

Innovation for 21st Century Teaching and Learning (INNOTeach): From Creation to Completion

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ABSTRACT

This paper aimed at giving the full account of the extension project dubbed as Innovation-Teaching (INNOTeach) from creation to completion. The project aimed to improve the reflective practices of teachers based on evidence to come up with the desirable student outcomes in learning. Employed was a qualitative-narrative design which described the various activities given to the basic education teachers in the implementation of the project. The project used the input-process-outcomes model (IPOO). School-related counting data, knowledge, skills and attitude of the participants, and school resources were accounted in the process to come up with appropriate innovative deliverables to improve teaching and learning practices. Series of training and workshops were conducted to guide the teachers in identifying the pressing problems so they could propose appropriate classroom-based action research. Innovative instructional materials were developed by the teachers as aids in the conduct of action research. Results of the project revealed that through the classroom-based action research, the behavioral impressions of teachers in seeing a child with a problem have been transformed by becoming reflective of their day-to-day work, becoming proactive in accommodating children with special needs, and becoming passionate in conducting more action research in the future. With this transformative outlook in the lives of the teachers, INNOTeach was able to initially achieve its dreams in producing quality students in the 21st century teaching and learning. Thus, the scaling up of this project to a higher level of education is highly recommended.

Keywords: innovation, intervention, teaching and learning, classroom-based action research

INTRODUCTION

Innovation is a new way of doing things (Kahn, K. B., 2018; Kline, S. J., & Rosenberg, N, 2010). Under the principle of quality standards and greater accountability required for the 21st century education, it is a critical function of school leaders and teachers to solve the problems confronting the teaching and learning conditions, not by conventional methods and approaches but by capacitating oneself with new ways of building up competence (Vaillant, D. 2015; Volante, L. 2012). Done right, they would be able to initiate and lead innovative school and classroom practices resulting in higher student learning outcomes. This propelled the birth of Project INNOTeach which is both a need-and data-based driven extension project. Apparently, there are still several teachers who are now in their tenure and are products of the curriculum which were not designed to address the current nomenclature of basic education. Due to multi-tasking, many Teacher Education colleges are still redesigning their programs to ensure that principals and teachers are thoroughly prepared for their role in improving curriculum, instruction and student achievement (Anagnostopoulos, D., Levine, T., Roselle, R., & Lombardi, A., 2017).

The Expressed Need in Basic Education

One of the City Divisions in the Region expressed its needs in terms of increasing the level of their performance in the National Achievement Test, both elementary and secondary levels. The expressed need was based on the prime objective that education is to safeguard the right of every child to have wide access to a more equitable and quality education. This need can be addressed by empowering the teachers for more

innovative ways in delivering performance standards and expected competencies. This posed a challenge calling out for a most fitting institution to address the need.

The Role of the Higher Education Institution (HEI) as Center of Excellence (COE)

Considering this need in the partner agency, the University of Southeastern Philippines (USEP), being recognized as one of the leading universities in the Philippines and has also been acknowledged as one of the top 300 universities in Asia from 2011-2013, (now USEP seats in the QS World University Rankings 2025), has its major role to play in providing assistance to in-service teachers in the basic education. Having been awarded by the Commission on Higher (CHED) as the Center of Excellence (COE) for Teacher Training Education, the College of Education is in its best position to offer its expert services to its partner agency. As COE, the College is operating in accordance with its mandates, to wit: 1) act as model in instruction, teaching-learning innovations, and research and extension programs; 2) provide capacity-building opportunities to educators and 3) provide technical expertise of development programs of national and international organizations (CMO No. 19, s.2012). Those are just some of the responsibilities of the College that govern its operation. Anchored on these mandates, the university has the obligation to perform its role to address the pressing problems in education.

The Creation of Project INNOTeach

Aside from the COE mandates, one of the functions of the university is to extend expert services to its community through an Extension. It should willingly extend whatever it can do as agent of transformation to the community. In answer to the expressed need and upon the mutual agreement between the two agencies, USEP and the City Division, agreed to come up with an extension project dubbed as **Project INNOTeach: Innovation for 21st century teaching and learning**. In 2016, a Memorandum of Agreement was enacted, and the project implementation began in 2017 and ended in 2019. The Project hoped to address the gaps in elevating the performance of students in the City Division through the capability-building of teachers.

Theory Base

This project is anchored on the competency-based theory of education by Chomsky (Saliha, C., & Warda, K. 2010), which tackles the problems and ways of modernizing education. Thus, innovative education came into existence. According to this theory, innovative education is not only a new way of teaching, but a new way of thinking (Seidel, V. P., Marion, T. J., & Fixson, S. K, 2020). The focus of education is not on the transfer of knowledge which constantly outdates, but on the mastery of competencies that allow the learner to acquire knowledge on its own. It is supported by the reflective framework of Rolfe (2001) which emphasizes that teachers must be reflective of the day-to-day practices so they would be to make some interventions for more effective teaching. Hence, Project INNOTeach aimed to enhance the core competencies of education practitioners with the conviction that by improving the competencies of the educators through capability building activities, high academic performance would be achieved.

Objectives

This paper aimed to highlight: 1) How the project INNOTeach created and implemented; 2) What innovations and significant outcomes it contributed to City Division as the partner agency and 3) What significant contributions it made to the university as a whole?

METHODOLOGY

This paper basically employed a qualitative-narrative design where it considered the real context of the project implementation. Narrative research is a distinct qualitative where it describes a single person, a group of people, or real event, where data gathering is engaged through collection of stories, reporting experiences, and presenting the meaning of these experiences to the individual or group (Johnson, et.al 2014, Overcash, J. A., 2003). Regular recipients of the project were the teacher participants.

On the other hand, Project INNOTeach was guided by Input-Process-Outcome (IPOO) Framework as shown in Figure 1. The significant quantitative and qualitative inputs from the established school data of the partner agency were processed and became the basis for generating appropriate innovative deliverables. The knowledge, skill, attitude and values of the participants particularly in the aspect of instruction and assessment, and the resources used in the teaching and learning were taken into account as another valuable inputs in conducting capacity-building, designing and adoption of interventions, and giving them the right skill to conduct classroom-based action researches as the teachers' basis for coming up with a right decision.

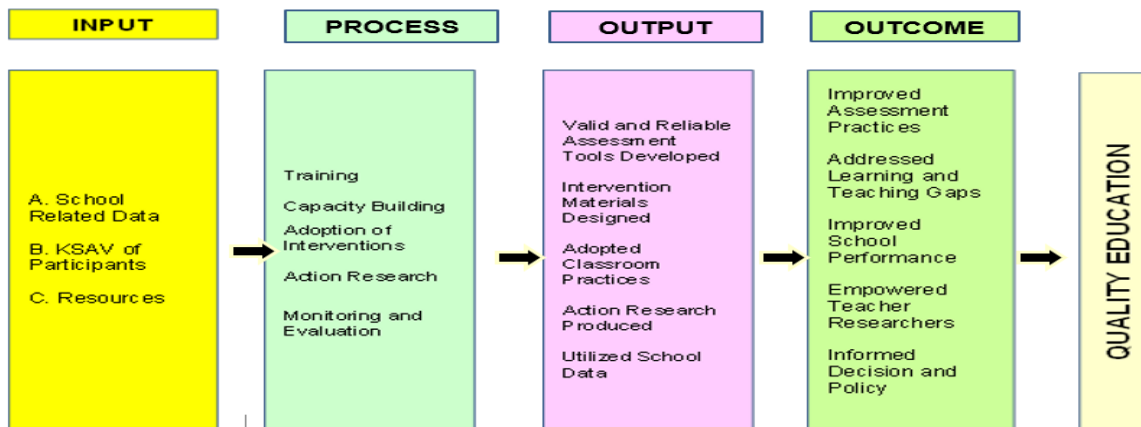


Figure 1. The Conceptual Framework of Project INNOTeach

As seen in Figure 1, when inputs were put together into appropriate training, teacher participants would be able to develop valid and reliable assessment tools that measure learning competencies in line with the performance standard of the curriculum. As such, teachers would be able to reflect their own practices, conduct action researchers, produce material intervention for action, and generate innovations in their respective schools or classrooms. When done right, this project was hoped to generate quality education outcomes such as improved assessment practices, addressed teaching and learning gaps, improved school performance, empowered teachers for research, and informed decision and policy in basic education. Thus, in totality, it produces quality education in the 21st century.

After considering the major inputs, the project came up with six (6) components namely: 1) phases of test development, measurement and evaluation contextualizing DepEd Order. No. 8 s. 2015; 2) finding the meaning of scores, data mining and analyzing assessment data; 3) designing interventions to address performance gaps; 4) improving teaching and learning through action research; 5) basic data analysis for teachers and school administrators and 6) writing research reports for presentation and publication. The modality of delivering the project was through an in-depth training-workshop sessions to selected educators to wit: elementary and secondary test formulators, master teachers, school heads, and supervisors.

RESULTS AND DISCUSSION OF THE INNOVATION

These are the highlights of Project INNOTeach:

Its creation and implementation. Project INNOTeach was conceptualized by the former Director of USEP Extension Division. A Memorandum of Agreement (MOA) of the project was signed into effect by the President of University and the Schools Division Superintendent of City Division in 2016. A Special Order was issued by USEP President to the faculty who would take the lead of the implementation. Consequently, Office Orders were issued to the members of the INNOTeach teams.

The first training labeled as Counting Assessment Data: Validating Evidence for Classroom-Based Action Research, was immediately acted and conducted. This also marked the launch of Project INNOTeach. The generosity of the Schools Division Superintendent, together with the Chief of Planning, at the same time as the designated INNOTeach focal person of the City Division, a training was conducted. Likewise, the full support of the Dean of the college, the expertise of the faculty, and the technical assistance of the extension staff, made

the first 2-day training-workshop very successful. The total participants of the training reached 120 from the group of supervisors, principals, and teacher-test developers of the division. Thus, it was later divided into 3 groups such as the elementary group, secondary group, and representatives of districts for elementary and clusters for secondary. A series of training workshops were conducted following the six components of the project.

However, what made the participants challenged most were the series of sessions on conducting classroom-based action research. The training was given under the assumption that teachers were able to identify the pressing problems of the learners and thus, one of the best antidotes was to engage them in conducting classroom-based action research. That was one of the packaged technologies delivered by INNOTeach that aroused the intellectual sensibility of the teachers to improve teaching and learning. Classroom-based action research showed the reflective practice of the teachers; thus, they were able to discover some causative factors of the learners' behaviors that affect academic performances, which eventually led them to become innovative in their strategies and approaches in teaching (Cain, T. 2011; Leitch, R. & Christopher Day, 2006). One of the innovations made by teachers was the development of instructional materials appropriate to the learners' needs; second, was the appropriate use of these innovative materials to address the identified gap of learning; and lastly, the teachers were able to discover how these innovative materials have helped the learners in the teaching-learning process. These innovations offered a solution to identified problems one at a time.

Its Innovation and significant contributions made to the City Division. The action research component of the project was able to capture and mesmerize the inquisitive attention of the participants. It made a twist in their minds from the perspective that conducting research was a very tough endeavor and consumed a big fraction of their time into a passion of reflecting their daily practices and coming up with classroom-based action research. Hence, it gave birth to the coined phrase, *writing-up classroom-based action research, the INNOTeach way*. This innovation made use of templates and worksheets in birthing the context of the problem. Choo et al (2011) found out that the use of worksheet scaffolds the learning of students in dealing with problem-based learning. Because of the friendly and workable innovation, a series of training sessions were conducted.

Division level training. The first line recipients of the project were in a heavy workshop on making a classroom-based action research proposal. Their outputs both in soft and hard copy were submitted to the Office of the School Division Superintendent under the recommendation of the project management. As approved, proposals were conducted, and teachers were able to make the final manuscript of the paper.

District Adopters' Training- Workshop. Part 1 of the workshop was focused on problem identification where teachers' minds were directed to account for those students who have maybe worse behavioral or academic problems in their daily classroom engagement activities. Templates were given in accordance with DepEd Order No. 144, s. 2017 on the Research Guidelines and Tools. With the given templates, they were guided to reflect on their classroom and teaching practices and later find out what intervention they are going to undertake to address the identified problem. Each participant was required to present orally their outputs in the presence of the panel of evaluators to help them improve their proposals. In Part 2, the participants were on series of workshops finalizing their outline for classroom-based action research. At the onset of the workshops, they were reminded to submit the final research proposal both soft and hard copy to the team, which would be finally inspected for submission to the office of the School Division Superintendent for approval. While in Part 3, the focus was on finalization of the research manuscript and critiquing by assigning USEP faculty to act as co-authors of the work. This series of training courses were extended to secondary group and district representatives' group.

It produces 94 Approved Classroom-Based Action Research. It was one of a kind in the City Division where there was a bulk of action research approved by the Schools Division Superintendents as Batch 1 of the project, endorsed by INNOTeach as its first outputs. A new milestone achieved.

It groomed INNO Teach Organic Trainers for Cascading Technology. For every extension project in the community, a question of sustainability is always a good consideration. Recently, a group of 30 organic trainers have become responsible in cascading the INNOTeach innovations throughout the districts of the City

Division to sustain the project. These organic trainers became the prime-movers of action research in the City Division until the present.

It inspired the hosting and creation of District Research Summits and Journals.

As of the time being, there were at least 4 districts who conducted research summits and created journals for action research. Outputs of INNOTeach were presented in the district level presentation and published in the district journals, which boost the evidenced-based solution to classroom problems. It also produced several instructional material interventions and strategies that can be prototyped across similar problems.

It produced qualifiers for BERF regional and national level.

This created a new breakthrough for the City Division to produce regional and national qualifiers of research in the Basic Education Research Funds (BERF). Several INNOTeach researchers were qualified to be funded by BERF, Regional level.

It led to the establishment of different centers in the school.

When the right causes of the problems were identified, building an appropriate solution became an innovation. As teachers were able to find out the right causative factors of the problem, they were able to innovate intervention materials. As mentioned by the Schools Divisions Superintendent during the turnover ceremony of the project, INNOTeach paved the way to establishing reading and feeding centers in the schools as identified interventions to raise the academic performance of the children.

It transformed the behavioral impressions of teachers in seeing a child with a problem. Of all the significant contribution that the project produced toward the partner agency, this kind of creating a transformation in the lives of the teachers is seen to have the most lasting impact, since it would eventually raise the level of student outcomes which is the dream of the project. This transformation is categorized into three: First, **teachers became reflective of their work.** When teachers were asked about their behavioral impressions about the INNOTeach way of doing action research, this made them realize that to come up with action research it not looking for a problem outside their classroom but just to reflect what is happening in the teaching-learning process. This impression is supported by Rolfe (2011) who emphasized that action research is a reflective framework. A teacher said, *'I now realized that if only teachers know how to conduct action research, immediate problems of the children will be addressed.'*

Second, teachers **became proactive in accommodating children with special needs.** It is a normal feeling of teachers to feel indifferent when they see children with problems in their classrooms. However, it is significant to note that a teacher said, *when I see children with problems in my classroom, I become excited about them, dili pareha sauna na maglagot ko (unlike before when I hated them.) Another teacher said, "I am inspired to reflect what is happening in a child that I hate most... now I am happy to find a solution to the problematic pupils.'* Indeed, *an Action research is a way of innovating things as an answer to social problems* (Smith, 2001; Greenwood, D. J., & Levin, M. 2006).

Finally, **teachers became passionate in conducting more action research in the future.** The INNOTeach way of presenting the action research made the teachers passionate for research, *'simpli ra man gud pagka-explain, dali ra masabtan, then naa pa gyuy templates na i-follow (the explanation was just so simple and it is very easy to understand because there are templates to follow),...now I learn to love action research which I did not like before.'* With a simple approach to the way of doing research, classroom teachers were inspired to come up with the write-up.

The turning-over of the INNOTeach kit to City Division. As the project ended in 2019, it culminated with a remarkable turnover ceremony hosted by the partner agency where officials of the university were present to receive the plaque of recognition for its project. A project kit containing instructional printouts and materials was turnover symbolizing that transfer of technology. On a speech, the Schools Division Superintendent recommended that INNOTeach be scaled up to the teachers in the senior high school. The duration of its implementations was able to generate more than 20 training workshops for its target clientele, with a total of

more than 8500 manhours excluding field monitoring. After the turnover, the Project INNOtTeach has been sustained by the City Division by a group of organic trainers.

It made significant contributions to the university. Since the project was inspired by passion and dedication, it did not only give benefits to its recipients, it also stirred up mutualism effect. These contributions were categorized into three. First, *it produced research* presented at both national and local levels which gained awards. Second, *it involved 15 faculty members* of the college as co-authors of teachers in the research outputs. Third, *it publicized the INNOtTeach technology* to the public by giving out souvenir shirts to its recipients. And finally, it gained a plaque of recognition to the University for its *Invaluable Partnership* with the City Division in the implementation of project INNOtTeach.

The challenges met by Project INNOtTeach during implementation could not outweigh its gained benefits and outcomes. Though the project duration was only three years (2016-2019) as indicated in the Memorandum of Agreement, the transfer of technology has been sustained by the City Division until the present.

CONCLUSION

Innovations made things easier to do and use. No matter how difficult a thing is, when it is reflectively done with passion and dedication, it would surely produce significant outcomes. Giving emphasis on the reflective practice of the teachers is the key to improving student outcomes. The project implementation was very successful by transforming the outlook of teachers in the chosen profession. With this transformative effect in the lives of the teachers, INNOtTeach was able to initially achieve its dreams in producing quality student outcomes in the 21st century teaching and learning.

RECOMMENDATIONS

This paper highly recommends the adoption of INNOtTeach in coming up with classroom-based action research by all teachers at all levels. School heads, supervisors, deans, and everyone who has the concern to address immediate needs of the learners may come up with action research using this innovative way of finding an intervention or a solution to various problems confronting the teaching-learning process. It recommends further that the suitability of the technology in the partner agency be closely monitored by active involvement of the INNOtTeach team in the various undertaking related to the outcomes of the project. Finally, the scaling up of the project for the teachers in the senior high school would be a part of the future planning both the university and its partner agency.

Ethical considerations

The writing of the manuscript observes data secrecy and privacy.

Disclosure Statement

No potential conflict of interest was reported by the author.

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