



Bachelor Of Secondary Education (Bsed) Mathematics And English Projects: An Impact Study

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Abstract

This qualitative study explored the impact of the two extension activities of the University: "Mobilizing Constituents' Capacity for Community Empowerment" under the bsed Mathematics and "Local Government Officials Seminar-Workshop on Basic Documentation" under the bsed English. A qualitative research design was adopted for the study, using Focus Group Discussions (FGD) with community beneficiaries and local government officials for data collection but prior to conducting the FGD, participants were informed of the study's objectives and provided with informed consent, and thematic analysis was used based on the framework by Braun and Clarke (2006). Results show that the mathematics project promoted problem-solving, transparency, and participatory governance via numeracy-based planning, while the English project increased documentation, maintenance of records, and professional communication among staff of Igs. Both interventions improved community empowerment, accountability, and students' learning in conformity with Outcome-Based Education (OBE).

Keywords: impact study, extension projects, community empowerment, documentation, qualitative research.

Introduction

The conduct of an impact review on extension projects, such as "Mobilizing Constituents' Capacity for Community Empowerment," which is aligned with the BSEd Mathematics curriculum, and "Local Government Officials Seminar-Workshop on Basic Documentation," which is aligned with the BSEd English curriculum, is viewed as a strategic necessity and an academic requirement. Essentially, this research is based on the Commission on Higher Education's (CHED) Memorandum Order No. 52, series of 2016, which mandates that Higher Education Institutions (HEIs) fulfill their four key functions, including instruction, research, and extension. It presents a stringent template for transforming academic knowledge into applied, real-world results. Extensions translate to a mechanism whereby the university expands its outreach to the community and determines the capability of its programs to lead to social transformation and attain sustainable development.

Four interrelated purposes guide the rationale for conducting impact studies. First, it reinforces the system of evidence-informed community engagement by demonstrating how the BSEd Mathematics project enables individuals to develop problem-solving capacities and make informed decisions regarding their social and economic situations. The BSEd English project, by comparison, helps local government officials maintain accurate records and other supporting documents that contribute to effective management. Gertler et al. (2016) affirm that impact studies yield empirical verification of good practices and their determinants, and consequently ensure that programs yield measurable and sustainable outcomes. Second, the project advances accountability and transparency by showing to parties that have stakes—in this case, the people of the community, local government offices, donors, and university management—that the public funds expended, knowledge of teachers, and students' involvement translate to specific and valuable gains (Bawole & Hossain, 2017). The second reason is that the research findings will help enhance the BSEd English and Mathematics

programs through improvements to the curriculum and learning instruction. By understanding how student involvement in these projects translates into the development of leadership, communication, and problem-solving skills, the programs can better align with the intentions of Outcome-Based Education (OBE) and strengthen the connection between theoretical knowledge and practice (Lizzio & Wilson, 2009). The fourth purpose is that this research contributes to policy building by offering realistic case studies that can illuminate reforms within local government offices and community empowerment initiatives. It can also offer case studies that can be applied elsewhere within other provinces of the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) and Region XII (Brillantes & Fernandez, 2011).

The significance of the study resonates at three levels: community, university, and policy-making. At the community level, the mathematics project fosters active participation in development planning. It strengthens collective action, while the English project equips local government officials with the skills to maintain transparent and accountable documentation systems, thereby supporting sustainable local governance (UNDP, 2020). For the university, the impact study validates Cotabato State University's commitment to its extension mandate and to the Philippine Higher Education Reform Agenda by linking classroom learning with meaningful community engagement. It highlights how students' real-life involvement in extension work enhances their professional competencies and readiness for their future teaching roles (Lapan et al., 2014). At the policy level, the documented results provide a valuable reference for local government units and regional development councils seeking to institutionalize best practices in community empowerment and administrative documentation. By providing evidence-based insights, the study can inform decision-making and serve as a model for capacity-building programs in other communities.

Furthermore, the study shall address SDG 4 (Quality Education) because both extension projects are directly educational. They train local officials and empower communities through knowledge and skills development and they promote lifelong learning and improve literacy and numeracy in governance and community documentation; SGD 17 (Partnerships for the Goals) because both projects collaboration between the university and local government units (LGUs) and fosters multi-stakeholder partnerships for sustainable development; SDG 11- Sustainable Cities and Communities (secondary but relevant) by empowering community members and local leaders, the projects strengthen the social fabric and governance of local communities, contributing to inclusive and sustainable human settlements; and SDG 5 – Gender Equality (if the projects ensure women's participation) because they engaged women officials and constituents, they contribute to gender-responsive governance and community empowerment.

Finally, conducting an impact study on these BSEd extension projects ensures that Cotabato State University not only fulfills its academic and social mandate but also strengthens its role as a catalyst for local development. Through empirical evaluation, the study bridges academic instruction, community service, and policy formulation, contributing to sustainable governance practices and the holistic formation of future educators.

Research Objectives

This study aimed to evaluate the impact of the BSEd English and Mathematics Extension projects. Specifically, to:

1. explore how the BSEd Mathematics extension project has shaped the community's collective problem-solving abilities and sense of empowerment.
2. describe the ways in which the BSEd English seminar-workshop has influenced local government officials' practices in documentation and record-keeping.
3. capture and interpret the experiences and challenges shared by stakeholders during the planning and implementation of the two extension projects

Methodology

The research employed a qualitative research design, with focus group discussions (FGDs) serving as its primary data collection instrument. The qualitative research design is suited here because the research desires to understand the lived experiences, perceptions, and knowledge of the respondents regarding the success of two extension initiatives: the BSEd Mathematics program titled "Mobilizing Constituents' Capacity for Community Empowerment" and the BSEd English program titled the "Local Government Officials Seminar-Workshop on Basic Documentation." Qualitative research provides an enriched and in-depth understanding of stakeholders' perceptions regarding the transformation of empowerment, documentation practices, and

student learning outcomes that cannot be clearly articulated by quantitative research alone (Creswell & Poth, 2018).

The research involved two general types of participants: (a) local people and individuals who were privileged to take advantage of the BSEd Mathematics extension program, and (b) local government officials and personnel who attended the BSEd English documentation event. The research utilized purposive sampling to gather meaningful and relevant data. The non-probability sampling technique is suitable for qualitative research because it objectively selects individuals with actual experience and in-depth knowledge of the research topic (Palinkas et al., 2015).

The optimal number of participants during an FGD was between 6 and 10 to ensure effective interactivity among participants, while also providing each participant with sufficient exposure to respond (Krueger & Casey, 2015). There were various FGDs held with each of the groups of stakeholders to make sure that each one of them is on the same understanding and to make the space comfortable and inviting to share experiences. The FGDs were conducted in a semi-structured format using a guide of open-ended questions developed from the study objectives. Sessions were moderated by the principal researcher with the assistance of a trained note-taker. Each FGD was expected to last approximately 60–90 minutes and was audio-recorded with the participants' consent. Prior to each session, informed consent was obtained, and participants were assured of the confidentiality of their responses.

FGDs continued until data saturation was achieved—that is, when no new themes, insights, or patterns emerge from successive discussions (Guest, Namey, & Chen, 2020). Once the FGDs yield repetitive information without generating new categories of analysis, the researcher considered saturation to have been reached and stopped conducting additional sessions.

Audio recordings were transcribed verbatim and analyzed using a thematic analysis approach. The process followed Braun and Clarke's (2006) six-phase framework: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report.

Results and Discussion

This section provides a comprehensive interpretation of the qualitative findings derived from focus group discussions (FGDs) conducted with two key stakeholder groups: community beneficiaries of the BSEd Mathematics extension project and local government unit (LGU) officials who participated in the BSEd English seminar-workshop. The discussion is organized thematically to present a structured and in-depth analysis of the participants' narratives in relation to the study's objectives. For each probing question, three salient themes were identified to encapsulate the collective experiences, perspectives, and challenges shared by the participants during the planning, implementation, and utilization of the extension projects. These themes are discussed extensively to uncover how the projects influenced participants' skills, attitudes, and participation in their respective community and institutional settings. Each thematic discussion is supported by direct participant quotations, ensuring that the interpretations remain grounded in authentic voices and lived experiences.

Themes on BSEd Math extension project that strengthened problem-solving and empowerment

Evidence-based community planning and budgeting

The training moved planning from guesswork to calculation. Participants used simple tables and itemized costs to make transparent decisions. This procedural shift cut overspending, clarified responsibilities, and reduced conflict during implementation.

“Sa aming mga farmers, napakalaking tulong yong naibigay sa amin na training. Dahil doon sa turo nila natutunan naming kung paano kami magplano tungkol sa aming pagfahim, paano hindi kami malugi para hindi kami mabaon sa utang. Noong wala pang project ang CCSPC/CSU dito, hindi namin alam e kalkula kung may ganansiya ba kami o wala.” (For us farmers sector, the training extended for us was a big help because of their teaching, we learn how to plan especially in farming, how can we ensure we don't incur losses, so that we won't be buried in debt. Before CCSPC/CSU started its project here, we lack the knowledge to determine whether our farming activities were profitable or not.” (Participant 1, Math FGD)

The use of evidence-based planning allows communities to manage resources more accurately and make informed decisions. It builds a stronger sense of responsibility among members because everyone

understands the basis of financial allocations. Projects become more transparent and efficient as decisions are guided by actual data. This approach strengthens trust within the community and improves the quality of implementation.

Evidence-based community planning and budgeting improves local decision quality by shifting discussions from opinion to verifiable numbers which in turn increases clarity in resource allocation and reduces conflicts (Gherghina et al., 2022). Participatory planning processes also strengthen social networks and communal problem solving by engaging diverse groups in joint analysis of needs and resources (Ndlovu & Msimanga, 2023). However, the effectiveness of such practices depends on program design and local capacities since limited budgets or weak institutional arrangements can blunt intended benefits (Lehtonen, 2022). Together these studies show that simple numeracy tools and clear procedures are practical levers for accountable and transparent community governance.

Livelihood optimization and household income gains

Participants applied simple costing and pricing methods to local enterprises, revealing underpricing and improving margins. These concrete adjustments translated into measurable income improvements for groups, showing the direct economic value of the intervention. That practical payoff strengthens motivation to keep using numeracy in daily livelihood decisions.

“Sa amin naman na mga kababaihan, yong grupo namin na tinawag namin na “Kaniyogan” nagbebenta na kami dati ng virgin coconut oil pero hindi naming alam kung kumikita kami o hindi. Pero dahil sa project ng CSU nadagdagan ang mga produkto na naibebenta namin at doon na kami kumita dahil nabebenta na namin sa palengke at mga kakanin na gawa namin at doon na kami kumite, katunayan ang grupo namin ay registered na sa MOLE at meron na kaming assistance galing sa BDA kaya naipatayo namin yang BAKERY” For our women’s livelihood group which is called “Kaniyogan”, we used to sell homemade virgin coconut oil but had no idea if we were earning or losing... But because of the project of CSU, we learned some other homemade snacks then we adjusted and finally started making profit as a group. In fact, our group was already registered in the Ministry of Labor and Employment (MOLE), then we also received assistance from the Bangsamoro Development Authority (BDA), that is why we were able to establish our bakery” (Participant 3, Math FGD).

The use of basic mathematical tools helps communities understand the real costs and profits of their livelihood activities. It encourages groups to make smarter pricing and production decisions that lead to higher income. People become more confident when they see clear results from their calculations. This approach supports sustainable economic practices at the community level.

Farmers who receive skills training tend to increase their livelihood capital which then improves their income profiles (Zhang et al., 2025). For example, in China participation in collective organization training improved production techniques led to higher yields and better market sales which raised household earnings (Zhang et al., 2025). In the Philippines a program of microfinance plus financial literacy among smallholder farmers was shown to improve their ability to manage costs and reduce waste thereby increasing net income (Fronza, 2024). These studies together show that when training includes both technical (how to produce) and financial (how to price/cost/manage) components then households can optimize their livelihoods and experience real income gains.

Transparency and fair distribution of resources

Introducing per-household calculations and clear lists reduced perceptions of favoritism and complaints. When distribution rules are shown numerically, decisions feel objective, which strengthens trust in local authorities and in the process itself. This demonstrates that numeracy can be an anti-conflict, pro-accountability instrument at the grassroots.

“Dati nagkakaroon kami ng problema sa paghahati ng mga tulong sa amin lalo na yong may gulo pa sa amin... pagkatapos ng training namin, natoto na kaming maglista ng maayos at computed na bawat bahay at pinapaliwanag naman yon pag may pagpupulong na nangyayari. Kaya ngayon wala ng nagrereklamo kasi pantay-pantay na kami at klaro sa

lahat.” - “We once had an issue with dividing relief goods fairly especially during the time when there was conflict here... After the training, we made a proper list, computed everything per household, and explained it clearly during the assembly. No one complained this time because it was transparent.” (Participant 7, Math FGD)

Transparent and fair resource distribution allows community members to see how funds are allocated so they can trust local decisions. It reduces suspicion of favoritism or misuse of budget resources when allocations are made openly. Audits and community access to fiscal information improve accountability by enabling people to question discrepancies. Fair distribution improves legitimacy of local leadership by showing that everyone is treated equitably.

Recent literature shows that greater transparency in public budgeting aligns with more equitable resource allocation especially in community and local government contexts. For instance, Cuadrado-Ballesteros and Bisogno (2022) found that countries with higher budget transparency scores tend to achieve better financial sustainability and reduce misuse of funds. In Indonesia Suwandi et al. (2022) demonstrated that villages that implemented transparent budgeting practices improved trust in leaders and saw more equitable management of shared resources. In the Philippines the Open Budget Survey (2023) indicates that more public access to budget documents increases community oversight and contributes to more balanced allocation of public funds across localities.

Increased civic voice and confidence

Participants moved from passive listeners to active contributors, often voicing concerns or suggestions backed by numbers. This psychological shift — from hesitation to speaking up — is a core sign of empowerment and civic engagement. Over time, confidence built through small wins becomes sustainable participation rather than one-off involvement.

“Dati nahihiya akong magsalita kasi ang nasa isip ko ang Math ay para lang may pinag aralan. Pero noong natutunan kong gamitin eto sa simpleng pamamaraan, natutunan kong magbahagi ng aking kaalaman.” “I used to be shy to speak up because I thought math was only for the educated. But when I learned to apply it in simple ways, I started sharing my ideas.” (Participant 2, Math FGD)

Increased civic voice and confidence allows individuals to speak and participate more actively in community discussions. People begin to share their perspectives and question decisions using clear reasoning. This builds stronger engagement during planning and decision-making activities. It encourages a culture where every member feels valued and heard.

Studies show that community leadership programs build self-efficacy which leads people to speak up more in local governance settings. Castillo (2023) found that among municipal residents in the Philippines civic participation and competence are moderately high and improving especially among those exposed to local service delivery and participatory mechanisms. Montes et al. (2022) reported that adolescents in rural Colombian communities who engaged in citizen science projects felt more confident to advocate and to raise issues in public forums. Such findings underscore that when individuals gain small wins in expressing opinions or seeing their input matter their civic voice and confidence tend to grow.

Emergence of local technical capacity

Community members took on practical technical roles—checking budgets, bringing calculators, preparing estimates—reducing sole reliance on officials. This internal capacity both speeds decision-making and builds local ownership of projects. It’s a strong sign that the project seeded usable skills rather than temporary knowledge.

“Ngayon, kung meron kaming tinatalakay na Community Projects, nagdadala na ako ng notebook at calculator. Tumutulong ako para malinaw ang ibig sabihin ng mga numero para maintindihan ng lahat. Parang ako tuloy ang nagging ‘budget checker’ ng grupo.” “Now, when we discuss community projects, I bring my notebook and calculator. I help clarify numbers so others can understand the budget better. It’s like I became the ‘budget checker’ of our group.” (Participant 3, Math FGD)

The development of local technical capacity allows communities to handle basic planning and budgeting tasks on their own. It reduces dependence on external experts and builds practical problem-solving skills within the group. This leads to faster decision-making because people can analyze situations directly. It also strengthens community ownership of projects through shared technical knowledge.

When communities acquire basic technical skills such as budgeting simple tables and checking calculations, they can carry out planning tasks without relying on outside experts (Murphy & Casanova, 2023). Capacity building that links participatory budgeting with practical training helps local authorities and residents develop routines and tools that make decision making faster and more accurate (Pulkkinen et al., 2023). Scoping reviews also show that assessing and developing community capacity across specific domains is key to adopting and sustaining evidence-based practices at the local level (Birgel et al., 2023). Together these studies indicate that modest technical skills delivered in a participatory way produce durable local problem-solving capacity.

Themes on the BSEd English seminar-workshop's impact on LGU documentation and record-keeping practices

Standardization and professionalization of documents

Officials adopted structured formats (intro–body–closing) and templates that make documents consistent and complete. Standardization reduces ambiguity, accelerates review, and projects professional credibility to higher offices and stakeholders. This is administrative capacity-building in practice: small formatting rules yield big governance gains.

“Actually, bago ang training namin meron na akong alam ng pagsulat ng communication at minutes ng meeting pero ang ginagawa ko kinokopya ko ang luma kong gawa o kaya naman naghahalo ang tagalog at English, pero noong nag training ang CCSPC/CSU nadagdagan yong kaalaman ko bilang Barangay Secretary lalo na yong minutes of the meeting. Kaya ngayon sumusunod na ako sa tamang structure—introduction, body, closing— at tsini check ko rin ang grammar bago e finalize.” “Before the training, I already have knowledge how to write communication and minutes of meeting, but I’d usually just copy old formats or mix Tagalog and English when writing minutes or letters. Now, I follow a proper structure — introduction, body, closing — and I check my grammar before finalizing.” (Participant 2, English FGD)

Standardization and professionalization of documents improve the clarity and structure of official records. It helps staff produce consistent outputs that are easy to review and archive. This reduces errors and speeds up administrative processes. It also builds a more credible image of the institution in formal transactions.

Studies show that using structured, standardized templates improves documentation quality significantly. Ebbers et al. (2022) found that after implementing structured and standardized notes outpatient care records improved in most measured items. Another study in a low-resource hospital demonstrated that adopting templates raised compliance with documentation standards from under 40% to over 80% after interventions with training and standard form use (Abdelrahman, 2025). These findings suggest that consistent document formats help reduce omissions and make writing clearer and more reliable across different users.

Improved filing, labeling and digital archiving

Officials introduced a labeling system and began keeping both printed and soft copies, which drastically improves retrieval. Better archiving reduces time lost during inspections and strengthens institutional memory—critical for audits, planning, and continuity when personnel change.

“Ang training na yon ay tinuruan kaming mag organize ng files at documents naming. Natuto din akong maglagay ng label. Dati kasi pag may documents akong hawak nalalagay ko lang sa isang folder doon na lahat, hindi ko napaghihiwalay. Pero ngayon may label na at hiwahiway na ang resolutions, letter, report—may printed at meron sa computer na nakafolder din. Madali na ngayon hanapin pag kailangan o may humingi ng mga lumang

documents.” “The training taught us how to organize files properly... Now, we have a labeling system. Before, whenever I had documents with me, I usually put them in one folder. But now, I labelled them — resolutions, letters, reports — both printed and soft copy. It’s easier to find things now, especially when someone asks for old records.” (Participant 2, English FGD)

Improved filing, labeling and digital archiving makes information easier to find and manage. It reduces the time spent searching for documents and prevents loss of important records. This improves accountability because files are organized and accessible when needed. It also supports smooth transitions when new staff take over responsibilities.

A recent study of multi-purpose cooperatives in Occidental Mindoro shows that using digital tools plus proper record classification and labeling significantly improved how records are retained and accessed (Halog et al., 2025). In that context cooperatives that adopted digital file storage and organized filing systems processed document requests faster and reduced time spent retrieving paper records. Another Philippine case in the LGU of Calanasan, Apayao, revealed that weak filing and lack of digital tools were major bottlenecks in records retrieval and service delivery (Balangat, 2025). Together these findings suggest that better filing, labeling and digital archiving reduce delays improve service responsiveness and strengthen administrative efficiency.

Clarity of tone and better writing mechanics

Participants learned to write formally but clearly, avoiding the mixed Taglish or overly stiff language that previously hampered comprehension. The move toward concise, accurate English reduced revisions and improved confidence among staff who draft and sign documents.

“Dati, pag sumusulat ako ng letter ay kadalasan mali ang English ko kasi ko alam paano ang tamang to ng sulat ko. Pero pagkatapos ng workshop, natutunan ko ng sumulat ng form at klaro.” “Before, I’d write letters in a very stiff or sometimes wrong English because I didn’t know the right tone. After the workshop, I learned to keep it formal but clear.” (Participant 6, English FGD)

Clarity of tone and better writing mechanics make official documents easier to understand. It reduces misinterpretation and helps convey messages more accurately. Staff become more confident in writing because they can express ideas clearly. This leads to smoother communication between offices and stakeholders.

A study in Sri Lanka found that annual reports with clearer tone and simpler language were easier for stakeholders to understand and trust (Samarakoon et al., 2025). In the Philippines a paper analyzing technical writing students at Nueva Ecija University showed that using plain language visuals and audience-tailored document structures improved readability and reduced misunderstandings (Garcia & Bondoc, 2024). Another research in English L2 contexts reported that grammar, punctuation, and mechanics feedback raised quality scores in writing by non-native speakers significantly (McCarthy et al., 2022). These studies suggest that clear tone and strong writing mechanics help improve the clarity, effectiveness, and professionalism of documents.

Readability, completeness and quality gains in official records

Minutes and reports became fuller (date, attendees, agenda, resolutions) and easier to follow, which reduces back-and-forth with reviewing offices. Document quality improvements were noticed and commended by city/municipal reviewers—an external validation of the training’s impact.

“Dahil sa workshop, natoto rin kaming gumagawa ng Minutes of the meeting pati ang resolution kasi mahalaga sa aming mga kagawad na matutunan eto. Hindi naming pwede i-asa sa secretary yon. Pagkatapos ng training, sinusunod na namin ang tamang paggawa- may date, sino ang present, agenda, discussion at resolutions.” Because of the workshop, we also learn how to write minutes of the meeting and resolution because this is very important for us, as ‘Kagawad. We must depend solely to our secretary. After the training, we started following the proper structure — date, attendees, agenda, discussions, resolutions.” (Participant 5, English FGD)

Readability, completeness and quality gains in official records make information easier to track and

verify. It improves the accuracy of reporting because details are organized and presented clearly. This reduces misunderstandings and the need for repeated clarifications. It also strengthens accountability through reliable and well-structured documentation.

Improved readability and completeness in official records are linked to clearer and more accurate decision making. Studies show that structured and standardized documentation increases note quality and reduces omissions when compared with unstructured notes (Ebberts et al., 2022). Research comparing documentation to actual encounters also finds that using explicit quality criteria uncovers gaps and guides concrete improvements in accuracy and thoroughness (Weiner et al., 2024). Together these findings indicate that adopting simple templates and using agreed quality checks can raise the overall reliability and usefulness of official records.

Faster processing and improved responsiveness from higher offices

Clearer, well-structured letters and endorsements received quicker replies from agencies, speeding project approvals and support. This operational efficiency reduces delays in service delivery and increases the barangay's ability to act swiftly during local needs.

"Dati, pag nagsusubmit ako ng endorsement letter sa mga agencies, informal masyado. Pero noong inapply ko na ang natotonan, ang sulat ko straight to the point na at tam ana ang grammar. Kaya ang mga agencies ang nagreply na nag mabilis." "When I submit endorsement letters to agencies, they used to look informal. After applying what I learned, my letters are straight to the point and grammatically correct. Agencies started replying faster." (Participant 3, English FGD)

Faster processing and improved responsiveness from higher offices allow local units to act quickly on community needs. It shortens the waiting time for approvals and support which leads to smoother project implementation. Clear and well-structured communication encourages prompt action from agencies. This strengthens coordination between local offices and higher authorities.

Recent research shows that digital tools and clear information practices speed up responses from higher government units. For example, the study *The Impact of Digitalized Communication on the Effectiveness of Local Administrative Authorities* (2022) found that during the COVID-19 pandemic local administrations in Central Europe were more effective when they used digital communications. Another Philippines-based study *Evaluating Workflow Automation Efficiency in a Government Agency* (Cabaobao Jr. et al., 2024) reported that adoption of workflow automation reduced process time significantly in regular administrative tasks. These studies suggest that well organized documentation and digital processes improve responsiveness and reduce delays in official procedures.

Themes on stakeholder experiences and challenges in planning and implementing the two extension projects

Transformative "aha" moments that catalyze sustained engagement

Participants repeatedly cited eye-opening moments—e.g., harvest projections revealing wrong assumptions or the pride of finishing a math exercise—as pivotal to changing attitudes. These affective breakthroughs convert abstract training into lived competence and motivate continued use of skills.

"Isa sa diko makalimutan na experience ko ay yong sa harvest projection activity. Lahat kami may kanya kanyang estimate. Noong nagcalculate kami, napagtanto naming na mali kami." One unforgettable experience was during the harvest projection activity. We were all throwing in our estimates, and when we calculated together, we realized our usual guess was way off." (Participant 4, Math FGD)

Transformative "aha" moments help participants understand concepts in a clear and memorable way. These experiences build confidence because people see the direct results of their learning. It motivates them to keep applying the skills in real situations. This leads to lasting engagement and stronger community involvement.

Studies show that moments of insight or realization in community programs can change how people see their roles and make them more engaged over time. For example, (Lathouras & Westoby, 2023) found that

when participants move from feeling disconnected to naming root causes of issues through participatory education, they experience shifts in confidence and start acting more persistently in civic life. Another study Building Trust: Leadership Reflections on Community Empowerment and Engagement in a Large Urban Initiative (Lansing et al., 2023) reports that when community leaders see that their feedback leads to actual change that “aha moment” makes them more committed and responsive in future collaborations. These insights indicate that designing learning experiences that allow revelation and real feedback helps sustain engagement beyond the project period.

Initial barriers: fear, habit, and time constraints — overcome by patient facilitation

Many participants admitted to initial hesitation (math anxiety, habit of handwritten reports, busy schedules), which slowed uptake at first. But consistent, patient facilitation—real-life examples, role plays, and step-by-step guidance—lowered those barriers and built confidence over time.

“The challenging part for us was at the start. Many of us hadn’t touched anything math-related in years. Some even said, ‘Ay, baka hindi ko kaya yan.’ But the facilitators really encouraged us.” (Participant 3, Math FGD)

The findings imply that patience in facilitation can gradually reduce participants’ fear of learning. When guided step by step they become more open to trying new tasks. Addressing old habits and time limits through flexible sessions encourages steady participation. This shows that supportive facilitation directly improves engagement and learning outcomes.

Multiple studies show that fear of failure or anxiety impedes learning unless facilitators provide supportive environments that allow gradual exposure and scaffolded tasks. For example, Paechter et al. (2022) found that in adverse learning circumstances anxiety, maladaptive cognition and emotions undermine learning but that strong self-concept and motivation (which patient facilitation can help build) support overcoming those fears. Habit change literature confirms that old, automatic behaviors resist change unless interventions are repeated over time with consistency and contextual support.

In a systematic review Singh et al. (2024) showed that habit formation typically takes 2-5 months and is influenced by frequency, timing, individual choice, and stable context — all of which patient facilitation can help put in place. Time constraint as a barrier shows up in interventions such as the self-management education trial for adults with Type 1 diabetes. Brennan et al. (2021) reported that workshops (though time-limited) plus follow up supports reduced fear and improved attitudes when facilitators allowed flexibility and provided booster sessions.

Tangible institutional outputs create pride and signal sustainability

Activities like sorting years of documents, building labeled cabinets, and delivering clean reports produced visible, durable outcomes. Those tangible gains created collective pride and made it easier for the barangay to maintain new practices—an important condition for institutionalization.

“The filing and organizing part stood out to me. We spent an entire afternoon sorting years of documents. It was tiring but satisfying. When we saw the final organized cabinet, everyone was proud.” (Participant 2, English FGD)

The results suggest that visible institutional outputs build a sense of pride among participants. When people see concrete results, they become more motivated to maintain their efforts. These outputs also help ensure that projects continue beyond their initial phase. This means that success is measured not only by learning but by lasting community impact.

Recent studies show that visible and concrete project outputs help communities feel pride and support long term continuation of activities. For example, Tsagkari et al. (2022) found that environmental and institutional outcomes and a strengthened sense of pride influenced local willingness to back renewable projects. Institutionalization research also links formalized outputs and routines to greater accountability and durability of programs (Haghighi & Takian, 2024). Practical sustainability interventions that include tangible deliverables plus training and follow up improve the odds that programs persist beyond initial funding (Moreland-Russell et al., 2023).

Implication

The findings imply that Cotabato State University's extension projects effectively bridge academic learning and community development by transforming classroom knowledge into practical applications that empower local communities. The BSEd Mathematics project enhanced participatory planning, transparency, and problem-solving, while the BSEd English project improved documentation, communication, and administrative efficiency among local government officials. In fact, the beneficiaries of the BSEd-Mathematics Extension project successfully organized a people's organizations that is duly registered with the Ministry of Labor and Employment (MOLE) and the Securities and Exchange Commission (SEC). Collectively, these outcomes demonstrate that university-led extensions can strengthen civic engagement, professional competency, and good governance, thereby fulfilling CHED's mandate for instruction, research, and extension integration. Moreover, the results provide valuable insights for curriculum enhancement, policy formulation, and sustainable local development aligned with SDG 4 (Quality Education), SDG 11 (Sustainable Cities and Communities), SDG 17 (Partnerships for the Goals), and SDG 5 (Gender Equality)—affirming the University's role as a catalyst for inclusive and transformative community change.

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