Choeisuwana, "Effects of Research..., h. 950.
[31] Chulaporn Sotaa & Karl. Peltzerb, "The Effectiveness of Research…, h. 1361.

implementation of learning that has interactive, holistic, integrative, scientific, contextual, thematic, effective, collaborative and student-centered characteristics. Besides that,*research-based learning* will help implement one of PTAI's missions, namely carrying out research-based undergraduate level learning. With research-based learning, the research abilities of lecturers and students will increase so that it will create a PTAI culture that becomes a center for research and science development (*research university*).

4. CHARACTERISTICS OF LEARNERS AT PTAI EAST KALIMANTAN

Planning for the implementation or development of a learning model requires knowing the characteristics of the learner as the subject and object of implementing a learning model.

The results of observations and interviews regarding students in the PAI study program at three East Kalimantan PTAIs show that the students at these PTAIs are predominantly workers. Most of them work from morning to afternoon or evening in various professions. For this reason, lecture activities are held at night (especially for non-regular students).[32] These conditions affect the learning process, the results of observations and interviews show that students' learning motivation is very low because they work*part-time*. [33] What's more, if the models and learning methods used are monotonous.

Based on these data, it can be concluded that there is a need to implement learning that involves students in active activities in class (*active learning*) which is student-centered (*student centered*). Apart from that, learning that is integrated with research activities will be able to support the connection between the world of work they live in and learning activities. As stated by Savery, RBL aims to give authority to students in conducting research and in integrating theory and practice.[34] Students can

[32] Summary of Observation Results and Interviews with the Chair of PTAI, Head of Department, and Chair of the PAI Study Program at 3 PTAI in East Kalimantan,*Open Interview,*October-November 2018.

[33] Summary of Observation Results and Interviews with the Chair of PTAI, Head of Department, and Chair of the PAI Study Program at 3 PTAI in East Kalimantan,*Open Interview,*October-November 2018.

[34] Savery dalam Ellen Bastiaens, Jonathan Van Tilburg, and Jeroen Van Merrienboer, eds., *Research-Based Learning: Case Studies from Maastricht University* (Switzerland: Springer, 2017), h. 30.

assigned to carry out research at their place of work while still adapting to the theme of the lecture material.

Learning by involving students in research in the form of an RBL model is also more in line with the characteristics of today's students (millennial generation), with increasingly rapid technological developments enabling them to obtain information from various sources quickly so that they will be directly involved and have full authority in carrying out activities. learning during the learning process (*learning by doing*) as had been promoted by John Dewey.

5. CLOSING

To go to PTAI which is the center for research development (*research university*) needs to be cultivated in carrying out research, not only for teaching staff (lecturers), but also students. Learning needs to be integrated with research activities to help introduce and familiarize students with carrying out research procedures, starting from research design activities, conducting research (data collection to data analysis) to publishing research results, so learning innovation needs to be carried out by implementing*research-based learning* (research-based learning) that meets learning characteristics*student centered* by fully involving students in research and learning activities (*learning by doing*). Development*research-based learning* must be adapted to the characteristics of learners in the PAI study program at three East Kalimantan PTAIs as the millennial generation and especially for students who work part time (*part-time*).

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