Reviewing continuing professional development concept of English teachers from the lens of Diffusion of Innovation Theory

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Abstract
The main problem of the recent study is how the concept of English teacher Continuing Professional Development is reviewed from Everett Rogers' Innovation Diffusion Theory. So, the research aimed at finding the review of the Innovation Diffusion Theory of Rogers toward the concept of Continuing Professional Development of English teachers in Indonesia. This study employed library research as the method and the researcher himself as the instrument to collect data deriving from books as a primer resource and ministry regulation and journal articles as secondary resources. It was conducted through several stages ranging from selecting topics based on the problem; exploring information related to the topic; determining research focus; reading the books, regulations and articles as data resources; recording what was found as research data; and, processing the recorded data. Data were analyzed through induction and interpretation. The result showed that teacher continuing professional development is an implementation of innovation diffusion. It forms a cycle or an endless chain, in which, firstly, innovative work is invented and adopted by innovative teachers; next, it is reported, reflected and published in the form of scientific book, paper or article; then, the scientific work is presented in functional or technical education and training or teacher collective activity as a channel of communication with early adopter teachers; and, the adopter teachers are inspired to make another innovation.

Keywords: Continuing Professional Development; Diffusion of Innovation Theory; English teachers

INTRODUCTION

There is an intersection between Continuing Professional Development (henceforth CPD) and Diffusion of Innovation (henceforth DI). CPD reflects Diffusion of Innovation Theory (henceforth DIT) and DIT sustains CPD concept. Through CPD activities, innovations are diffused.

In educational context, particularly in formal school, teachers play a key role in both involvement in CPD and actuating DI. CPD activities and DI cannot be separated because teachers need practice to make innovation. Teacher professional progress has tied innovation to sustain education enhancement, curriculum change and teaching methodology improvement (Frandsen, 2009; Grubb, 2008; Royal & Rossi, 1999, in Holliman, 2012). Professional development is one of teacher

empowerment dimensions (M. Short, in Fandiño, 2010); teacher empowerment is one aspect of school culture empowerment; and most of the characteristics of school culture empowerment accentuate innovation to make change (Balkar, 2015) . Teachers, particularly English teachers, can make, adopt and diffuse innovation related to their function to teach their students. At the same time, they can develop their professionalism that sustains improvement of students' learning process and outcome. "EFL teachers will better recognize the importance of CPD as a tool for improving their professional competencies, and this will also be effective for their students." (Ravandpour, 2019:10).

In global teacher professional development, there has been no certain conceptual standard. Each country has a different definition of CPD. It may depend on their national educational goal, their state condition and situation, and their teachers' needs and characteristics. It is found that, despite having overlapping meaning and different definitions, some terms refer to the same thing, CPD, namely "in-service education and training, teacher development, professional development, staff development, career development and lifelong learning" (Bolam & McMahon, 2004 in Ucan 2016).

Bautista & Oretga-Ruiz (2015), referring to several authors, suggest six countries whose teachers' CPD is highly effective and innovative. The first is the United States of America with five main factors contributing to CPD success: "content focus, active learning, coherence, sustained duration, and collective participation" (Laura M. Desimone, 2009). The second is Australia, applying CPD in various subjects and educational levels to empower teachers in meeting with the "era of supercomplexity" in which the situation of "uncertainty, insecurity, and an unknown and unknowable future" disrupts their function (Ling & Mackenzie, 2015). The third country is Finland where teacher CPD is supported through multi-professional cooperation; pedagogical innovation is promoted through design-based approaches; pre-service teacher education and in-service research-based teacher education are mutually connected; and new teachers are supported through induction periods (Niemi, 2015). The fourth country is Hong Kong where teacher CPD is implemented in such stages as starting from skill upgrading-focused activities, going through training programs, and getting to more complex lifelong learning activities (Bick Har Lam, 2015). The fifth is Singapore, the country whose teacher CPD has various categories of activities, namely formal or structured courses, informal activities like action research and lesson study, network learning, collegial sharing and collaboration (Bautista, Wong, & Gopinathan, 2015). And finally, Spain is the country whose teacher CPD focuses on developing the career of teachers, practicing school-centered community reflection, responding to students' aspirations, and making CPD policies coherent with more global ones (Martín, 2015).

Globally CPD embraces all the activities teachers do to enhance their competencies, by aligning their practice with educational policies; helping improving students' learning outcomes; and improving teaching profession prestige (Day & Sachs, 2004, in Ucan, 2016). In Indonesia CPD covers three categories of activities done by teachers to improve their professionalism. The activities deal with "*Pengembangan Diri*" (Self-Development), "*Publikasi Ilmiah*" (Scientific Publication) and "*Karya Inovatif*" (Innovative Work) (Kementerian Pendidikan dan Kebudayaan, 2019). Professional teachers are the teachers possessing such competencies as personal, pedagogic, social and professional; and particularly for English teachers, the professional competency is knowledge and skill of spoken and written, receptive and productive English in all communicative aspects of linguistics, discourse, sociolinguistics and strategy (Kementerian Pendidikan Nasional Republik Indonesia, 2007).

DI theory can be employed as the lens to understand and measure social transformation and as guidance of designing and evaluating objects, events and communication processes (Linton, 2016). In this study, it is one of Everett Rogers' works that is used as the framework to review the concept of Continuing Professional Development of English teachers in Indonesia. It is guided by four questions: ranging from three specific questions to one general question. The questions are:

1. How is self-development of English teachers reviewed from Rogers' DIT dimensions?

2. How is self-development of English teachers reviewed from Rogers' DIT dimensions?

3. How is self-development of English teachers reviewed from Rogers' DIT dimensions?

4. How is the concept of English teacher CPD reviewed from Rogers' DIT?

Teacher Continuing Professional Development

In the context of Indonesia, teacher CPD is conceptualized in the Regulation of Minister of State Employee Empowerment and Bureaucracy Reform of Republic of Indonesia Number 16 Year 2009 (Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi, 2009). It is elaborated in "*Pembinaan dan Pengembangan Profesi Guru, Buku 4, Pedoman Kegiatan Pengembangan Keprofesian Berkelanjutan Dan Angka Kreditnya*" (Kementerian Pendidikan dan Kebudayaan, 2019; Kementerian Pendidikan Nasional, 2010). Since 2016, it has been integrated in and to support "Pengembangan Profesi Guru Pembelajar" (Professional Development of Learner Teachers) (Kementerian Pendidikan dan Kebudayaan, 2016).

The goal of CPD is to enhance the quality of institutional service and education. It generates six objectives, namely: to upgrade teachers' competency standard in line to the existing regulation; to update teachers' competency required by science, technology and art development that can facilitate learning process; to increase teacher commitment in carrying out their function as professionals; to grow love and pride as teachers; to improve teacher image and dignity in society; and, to support teacher career development. CPD is advantageous for some parties. To students, it gives insurance of effective learning service and experience. It enables teachers to achieve and develop their competency in order that they are able to face internal and external change in meeting learners' needs that will be useful for their future. It is also useful for schools and the government to provide society with quality educational service.

As stated above, there are three categories of CPD teachers should do. They are, as represented in Table 1, Self-Development (henceforth SD), Scientific Publication (henceforth SP) and Innovative Work (henceforth IW).

Table 1: Categories and Activities of CPD

Self-Development	1. Attending Functional/Technical Education and Training 2. Following Teacher Collective Activity

Scientific Publication	1. Presenting scientific paper
	2. Writing research result or scientific idea in formal educational field
	   a. Research result report
	   b. Scientific idea review or best practice paper in the field of formal education and instruction
	   c. Popular scientific article
	   d. Scientific idea or best practice article in educational field
	3. Writing books:
	   a. Textbook
	   b. Supplement book: module, dictate
	   c. Educational book, or translation work
	   d. Teacher guide book

Innovative Work	1. Inventing proper technology 2. Creating Artwork 3. Creating/modifying teaching and learning media/tool 4. Designing standard, guide, assessment instrument.

Self-Development

SD is teachers' activity to improve professionalism in order to have competencies that are in accord with national educational regulation and policy, and adaptive to science, technology and art development. It is done through Functional/Technical Education and Training (henceforth FTET), or through

Teacher Collective Activity (henceforth TCA). The former can be a minimum 30 hours course or training. The latter can be a workshop or in-house training in school level or in a seminar, in a colloquium, in a panel discussion or other scientific forum in subject teacher community or *Musyawarah Guru Mata Pelajaran* (MGMP) beyond school level.

Scientific Publication

SP can be realized in three types. The first is Presenting Research Paper (henceforth PRP) that is done by teachers in a seminar, workshop, colloquium or scientific discussion. The others are Report of Scientific Research (henceforth RSR), Paper of Scientific Review or Best Practice (henceforth PSR BP), Popular Scientific Article (henceforth PSA) and Educational Article (henceforth EA). RSR may be the result of class action, experiment, description, comparison, correlation or the other that can be published in the form of a book with ISBN and or an article of a journal with ISSN. PSR BP contains teachers' ideas to overcome different formal educational and instructional problems, or tells teachers' success in overcoming the educational and instructional problems; both are saved as teachers' source and reference in the school library. PSA contains teachers' knowledge, opinion or experience related to education that is published in mass media like newspapers or magazines or online media like official websites. The third is a Textbook (henceforth TB) and Educational Reference Book (henceforth ERB) with ISBN; Supplement Book: Module or Dictate (henceforth SBMD) for internal use; Translation of Lesson or Educational Book (henceforth TLEB) from foreign or regional language to Indonesian; and or Teacher Guide Book (henceforth TGB) in which teachers can make planning of class instructional accomplishment and continuing professional development.

Innovative Work

IW is defined in four: discovery or invention Proper Technological Work (henceforthPTW); invention of Art Work (AW); creation or modification of visual aid, Instructional Media, Props or Apparatus (henceforth IMPA); and participation in designing Standard, Guide or Assessment Instrument (henceforth SGAI). To discover PTW, teachers make science or technology design or development or experiment using certain materials, systems or methods in order to contribute to the educational process and social life. For inventing an AW, teachers can make reflection of human values and ideas manifested aesthetically in visual, kinesthetic, audio, and verbal mode that can make transcendental –spiritual or intellectual – sense of human and humanity. Teachers can make a poster or picture, an educational game, cutaway object, and learn video or animation as IMPA. Teachers can also take part in collaborative work held by institutions of provincial or national level in designing SGAI.

Innovation Diffusion Theory

Among the authors interested in researching innovation several theories are known. Bakkabulindi (2014) suggests two: Diffusion of Innovation Theory (DIT), proposed by Rogers (1958) and Technology Acceptance Model (TAM), developed by Davis (1989). Hazen et al. (2012) suggests two others than the two above: Technology-Organization-Environment (TOE) Framework, developed by Tornatzky

and Fleischer (1990) and Unified Theory of Acceptance and Use of Technology (UTAUT) built by Venkatesh, Morris, Davis and Davis (2003). Ham (2018) also adds two others than those suggested by Bakkabulindi: The Concerns-Based Adoption Model (CBAM), developed by Hall (1979) and the Chocolate Model, by Dormant (2011).

But, the original, most well-known is the first one, Everett Rogers', which the others derived from and referred to (Sahin, 2006). This study also adopts Rogers' DIT as the lens to review CPD activities of Indonesian teachers.

Rogers (1983; 2003) summarizes his theory, ranging from DIT definition to description of its dimensions. He defines, "Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system" (pp. 38 & 34). From the definition, four dimensions are extracted. They are 1) innovation, 2) communication channels, 3) time, and 4) social systems.

Innovation

An innovation means an idea, a practice, or an object which in adopter candidates' perception is the new. Such an idea or practice or object has five attributes that can make the candidates be innovation adopters. They are 1) relative advantage, 2) compatibility, 3) complexity, 4) trialability, and 5) observability. The first attribute means the degree to which an innovation is perceived as better than the prior idea, practice or object. The better the innovation is in economic, social, convenience and satisfaction, the more potential the innovation is adopted. The second is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, needs, values and norms of a social system. The more compatible the new idea, practice or object, the more possible it is. The third attribute is about the degree to which an innovation is perceived as difficult or easy to understand and use by most members of a social system. The simpler the new idea, practice or object, the more probable the social system adopts. The fourth attribute deals with the degree to which an innovation can be applied. The more the new idea, practice or object can be tried, the more it is adopted. And the last, observability, is meant as the degree to which the results of a new idea, a practice or an object are visible to adopter candidates. The easier they are observed, the more likely they are adopted.

Communication Channel

A communication channel is a medium by which one adopter that has had knowledge or experience about an innovation shares to adopter candidates that have not yet had. There are two types of media: mass media and personal media. The former is effective to make the candidates have knowledge of innovation; the latter is effective to encourage them to have an attitude toward shared innovation. The adopters and adopter candidates can be viewed from two types of relationship. Homophily occurs when both have such similar attributes as beliefs, education, social status, and the like. Heterophily exists when adopters are different in attributes from adopter candidates. The more similar they have attributes, the more effective their communication occurs; and vice versa.

Time

Time is viewed from three aspects: 1) the process of innovation decision, 2) innovativeness, and (3) the rate of innovation adoption. The first aspect occurs when adopter candidates turn to be adopters, ranging from knowing an innovation; to having attitude toward the innovation they have known; to deciding to adopt or to reject; to implementing the innovation they have adopted; to finally confirming their decision of adopting the innovation. The process is known as knowledge-persuasion-decision-implementation-confirmation. The second deals with the degree to which one adopter is earlier or later than another in adopting the innovation. The adopters are classified into five groups: 1) innovators, numbering around 2.5 %; 2) early adopters, 13.5 %; (3) early majority, 34 %; (4) late majority, 34 %; and (5) laggards, 16 %. The third aspect is about how fast an innovation is adopted by adopter candidates. It is applied for innovation in a unit of social system, not individual candidates, since it is measured from the duration needed by a certain percentage of social system members in adopting the innovation.

Social System

Social system is a community, a society, or an organization, formal or informal, whose members have the same solution to achieve a common goal. Innovation diffusion is affected by several factors. They are the structure and norms in the system, the opinion leader and change agent the system has, the innovation-decision models the system applies, and the consequences of innovation adoption the system predicts.

System structure is the patterned arrangements of the units in a community. It provides its members with regularity and stability. It makes organization members have less uncertainty because it represents a type of information. System norms are the patterns of society's members' established behavior. They rule social behavior and function as a guide or standard for the behavior of organization members. In a society, there are also opinion leaders who give suggestions and information about innovations to its members. They are role models in the innovation of their organization. They are global-minded, socioeconomically higher, unique and influential in position. In a more technical field under the opinion leaders the other members of the social system exist. Change agents are professionals directly influencing adopter candidates to decide to adopt innovation. They try to find the adoption of new ideas, practices or objects having attributes suitable with members of a social system.

In diffusion, there are three models of innovation decisions: 1) optional innovation-decisions, 2) collective innovation-decisions, and 3) authority innovation-decisions. The first model means options to adopt or reject innovation made by a member not relying on the decisions made by other members of a community. The second is options to adopt or reject innovation made through agreement of members of an organization. And the third model is options to adopt or reject innovation made by a few members of an institution having special traits. Another is the contingent innovation-decision model that combines two or three models above.

If an innovation is decided to be adopted, the adopters are to bear consequences, those are: changes caused by the decision to adopt or to reject a new idea, practice or object. The adopters may face one or more of three types of consequences. The first is desirable if the effect of innovation works, or undesirable if it does not work. The second is direct consequence if the changes happen immediately or indirect consequence if they do as a second-order result of the direct one. And the third consequence is anticipated if the organization members recognize and intend the changes or unanticipated one if they do not.

METHOD

This study employed a qualitative approach with library research as the method. Library research is a research used in deep information and data collection through various literatures, books, notes, magazines and previous relevant study to find the answer and theoretical foundation of research problem questions (Indrawan & Yaniawati, 2016).

Data Resources

Data in this research derived from books as a primer resource and ministry regulation and journal articles as secondary resources. The books that the researchers studied are: 1) "Pembinaan dan Pengembangan Profesi Guru Buku 4 Kegiatan Pengembangan Keprofesian Berkelanjutan dan Angka Kreditnya," published by Kementerian Pendidikan Nasional in 2010, and revised by Kementerian Pendidikan dan Kebudayaan in 2019; 2) "Diffusion of Innovation," 3rd Edition published in 1983 and 5th Edition published in 2003, written by Everett M. Rogers. The regulations the researcher read are: 1) "Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 16 Tahun 2007 tentang Standar Kualifikasi Akademik dan Kompetensi Guru," issued by Kementerian Pendidikan Nasional Republik Indonesia in 2007; 2) "Peraturan Menteri PAN dan RB Nomor 16 Tahun 2009 tentang Jabatan Fungsional Guru dan Angka Kreditnya," issued by Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi in 2009.

Instruments

The research employed the researcher himself, as the instrument. He served as a planner, a data collector and a data interpreter. He collected data about DIT review toward teacher CPD activities; edited the collected data in terms of completion, obviousness, and conformity among each other; organized the complete, obvious and in-line data; and analyzed and synthetized the organized data about teacher CPD activities using Rogers' DIT as the framework.

Procedures

The research was conducted through several stages. It ranged from selecting topic that was done based on the problem the researcher had found; exploring information related to the selected topic; determining research focus based on the information; actively, critically and deeply reading the books and regulations as primer resources; recording what was found as research data; processing the recorded data; and finally writing the report of research result.

Data analysis

Data were analyzed through inductive and interpretative ways. Induction was employed by ways of, firstly, reviewing category per category of teacher CPD activities, and then reviewing a whole concept of teacher CPD from Rogers' DIT points. Interpretation was finally done by making sense of the review result and drawing general meaning.

RESULT AND DISCUSSION

Through the method above, the study found that CPD concept mediates Rogers' DIT and teacher professional development practices. DIT dimensions like innovation, its communication, time and social system seem to likely exist and are potentially practiced in three categories of teacher CPD activities: doing self-development, making scientific publication and producing innovative work. How do they work?

Review of DIT Dimension towards Self-Development Concept

How is self-development of English teachers reviewed from Rogers' DIT dimensions?

Self-development is the first category of CPD activities teachers should attend for their profession and career and student learning enhancement. It has two types: FTET and TCA. FTET is a minimum 30 hours course or training. TCA can be done at school level and in teacher community or MGMP level beyond school.

In Rogers' view, as represented in Table 2, both FTET and TCA function as communication channels and units of the social system. They serve as communication channels since there "… the process by which participants create and share information with one another in order to reach a mutual understanding" (Rogers, 2003:19) flows. The information shared in DIT means innovation that is the subject matter disseminated in the FTET and TCA. The channel provides formal mass and informal interpersonal communication. Formal mass communication takes place in the presentation process to introduce subject matter from presenters to participants. Informal interpersonal communication occurs when among participants themselves or between participants and instructors out of the presentation session discuss and elaborate information and idea about what they have shared in the presentation. Communication may run hard or easily. It will be hard if the trainers and participants are heterophily, meaning that they have different backgrounds. Say, an IT expert who gives training about digital learning media to most of the average English teachers who are not very competent in it. Communication will run through easy channels if the instructors and the participants are homophily, showing that the instructors are English instructional experts that are relatively similar to English teachers.

Table 2: Review of DIT on Self-Development Activity

CPD Category & Activities	DIT Dimensions	
	Communication Channels	*Unit of social system*

Self-Development (SD)	Relation	Types of Media	
Functional/Technical Education and Training (FTET)	Tending to be *heterophily* between presenters and participants	• As *formal, mass media* in innovation presentation session • As *informal interpersonal media* in innovation talk out of presentation session	• As *temporal society* with members: • Presenters and committee as opinion leaders and change agents and as innovators and early adopters. • Having training rules and norms

FTET and TCA serve as units of the social system because they are "... a set of interrelated units that are engaged in joint problem solving to accomplish a common goal" (Rogers, 2003:25). In FTET and TCA, the units are all people involved namely participants, presenters or instructors or trainers, and committees. They form a temporal community or organization having rules and norms. The trainers and committees are innovators and early adopters as opinion leaders and change agents influencing the participants as early and late majority to adopt innovation offered.

Leaving the FTET and TCA, a participant has been introduced and persuaded into a new idea, practice or object. It is what Rogers (2003:23) names "knowledge" and "persuasion", as the first and second of five phases of the innovation-decision process. He or she is to experience at least one phase more. It is optional: decision of adoption or rejection. Before going to the "implementation" and "confirmation" phases, He or she takes his or her option through one of four possible "decision" processes. They can make adoption or rejection independently, without influence of other participants' options; collectively, with agreement of all participants; dependently, with influence from a few of elite participants; contingently, considering two or three models above (Rogers, 2003:29).

If English teachers who have attended FTET and TCA decide to adopt the innovation, they have the potential to be inspired to spread their new knowledge and skill to their peers and colleagues in their school as an organizational unit of the social system. Furthermore, they would make next invention, reinvention, discovery or existing innovation modification to improve their competence and student learning. They also consider what will happen if they apply what they learnt from the FTET and TCA. They are aware of coming consequences: desirable or undesirable because of (no) effect of the innovation; direct or next as a result of (no) other innovation; and, anticipated or unanticipated due to their schools' (not) recognizing the innovation.

Review of DIT Dimension towards Innovative Work Concept

How is the innovative work of English teachers reviewed from Rogers' DIT dimensions?

IW is CPD practice in which teachers invent, reinvent, discover or modify PTW, AW or IMPA. It is practiced by teachers together with students in their class project, or without students for class preparation. It is also conducted by teachers engaged in designing SGAI. Though IW is the third category of CPD (Kementerian Pendidikan dan Kebudayaan, 2019), in this study it is discussed as the second after self-development for the sake of smooth explanation of DIT review.

As shown in Table 3, IW is the first dimension of DIT in Rogers' (2003:12) definition "... diffusion as the process by which (1) *an innovation* (2) is communicated through certain channels (3) over time (4) among the members of a social system." As an innovation, PTW, AW, IPA or SGAI is "... an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 2003:13). The individual or unit of adoption means both teachers and students who work together in class project and invent PTW, discover AW or reinvent or modify IMPA; or the only teachers who prepare their class by doing the innovation, or who are involved in arranging SGAI.

Table 3: Review of DIT on Innovative Work Activity

CPD Category & Activities	DIT Dimension
Innovative Work (IW):	*Innovation:*
Proper Technological Work (PTW)	• As new idea and object made by innovative teachers for class preparation • As new idea and object implemented by innovative teaches and their students in class project
Art Work (AW)	
Instructional Media, Props or Apparatus (IMPA)	
Standard, Guide or Assessment Instrument (SGAI)	As new practice designed by teachers in province/national level

If or not the PTW, AW, IPA and SGAI are adopted by the teachers, students, even colleagues and school is dependent on the attributes they possess. They will be adopted if they are perceived as being better than prior PTW, AW, IPA and SGAI; the better they are in teachers, colleagues, students and school's economic, social, convenience and satisfaction, the more potential they are adopted. They will be adopted if they are perceived as being consistent with the existing values, past experiences, needs, values and school norms; the more compatible the PTW, AW, IPA and SGAI seem, the more possible they are adopted. They will be adopted if they are perceived as easy to understand and to use by most school members; the simpler the PTW, AW, IPA and SGAI look, the more probable they are adopted. They will be adopted if they can be applied; the more the PTW, AW, IPA and SGAI can be tried, the more they are adopted. They will be adopted if they are visible to adopter candidates; the easier they are observed, the more likely they are adopted.

Review of DIT Dimension towards Scientific Publication Concept

How is scientific publication of English teachers reviewed from Rogers' DIT dimensions?

SP activity covers ten alternatives of publication work. They are 1) doing PRP in a scientific forum; 2) writing RSR; 3) writing PSR BP related to educational or instructional problem solving; 4) writing PSA published in mass media with ISSN; 5) writing EA published in mass media with ISSN; 6) writing TB with ISBN; 7) writing internally-used SBMD; 8) writing ERB with ISBN; 9) writing TLEB from foreign or local language into Indonesian; and 10) arranging TGB for self-planning of instructional function and professional development.

As illustrated in Table 4, scientific publication works are channels of communication, the second dimension of DIT. They are, except PRP, fully-written mass media. The writers of the nine scientific works are innovators, they are teachers who have had new ideas of instructional technique, method, strategy, approach or model; who have practiced their idea in their class; and who have done research and reflection about their idea implementation. They have also invented, reinvented, modified PTW, AW or IPA, or engaged in designing SGAI. The innovator teachers spread their new idea, practice and object in the forms of PRP, RSR, PSRB, PSA, EA, TB, SBMD, ERB, TLEB, and TGB published in such media as newspapers, magazine and journal, either printed or online, to send and deliver to their readers who comprise early adopters, early majority and late majority.

Table 4: Review of DIT on Scientific Publication Activity

CPD Category & Activities	DIT Dimension	
Scientific Publication (SP):	**Communication Channel**	
	Relation	*Types of Media*
Presentation of Research Paper (PRP)	Possibly *heterophily* or *homophily* between presenters as innovators/early adopters and participants as early majority and late majority.	▪ As formal, mass media in innovation presentation session ▪ As informal interpersonal media in innovation talk out of presentation session ▪ Likely direct meeting or virtual meeting
Report of Scientific Research (RSR), Paper of Scientific Review or Best Practice (PSRBP), Popular Scientific Article (PSA), Educational Article (EA), Educational Reference Book (ERB), Supplement Book: Module or Dictate (SBMD), Translation of Lesson or Educational Book, Teacher Guide Book (TGB)	Potential to be *homophily* between innovator/early adopter writers and their readers of early and late majority	As formal mass media, printed or web-based newspapers, magazines or journals

CONCLUSION

How is the concept of English teacher CPD reviewed from Rogers' DIT? Referring to the concepts of self-development, scientific publication and innovative work that have been viewed from the dimensions of DIT above, the recent research makes the conclusion that teacher CPD is an implementation of innovation diffusion. Teacher CPD is a cycle around which a continuous, endless chain of new ideas, practices and objects communication goes.

As illustrated in Figure 1, the cycle runs in phases. First, the ideas, practices, and or objects are made by innovative teachers to overcome their teaching and learning problems. They may be in the forms of technology and art work invented, reinvented, discovered or modified by teachers together with their students in class projects; or learning methods and media or apparatus created by teachers to support students' learning; or standard operational procedure of which teachers are involved in the making. The innovative works and activities will not only enhance teachers' professionalism but also encourage students to solve their learning difficulties, even to improve their competence.

Secondly, diffusion takes place when the teachers produce scientific publication from their experience of making innovative work and method above. They can do, at least, three main kinds of writing: report of innovative work creation, article of best practice of innovative work implementation, and research report. Using informal, interpersonal communication, they share their report or best practice among peers and colleagues who have not yet had knowledge and skill of the innovative work and its usage. Diffusion gets formal when the teachers are facilitated by school management to present their new practice and object report in a school in-house training or workshop. Innovation now gets to more adopters at least in school as a unit of social system. Further, it can find many more adopters if it is published in mass media like a journal, magazine or newspaper either in printed or online form.

Thirdly, diffusion gets broader, more formal and more complex when the teachers take the chance of disseminating their new idea, practice or object in self-development activities like a seminar, workshop or discussion. It is broader because it gets much more innovation adopters and will be broader when the innovation gives real advantage for its new adopters. It is more formal because it is institutionalized in an event that is recommended by Educational Service, local university or other authorities. Even, it can be a mandatory activity for late majority and laggard teachers. The diffusion may be simple when the event is held by a teacher collective community whose communication is homophily. It is, however, more complex when the event is functional education and training causing heterophilous relations among various participant teachers holding different subjects. Self-development is, therefore, a part of continuing professional development serving as a temporal unit of social system as well as communication media in which all categories of adopter teachers meet each other. In FTET and TCA of self-development, come and gather adopter teachers that Rogers (2003:24) classified into five categories, they are teachers of "(1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards." One completes another to

improve their competency and professionalism in order that they make innovation in order for their students to achieve their learning goal.
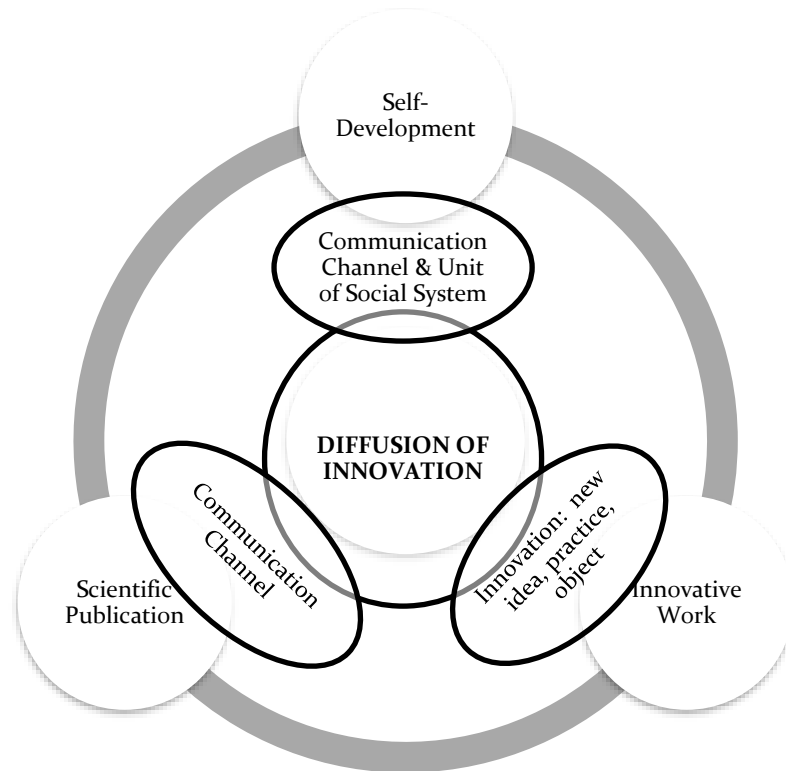

Figure 1: Review of Rogers' DIT toward Teacher CPD Concept

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