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### Research Artikel

## **FIELD STUDIES OF ECOLOGY IMPACTS: THE ROLE AND ITS CONTRIBUTION TO QUALITY OF EDUCATION MODEL DEVELOPED BASED ON RESEARCH PARADIGM**

### **STUDI LAPANGAN DAMPAK EKOLOGI: PERAN DAN KONTRIBUSINYA TERHADAP PENGEMBANGAN KUALITAS MODEL PENDIDIKAN BERDASARKAN PARADIGMA PENELITIAN**

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#### **Abstrak**

*Mengembangkan model pendidikan yang baik dan dinamis dalam prosesnya, seharusnya dapat meningkatkan kualitas individu maupun kelompok mahasiswa atau peserta didik di perguruan tinggi (PT), agar dapat menyesuaikan diri terhadap dinamika perubahan zaman, sehingga studi lapang salah satu langkah yang perlu mendapat perhatian, dimana secara tidak langsung kegiatan ini mampu meningkatkan kualitas (SDM) dalam rangka menghadapi permasalahan dimasa mendatang yang semakin kompleks, disamping sebagai modal utama dalam mempersiapkan SDM yang berkualitas, baik sebagai pendidik (guru) maupun seorang peneliti yang professional dan kompeten dalam bidangnya. Tujuan dari kegiatan studi lapang tersebut, masih dihadapkan dengan minimnya SDM, sehingga tidak mudah untuk mengimplementasikannya secara dinamis dan berkelanjutan, sehingga tujuan dari penelitian ini, akan mengeksplere atau mengkaji lebih detail tentang peran dan kontribusi studi lapang di kalangan PT, yang tentunya membutuhkan proses pembelajaran yang lebih baik, dalam membentuk kualitas SDM yang berkualitas. Metode yang digunakan dalam penelitian ini, lebih melihat pada dinamika persepsi dan interpretasi mahasiswa, yang berkaitan dengan pengalamannya selama di lapang, dan sejauh mana keberhasilan yang diperoleh atau dicapainya, setelah melakukan studi lapang yang berupa produk ilmiah, seperti naskah ilmiah, baik berupa bentuk laporan penelitian maupun jurnal, kemudian proses diskusi panel di dalam kelas. Hasil penelitian menunjukkan bahwa metode studi lapang salah satu kegiatan yang tidak mudah dilakukan, ketika menyusun sebuah laporan yang ilmiah, hal ini dapat dilihat dari aspek lemahnya argumentasi ilmiah yang dibangun, sehingga permasalahan ini, menjadi memberi gambaran kepada semua pihak, bahwa model pendidikan ini perlu di ubah, dengan memodifikasi sebuah kurikulum yang lebih dinamis, dan tentunya juga disesuaikan dengan perkembangan zaman.*

**Kata Kunci:** laporan penelitian; perguruan tinggi; penulisan ilmiah, studi lapang; sumber daya manusia

#### **Abstract**

Developing quality of education model in learning process was ought to increase skills of both individual and group of students in order to pave their readiness for today's competitive era. Field study is an approach in learning that may develop to increase the quality of student, particularly in confronting with real life problems. This research was aimed to study the role and contribution of the field study to increase the quality of students. Using students' perception and interpretations on the study field learning approach, this study tried to answers queries on the extent of study field approach for their learning success. Results revealed that the current field study approach was one of difficult approaches to be implemented in learning. During report development, for example, it was found that there are writing skills that need to be developed. It is suggested from this study, therefore, that field study approach needs to be more dynamic and its curriculum needs to be adjusted with the current development.

**Keywords:** field studies; human quality; higher education; science of paper; written up

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## INTRODUCTION

Advancing of education model to quality, of course it necessary in preparing of the human capability (SDM) to response on modernization or globalization era, which needs to be plan kindly of technic or nontechnical to prepared it, and it's a part of steps a pivotal in "*Field Studies of Ecological Process*" (Karthik S et al, 2011; Lori D Daniels and Lavalle S, 2014), where this activities depend on research objectivities that needs of sensitivities dimension by supported of technology as instruments that has modified and developed to build of description science of narration (perception or interpretation) appropriate to research objective of discussed or the other science activities (Kari Beate R dan Froyland M, 2015; Zdravka K dan Atasoy E, 2008). These activities pattern, trial and error or explore relationship of dynamic or the society-nature relationship in their surroundings, comprehensively, and integrative that appropriate to research object (the case studies) that "*observed*", and "*critical or serious of*", then discussed scientifically to all of scientific perspective (inter or multi scientific discipline). Unification of scientific in this contents, of course has a key role of importance in inventories or analysis type although ecosystems characters, which were needs to expertise, knowledge, experience, and high of sensitivities feel dimension, so collecting data process is able to obtain kindly, detail, accurate and careful, and also its responsibility scientifically and dynamic (Nawin K T et al, 2017).

Inventories and complexities of analysis problems based on field with documentation (photo or narrative reports) is a part of steps in which needs to effort seriously, then to interpretation or to perception to scientific narrative (article), which is not easy to do it, despite of many constraint that confronted to the most of all participant (young of researcher) when existence of field in framing of collected data, the one of all is adaptation pattern in activities type did, that it's not evident by optimal yet, this is part of "*critical reflection approach*" (Sahar Al Makhamreh et al, 2016). Therefore, creativity and innovation in string up of narration based on field problems narratively, it's not enough

optimal, so this problems has become of impeded to scientific communication process by the others. These was some of problems to scientific of community (young of researcher) or higher students (a university), alongside problems complexities to human-nature relationships dynamic, which was changed and developed continually, that of course needs to be contributing to mode or bridge of science media, in order to alternative solution to create of human wellbeing.

The other side, the land management of type that was did with the most of society shown to unfriendly or un equilibrium that lead to destructions in which accumulated to societies confronted to ecological symptoms, which is related to water supply to use of proper, especially in dry season, where mountain or plateau areas is catchment area of type, but now these function has undergone of problems that caused of loss catchment area finely. These phenomenon would be in the process and it has ongoing to some area in Indonesia, particularly in plateau or mountain areas in example of Kuningan areas and Tasikmalaya West Java and its surroundings (Kristiyanto, 2019b), so the needs to conservative steps, in order to be constructed to conservation zone by sustainability. Those phenomena is part of a pivotal in "*Field studies process*" that expect to able to motivate student's participant to understanding and it's expected to able to constructed in implemented of ecological conservative conceptual, that form of solution, kind of theory or empirical dimension (scientific product) (Ian J Q and Kurtz J M, 2007).

Perceiving of ecological symptoms could be passed through by field school as like of example description above, which the form or characteristic of school is part of empirical studies that expected to able to response of social, economy, and ecological phenomena creatively, innovative, and adaptive, alongside its part of a pivotal in arranging of curriculum dynamically, novelty, and flexible. This case, it necessary to pay an attention to all of side, which quality of education model has to refer to research result, so "*Field studies process*", which could be considered as instruments or tools, which a key role of importance in education model developed, that lead to a educator and a researcher

by quality. Therefore, in this manuscript needs of discussion detail how to form and to process of “*Field Studies Process*”, and how to scientific product (field report, manuscript or journals) that expected, then what the challenge and opportunity at this time and the next time?

## METHOD

Understanding of ecological system (ecosystems) in something of area, of course the needs to steps precisely, kind of technical or nontechnical, alongside to planned kindly and continuously, these pattern shown widely areal as research objectivities did, with there are problems complexity dynamically. These dynamic has accumulate of human activities (*anthropogenic*) in managed and in used to natural resources potential in their surroundings, so collaboration and elaboration process were needed to obtain of problems characteristic proportionally, that lead to scientific product that used to accurate of technology to researcher, higher student’s participation, and society.

There some of method used to collecting data process, which is used to discussion of substance, the one scientific product from “*field study*” is *science of paper, field report, and journals*. On the first methods (1) in depth interview process, which is un structural characteristic, relate to perception-evaluation higher student’s participant, after did field studies, (2) shown precisely, relate to written up process based on field data. The both of steps, to analysis by “*Proccessual Analysis Approach*”, which approach is the more shown and understand of process to how perception and interpretation academic society, related to “*field studies process*”, beside of scientific product (manuscript or journals), so activities aspects in written up process standardly of scientific too is a part of analysis in this manuscript. These pattern, also did explored related to obstacle although weakness, in the “*field studies process*” as long as in the field, as like as (a) *preparations aspect*, (b) *activities aspect in field*, (c) *field report aspects*, (d) *scientific products*.

## RESULT AND DISCUSSION

Refers to application of theoretical aspects, that ecological science is knowledge that investigation from “*field study process*” results, which field data (quantitative or qualitative) is become of analysis material or investigation subject in this manuscripts. Some of studies shown how to field study activities to needs of preparation kindly and good planning, alongside of good capability (Stephanie E H et al, 2017), alongside how to education process able to advance of creativity or innovative in thought or critical thinking in narration of observation results scientifically (N G Holmes et al, 2015). The research of world dynamic that lead to scientific publication has become of an attention primary in classification of human quality as educator or researcher, alongside scientific product that contribute to self’s science developed although in the society, so building of tools in advancing of research dimension with its implication to education world or research world, it needs to discuss detail, comprehensive, and integrative, that reminder education world or research at this time, challenged or waited would be real contributed in formulating to alternative solution to society in developing of adaptation or mitigation types is more dynamic and flexible.

### Theoretical to Practical: Observation and Data Collected Dynamic

Motivated of learning learned process by scientific approach is part of a pivotal in developing of quality education based on educative and research, this pattern is part of steps in developing of human capital resources (SDM) of excellent and competitive in learning or research process, so it’s able to increase of critical thinking sharpen on learning process would be realized kindly (L Marlina et al, 2018). Criticizing of content from article, manuscript, and journals, that appropriate of interest, before to empirical studies (*field study*), this pattern the one of all steps that able to become stronger in developing of scientific argumentation dynamically, beside part of process to “*up to dating of news theory*” goals, also it result expected to contribute in science developed, kind of theoretical dimension or practical (*methodology*). These needs

to be consistence in forming of thought type developed dynamic and critically, that lead to articulation of build by argumentation of narration type with data of proviso (field data) [qualitative or quantitative] that obtained from primary data (*direct observation or in depth interview*) [See on the picture 1] or secondary data (*literature review*), that arranged systematically, then it has become of evaluation material or discussion to explore to be continue related to research objective, so the result of discussion would be contribute and its responsibility scientifically, in seminar events, science paper, or journals published.

Collecting data process and its dynamic is a part of justification step in validating something of problems with data obtained (*qualitative or quantitative*), that expected to create of alternative solution or problem solving clearly, that lead to form of “*News methods or formula*”, also it would be lead to analytical holistically and integrative in solution constructed based on field problems. This pattern of course the one of scientific activities that duly is become of reference together, in capacity increased of human capital resources (SDM) of excellent, competitive, and professional in education or research of interest (P Gnip et al, 2003). Therefore, *field studies of ecology* which the one is science that the same identical of field research, which data analysis based on direct observation and interviewed obtained that related to human-nature relationship in their surroundings (See on picture 1), that indirectly able to appear ecological principles of life, that of course also reinforced of theory base pass through “*Critical review or thinking*”, which this approach would be considered part of quality representation in written culture to manuscript or journals published (Ian J Q dan Kurtz J M, 2007).

That some of aspects is needs to develop in increased of the human capital resources (SDM) by education dimension, which it's lead to competency (skill), so not only to academic aspects, who ministry of research and technology Muhammad Nashir (2019) opined *that a university pattern in Indonesia is still orientation to academic only, but not to competence*, so its needs to evaluation together in organizing education model that able to

response industrial development at this time and next the future, so it necessary to synergy in pursuing of remaindered on globalization era. The other side, that phenomenon is part of response to many unemployment of fresh graduate on a university, caused of any occupation available, so it's necessary to curriculum modified dynamically and flexible.

Picture 1. Evaluation and Data Collected Process (*in depth interview and its discussion process*)



A. In depth interview process



B. Sharing of knowledge or discuss about

Source: Photo by Kristiyanto, dkk, 2018

Above illustration on the picture **a** and **b**, shown how to researcher and higher student dynamic in trying to direct observe to exploration with some of approach is used, which it results to

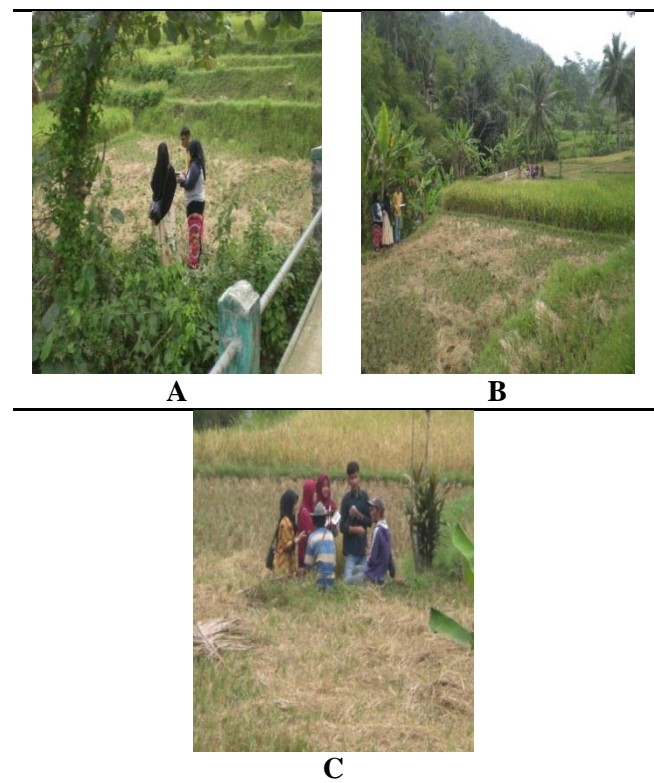
note, to develop, and to discuss (*sharing knowledge*), so it's written to appropriate scientific standardization to manuscripts and its published to journals (national or international). Despite of like that to realized necessary of space and time is enough long time in scientific products result that quality (quality of science paper), also it's necessary to consistency in reached it (Oner sanli et al, 2013). Interact of between the researcher and society of community were part of collected data process (look at the picture **b**), that it's has key a role of an importance in adjusted and completed a manuscript were more objective, focus, and detail (accurate). Therefore constructing of new theory (Novelty) that based on field studies has great value in research developed at this last time, which ecological science scientifically is a part of self's development in increased sensitivity of sense, emphyaty of sense, value of sense, and forth, that lead to construction of harmony the human nature relationship dynamically and continuously.

**Field Studies of Ecology: Self's Development on Emprical and Scientifically**

Field learning process (*outdoor classroom process or methods*) that theoretically although practical, which it has activities types that lead to learning process dynamic participate to finding, to understand, to analysis, and to conclude the problems in their surroundings. Therefore understanding of knowing around their nature, and it's not refer to theoretical only, which "*field trip*" is the one elements of instrumentation a pivotal in constructing of thought capacity to critical, creative, and innovative in response of problems, that it would be used to practically by society of community and scientist, who Thomas L F et al (2017) uttered that field studies activities is able to self's development in interaction process to nature (*science of sense to field experiences as researcher or educator*) lead to developed implementation-concept model relationship by sustainable, alongside there some of methods type or step that used to take field data by validated and flexible that appropriate of the topic (*interest of topic or issue*) in this activities (look at the picture 3).

According to Stephanie E, et al (2017) uttered that research developed based on or depend on "*skill and knowledge*", which this aspects is very determined of field data quality and validate, so processed and narration scientifically by detail, accurate, and responsibility on scientific community to appropriate refer to scientific standardization of written in design of research (Olivier R et al, 2012). Building of research culture dynamic in a university (PT) has confronted to multi problems immediately, where on introduction paragraph also mentioned, how to obstacle of confronted to higher student of a university in "*field study process*", with their scientific products (manuscript or journals). Weakness of though in critical to problems (theoretical although empirical), the one of obstacle accumulate higher student of a university in understand and a pay close of attention to problems their surroundings, so it's caused of weakness to written up culture based in field research (field report product), so it's necessary to evaluation step to construct education model dynamic, that lead to strengthened of "*Critical thinking*" dimension (Ian J Q dan Kurtz J M, 2007).

Figure 2. Collected Field Data Process Dynamic



Research's activities of types in the field

Scientific activities type on above (Figure 3), according to Elma Keric et al (2017) uttered that indirectly is a part of activities that able to capability developed of academic as well as flexibility in interacting process to around of environment or the human, and its excess to purpose of appropriate to reach of learning process. Therefore collected data methods [look at paragraph A] although to analysis has undergone of changed and developed dynamic, which this methods is a part of manner of changing in exploration and observation of problems appeared. The nature of phenomenon is natural activities or the human activities (*anthropogenic*), that could be inspiration to all society of community elements (scientific communities), to interact by multiple methods or approach type in used to indirectly could be direct on news of theory (novelty). These matter related to how ecological science have been changing and developing massively with multi approach and something found were lead to inter/multidiscipline of science, so think out to “*research collaboration process*”, according to Ethan S B and Turban S (2018) that problems complexities is able to compose of collaboration network kind of education area, research area, or economy of effort flexibility and dynamic.

### ***Producting of Field Studies Effects: Critical Pattern and Its Dynamic***

Understanding of nature dynamic with “*Field study*”, “*Field work*”, or “*Field research*” approach and the others were part of learning pattern that lead to affection character of establishment or environment of friendly in each of their activities. These pattern, reflected from perception although interpretation to higher student to environment surroundings that shaped in attitude or ways to gaze about natural dynamic in their surroundings, and it’s of course lead to critical of thought dynamically. Building of critical attitude is a part of learning pattern that ideal and its able to increase of humanity of sense in interacting to environment around (*the human to human and the human to nature*), so created of life a cycle harmony relationship in equilibrium, dynamic, and sustainable, alongside part of great conclusion that

obtained in ecological science based on theoretical or empirical aspects.

Refers to paragraph previously, that “*Field study effects*” is able to change and to develop of critical attitude, evaluative, and response to symptoms of system ecology (ecosystems), this phenomenon is able to how articulation or argumentation that be constructed in narration based on field data by some of implication as (1) in education area, which were changed and developed of curriculum based on research, and (2) in research area, which activities is able to increase sensitivity of sense, logic, inspiration, critical, and forth. Therefore its needs to synergy of strengthened in developing learning model based on research, in order to quality and humanity of education model (Kristiyanto, 2018a), alongside is part of response to ecological problems complexities which is needs of “*win-win solution*”, appropriate of needed it.

Building and developing a quality of education model paradigm is part of character establishment process to adapt, persuasive, inspiration, and dynamic of life in around (interaction, competitive, symbiosis, and forth), so this the end of product is more matured of thought pattern dynamically and critical, this is part of vital a process or education type that not appeared or realized yet in education world, in the most of high institution (PT) in Indonesia, so according to Alfred North W (2018) tried to critical how to education process now that constructed or created is contradictive with an authentic and purposed to philosophy of education value, that ought to release of value (to thought or developed) and its lead to humanity attitude and adaptable to appropriate of changed and development era. Therefore, developing of education on high institution (PT) level, not only pursue to be left out to neighbor of state, but also more refers to modification curricula for creating of academic nuance, that able to motivate of inspiration to work scientifically in multiple area appropriate by the each of competence.

## CONCLUSION

Building and developing of ecological science in empirical world is a part of learning model changed that lead to creativity and innovation increased for increasing of logic and critical capability of higher student, alongside able to increasing of the human capital resource (SDM) is more dynamic and flexible, which learning based by “*Field studies of ecology process*” approach, considered able to inspiration to scientific developed the others. *Field study*, theoretically or empirically is part of learning model that considered able to self’s develop with personality or the groups in attaining of education pattern based on quality research, although the other side is still many of confronted to weakness in constructing scientific narrative that refers to field data, so scientific manuscript that formed manuscript or journals (national or international) is key a pivotal of parameter in valuing of “*Field study*” activities. Therefore it needs to exploration continually in make a net of synergy to design of quality learning model and its humanity, theoretically or empirically, alongside is part of strengthened process in research culture.

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