GLOBAL VOICES IN EDUCATION

CULTURAL AND TECHNOLOGICAL PATHWAYS

EDITOR

Asubiojo Raphael Ojo

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PREFACE

This volume presents a trio of scholarly chapters that explore innovative approaches to educational development across diverse cultural and institutional landscapes. Each contribution offers insights into how planning, values, and technology can shape the future of learning.

The first chapter focuses on the fundamentals of school development planning as a cornerstone of education quality assurance. It emphasizes strategic frameworks that support institutional growth and accountability. The second chapter introduces the Indian Knowledge System as a foundation for value-based learning in higher education, advocating for the integration of ethical and cultural wisdom into academic environments.

The final chapter examines the internationalization of curriculum through the lens of technology appropriation in an indigenous community in Southeast Mexico. It highlights how global educational tools can be adapted to local contexts, fostering inclusive and culturally responsive learning experiences.

Editoral Team
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CHAPTER 1
RUDIMENTS OF SCHOOL DEVELOPMENT PLANNING IN EDUCATION QUALITY ASSURANCE

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INTRODUCTION

One fundamental permanent nature of human existence is perpetual progress and dynamism to the demands of existence, a life of any living creature is full of hope, aspirations natural and artificial tactics of adaptation and exigencies of survival and actualization of dreams. While hopes and aspirations are general realms of humans at individual or personal level, over the years, communities, societies and nations profess a common and binding dream for the future that is usually tight to their philosophy of life, the opportunities and recourses at their disposal and most importantly the mutually underlying resolved and resilience in moving forward regardless of all odds.

School Development Planning (SDP) is a strategic and dynamic approach aimed at driving continuous improvement in the quality of education within a school. It offers a structured framework for systematically evaluating current performance, identifying key priorities, and setting realistic goals to enhance teaching, learning, and overall institutional management. By aligning these goals with broader educational policies and standards, SDP acts as a roadmap to tackle challenges, capitalize on opportunities, and maintain long-term academic excellence. This process fosters accountability among stakeholders while promoting innovation and adaptability to address the ever-changing needs of education.

Needless to emphasize therefore, that a GOAL in life is a natural human phenomenon, to set and achieve a goal, however, needs careful assessment of prevailing realities and the challenges to be surmounted as well as the juicy results to be derived as the goal is materialized. Overall, there is need for audacious selection of goals and careful and strategic planning of modalities and strategies to be followed for the attainment of the predetermined goals. A man or organization with no goal is deemed to wander helplessly in the wilderness wasting time and resources in pursuit and attainment of nothing. A goal without planning, however, is even more disastrous as it leaves the "Goal Keeper" in endless personal and collective failures, regrets, and humiliations. This is especially true if the "Goal Keeper" is a leader of a given organization or group. Realizing the importance of goal setting, adequate planning, and actions for the realization of goals, the Federal Republic of Nigeria, through the National Policy on Education (2014), outlines the following goals of education.

Development of individual into morally sound, patriotic and effective citizen;

- Total integration of the individual into the immediate community, the Nigerian Society and the world;
- Provision of equal access to qualitative educational opportunities for all citizens at all levels of education, within and outside the formal school system
- Inculcation of national consciousness, values and national unity
- Development of appropriate skills, mental, physical and social abilities and competencies to empower the individual to live and contribute positively to the society

While the Nigeria's National policy on Education revolves around morality, integration, values, equal access and development of appropriate skills, As for Gordon (1999) the whole purpose of education revolves around

- The individual's ability to know, understand and appreciate oneself and
- multiple perspectives concerning the world;
- The mastery of bodies of knowledge and the capacity to create new knowledge and techniques
- The ability and disposition to use knowledge, values, and thought to recognize and adjudicate relationships among the phenomena of one's experience.

On the other hand, Rothstein, Jacobsen, and Wilder (2008) reiterated the fact that

"Educators and parents first and foremost valued basic skills followed quite closely by critical thinking as well as the development of social skills, work ethics and personal responsibility as well as vocational, career, and technical education"

In addition to streamlining the philosophy and goals of Education, the Nigeria's National policy on Education provides robust plan for the achievement of the stated goals with levels of education from Early Childhood Care Education classes and culminate at University level. The plans further provides specialized curriculum for each subject which is usually reviewed time to time after careful evaluation and in response to the demands of time.

While the NPE and subjects based curriculums provides philosophy, goals and plans of action for the realization of the goals as well as rooms for reviews, evaluation and innovations, schools find it tough and challenging to design and thoroughly followed implementation procedure for school development plan. It is in view of the foregoing that this paper is specifically design to achieve the following objectives:

- Introduce the Education Quality Assurance priority areas for School
- Development Plan
- Present plainly the concept and methods of School development Plan
- Elucidate the steps in School development Plan
- Enumerate and discuss the 7 stages for production of School Development Plan
- Practically design a comprehensive School development Plan

1. INITIATE THE PROCESS AND MANAGE STAKEHOLDERS PARTICIPATION

Who are the stakeholders? The school's stakeholders are all those who are interested in the school and its development. These include the school's managers, teachers, and parents as well as community members such as religious leaders, business people, regional counselors, village/township heads, and regional office staff. Even learners are stakeholders who can make valuable contributions, especially at higher-grade levels.

A meeting should be held with different groups to discuss the need for school development plan. In such a case, it is important that the head designs an approach in which understanding and commitment are secured. The meeting should involve the Parent Teachers Association, The School Based Management Committees, Students Representative Council, and any other person or group that is genuinely considered to be interested in the overall progress and development of the school. During this process, the school head should keep the following tips in mind:

- Use the participative, consultative, and persuasive leadership styles,
- Concentrate on demonstrating your personal commitment to what the stakeholders propose and agree upon.
- Demonstrate a commitment to be objective and democratic.

- Focus on good communication and listening skills. The structure of communication may be Problem-Solution-Benefit Structure
- Prove that you are a competent person that can be trusted with the supervision of such an activity.
- Realize that whenever a new idea is introduced, people react differently to it.

During the meeting(S) issues concerning the present and future of the school should be discussed, this should be with a particular view of creating a sustainable SDP, therefore, there should be nominated and secondment for membership in the School Development Working Group otherwise called SDP Committee. Preferably, the committee/working group shall be headed by the school head. There shall be terms of reference, timeline and time for the next general meeting(S) to consider, observe and ratify the drafted version of the SDP.

2. CONDUCT SCHOOL ANALYSIS BASED ON WHOLE SCHOOL EVALUATION/SCHOOL SELF-EVALUATION AND OR OTHER INDICES

In this step, the school head and the School Development Plan Committee (SDPC) should focus on identifying the school's strengths and weaknesses. Doing a school analysis means looking at different things to judge whether the school is achieving its goals and meeting its obligations to parents, learners, and the local school authorities.

The purpose;
- To identify strengths of the school analysis to maintain is: or build upon.
- To identify weaknesses to be corrected and made right.
- To provide a basis for selecting priorities for development.

In this step, the committee may consider using SWOT analysis based on SSe and other indicators, Orr (2013) provided following steps in the procedure for conducting school related SWOT analysis for SDP:
- Identify the group you will work with
- Explain the purpose and goal of the activity;
- Consider the school SSe, WSE, EE and all other indicators

- Choose a recorder: This should not be the facilitator;
- Use a flip chart or some other method, in round-robin fashion, each participant will identify strength.
- The recorder will record the responses on the flip chart.
- Participant chooses to pass; he/she will say "Pass" and the next person will continue.
- A different sheet of paper will be used for Strength
- A different sheet of paper will be used for weaknesses.
- A different sheet of paper will be used for opportunities.
- A different sheet of paper will be used for threats

The focus in developing the list of SWOT, should be the school's vision and missions. The SWOT analysis should illustrate where you are now and where you want to go. The table below may be used to record final SWOT analysis upon which the SDP may be based.

Table 1. Prototype SWOT Analysis Table

STRENGTHS				WEAKNESSES	
1			1		
2			2		
3			3		
OPPORTUNITIES				THREATS	
1			1		
2			2		
3			3		

3. SET CLEAR GOALS BASED ON NEEDS ASSESSMENT

At this step, setting clear goals based on priorities and objectives that appear to be easy is usually found to be a herculean task. Fortunately, the outcomes of whole school evaluation, school self-evaluation, and SWOT analysis, together with the school's vision and mission, provide valuable guidance.

They, along with the National Education Quality Assurance's seven priority areas and entrepreneurship perspectives, always serve as reference points for setting clear goals.. To set and achieve goals, the following steps are recommended.

3.1 The Seven Steps of Goal Setting – Zig Ziglar
Identıfy the Goal

If you don't identify a target you will never hit it. When you identify a goal it means that you write it down and describe it clearly. Don't set any nebulous targets. If you want to have specific success you must have specific targets. A goal "To improve my results" or "To spend more time on homework" is not specific. A specific goal would be "To increase my marks by 10% for each subject".

Lıst the Benefıts - What's In It For Me?

Once you identify a specific goal you need to list the benefits you will receive when you reach that goal. Let's face it, we only do the things we want to do and are willing to do. If there are no personal benefits your motivation for completing the goal will be diminished. You will need all the personal motivation you can muster, and understanding what's in it for you is vitally important.

Lıst the Obstacles to Overcome

There will be some rough spots on your journey as you work to achieve your goals. Many of them can be anticipated and if you can anticipate something you can prepare yourself in advance to overcome it. So, think it through and make a complete list of all the things that can prevent you from being successful. If you can't think of everything, ask a trusted friend who knows you well to help you finish the list. Once you have identified these obstacles, start developing strategies to handle each one effectively. Remember that every challenge you overcome strengthens your determination and builds your confidence. With preparation and persistence, no obstacle will be strong enough to stop you from reaching your goals.

List the Skills and Knowledge Required

Knowledge gives us the power to accomplish things we would not otherwise be able to do, and skills give us the tools to take advantage of our knowledge. There is a direct relationship between knowing and doing, and successfully accomplishing your goals will require that powerful combination.

Identify the People and Groups to Work With

People do a better job when we have the help of others. They can help us with knowledge and skill and can offer valuable advice we need to be successful. So when you set your goals always consider the people and the groups you can work with that can help you be more successful.

Develop A Plan of Action

This is the most critical step and it involves thinking through the details of how you will achieve your goal.

Set A Deadline for Achievement:

If you don't set a deadline for completing your goals you will not be able to be accountable to yourself, or anyone else. If you are not accountable for your goals you will not achieve them.

It is however very important to note the overall goal, in consideration of main structures of evaluation, specific structure of evaluation, priority areas and time limit and possible challenges. It is important for school to set priorities and since the SDP can't do everything, it should prioritize the school's needs. By setting priorities, the SDP working group shall decide which needs are more central than others. Priority setting has the advantage of assisting the School Development Committee to identify the most important needs to work on during the coming academic session and which could be deferred for a year or two. Priorities shall also be based urgency, need and firm foundation of resources, support and time. This systematic approach ensures that the school's goals remain realistic, achievable, and aligned with its long-term vision.

After setting the goals as as provided above, the SDP working group shall set out specific objective, as always emphasized, objects should be SMART That is, they are;

- Specific and clear
- Measurable so that their achievements can be determined
- Achievable given the resources and skills available
- Realistic and not trying to do the impossible
- Time bound so that their completion date is indicated

To reiterate further, it is to be noted that, to be useful, a school development plan needs to be set out in clear and practical terms. School development objective should be SMART. In particular, they need to specify how achievement levels in the curriculum area should improve as a result of actions to be taken by the school. Improvement targets may relate to any aspect of pupils' achievement, including their knowledge, their skills and their attitudes. It is critical that the improvement targets are clearly linked to relevant baseline data that has been generated from the self-evaluation process engaged in by the school so that progress can be measured in an effective manner.

4. OUTLINE ACTIVITIES AND RESPONSIBILITIES

All plans must carry out some basic activities to materialized, activities should be specific in nature and the responsible office(s) and or sub-committees should also be specific and wholly informed most preferably in writing as to their nomination/appointment to a particular task with all demands of the task as well as schedules of reporting progress or challenges. In particular, all activities should be streamlined with responsible officer and timeline.

WHAT	WHY	WHO	HOW	WHEN

The school head may consider forming sub-committees with clear guidelines, the guidelines may designate the team's terms of reference. These guidelines might, among other things, include:

- The name of the committee based on the task awarded eg "School Basket Ball Development Committee" and the target eg "

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- State specific target and timeline eg "to win the 2024 state senior secondary schools basketball competition"
- Names and designation of group members
- A plan for communicating or reporting to the Main School Development Committee.
- Provide the sub-committee or the responsible officer with the requisite
- resources.

5. OBTAIN APPROVAL OF THE STAKEHOLDERS

From the initial process of SDP, we can deduce the fact that, it has never meant to be a one man show, it a collaborative exercise and at any stage of developing the SDP, the SDP working group or the main SDP committee should be carried along to offer observations, inputs, recommendations and approval. The final draft of the SDP should also be presented to all stakeholders and or their representatives to revalidate and append signatures ascertaining their approval for the new SDP. This process is critically important not just because it allows stakeholders to suggest possible improvements, to express their satisfaction, and to volunteer to shoulder other specific tasks and responsibilities.

The school head may find this stage easier if he maintains close relationship with all stakeholders from the beginning to this point, at approval and consent seeking stage, to be succinct, the school head may:

- Call a meeting of all stakeholders with the SDP development working group
- Inform people about the plan so as to ensure reinforcement and commitment of stakeholders to carry out the plan.
- Build agreement about what is to be done and inspire those carrying out the plan to work hard in doing so.
- Authorize the school heads and others with a mandate from the stakeholders to carry out the plan

6. SDP IMPLEMENTATION AND MONITORING

Implementation is so critical to school development plan that without it, the whole process is doomed for outright collapse. As noted earlier, the need for well-defined specific tasks and responsible officer/team can never be overemphasized. In addition, all teaching and non-teaching staff in the school should be adequately informed and clearly carried along. The school head may use diplomacy and persuasive techniques as he/she remain resolute in convincing all staff to key in for collective benefit of the students, school and the society. For any SDP to be well implemented, the following critical strategies are considered necessary.

- Distributed responsibilities/Delegation of responsibilities
- Weekly metrics
- Sustainable systems with documented processes
- Classroom walks and feedback
- Continuous improvement meetings

It is strongly recommended for a school head to use participatory management strategy; this strategy shall be coupled with effective managerial communications as such the school head, in addition to assigning responsibility, there should be a weekly evaluation of progress. This can be done through data gathered during classroom walk, a classroom walk (also called learning walks, quick visits, and data walks) is brief visits to classes and is typically involve looking at how well teachers are implementing a particular program or set of practices that the district or school has adopted a systematic and efficient way to gather helpful data on instructional practices, are showing up everywhere.

Another key milestone in SDP is monitoring the implementation process; monitoring can be defined as collecting information at regular intervals about ongoing projects or programmes within the school system, concerning the nature and level of their performance. Regular monitoring provides basis for judging the impact of inputs that have been fed into the system, in SDP, the main purpose of of monitoring is to enhance stakeholder intervention, record progress and thereby providing formative/continues assessment and prepare for overall annual or summative evaluation. Monitoring is concerned with whether a project or programme is implemented in a manner that is consistent with its design.

In other words, in monitoring we are interested in determining if the inputs were delivered at the times and in the quantities envisaged by the plan; if activities occurred qualitatively and quantitatively in the manner prescribed by the plan; if resources were expended at the times and levels outlined in the plan; and, if the individuals and communities targeted by the plan were the ones who were actually served by the project. Following are some strategies for monitoring of SDP.

- Holding team meetings with teachers, SBMC, PTA and all stakeholders to share about school progress and challenges.
- Using the SDP targets set during the designing point to check for progress at either variable ratio or interval ration schedules.
- Collection of important data such as mid and end of term results, records of learner's books checked, SSCE results, mock and pre-mock results and do comparisons.
- Using observations, discussions and documents to elicit data/information about key performance indicators
- Meetings: By asking teams or those responsible to report back on progress and problems, either individually to the principal or during group meetings.
- Self-Reflection: Encouraging those involved to reflect on the activities they are doing and challenges being encountered
- Have them share the results of their thinking with the principal/director.
- Invite and or welcome relevant state Education Quality Assurance Agency to conduct intensive inspection and periodic monitoring.
- Corrective Action: Corrective action should be takep in a timely manner when differences are noticed between plans and progress ma e. Such action may require giving guidance and direction to those involved. It is important to monitor the outcomes of the corrective measures to ensure that they effectively address the identified issues. Additionally, documenting the corrective actions and lessons learned can help prevent similar problems in the future.

7. EVALUATION OF THE SCHOOL DEVELOPMENT PLAN

Evaluation is the determination of the value of a thing. It is the formal determination of the quality, value or effectiveness of a programme, project or process is primarily concerned with measuring the impact of input the quality of people's lives. SDP evaluation, just like the entire curriculum evaluation is an attempt to toss light on two questions:

- Do planned courses, programs, activities, and learning opportunities as developed and organized actually produce desired results?
- How can the SDP offerings best be improved?

Evaluation therefore, is a process of making value judgments of information gathered on the execution of the SDP to help make decisions. The decisions, in this case, include:

- Determining if possible needs of modifications to the overall SDP, including priorities for the coming year.
- The extent to which the plan's objectives have been achieved and planned activities carried out.
- Indices to be reported to stakeholders regarding accomplishments and challenges in executing the plan during the outgoing session
  The evaluation itself consists of three stages:
- Progressive review of the SDP by SDP working group, the school head and all those involve in the initial conceptualization of the SDP, the larger team return to the action plan and mark-off the activities and tasks completed as planned and report impact of the completed activities.
- Conduct an objective School Self-evaluation (SSe) using National Education Quality Assurance criteria and recommended evaluation schedules and templates
- Determine overall average ranking scale
- Then compare each objective with the activities completed and conclude whether the objective was achieved. If not, additional or remedial action needed should be considered.
- Prepare an evaluation report that summarizes the findings.

- Invite the relevant Quality Assurance Agency to conduct Whole School Evaluation (WHE)
- Compare your overall ranking with that of the external evaluators and discuss
- Use the SSe Report and WHE report and discussions between the stakeholders, SDP working groups, responsible officers of each project, entire members of staff to decide on the way forward.

Generally, Evaluation is a process of making value judgments of information gathered on the execution of the SDP to help make decisions. The decisions, in this case, include:

- Begin with the behavioral objectives that have been previously determined. Those objectives should specify both the content of learning and the student behavior expected:
- Identify the situations that will give the school the opportunity to express the behavior embodied in the objective and that evoke or encourage this behavior.
- Determining the possibility of modifications needed in respect of the overall SDP including priorities for the coming year.
- The extent to which the SDP's initial goals and specific objectives have been achieved and planned activities accomplished.
- The nature of report to be delivered to stakeholders in relation to the successes and challenges in carrying out the plan during the predetermined specific timeframe already decided upon.
- In all steps, it is important that evaluators and administrators be vigilant of unintended effects—a redirection that seems especially useful in education.

8. REPORT EVALUATION THROGH SSe AND PLAN FOR FURTHER DEVELOPMENT

At the end of every SDP circle, and most specifically, every end of an academic session, the should

- Conduct a comprehensive SSe and whole evaluation of SDP

- Report a comprehensive evaluation report to stakeholders like SBMC, PTA etc, this might be done during an annual parents' meeting, prize-giving day, open day, or through a newsletter. Reporting back to stakeholders is an opportunity to keep them involved.
- Submit a comprehensive SSe report to State Educational Inspectorate and Monitoring Unit
- Invite Education Quality Assurance Agency (SEIMU) for Whole School Evaluation and compare Results
- Communicate results/outcome of WSE and SSe to all stakeholders
- Readjust the SDP to take care of the observations made during SSe and WSE
- During or after the evaluation, the SDPC/Working Group should begin the planning cycle again. If the school is about to begin the 2nd or 3rd year of the plan, have the School Development Planning Committee review the priorities set for the coming year during Step 3, adjust the priorities if necessary, and set objectives for the coming year. Then have the group go on to Step 4, prepare an action plan for the coming year, and go through Steps 5 to 9 again. After 3 years, it will be time to do another full school analysis and begin the process again at Step 2 to plan for another 3 years.

CONCLUSION

School Development Planning (SDP) is a vital strategic tool for enhancing educational quality and institutional performance. By providing a dynamic and systematic approach to assess current realities, identify priorities, set realistic goals, and establish actionable strategies, SDP enables schools to improve teaching, learning, and overall management. This study emphasizes the alignment of SDP with Nigeria's National Policy on Education (2014) and broader educational goals, including moral development, social integration, equal access, and skill acquisition. The involvement of key stakeholders—teachers, parents, students, and community leaders—is essential for creating a sustainable and participatory development framework.

Utilizing tools such as Whole School Evaluation, School Self-Evaluation, SWOT analysis, and the SMART goal-setting framework, schools can effectively prioritize needs, allocate responsibilities, and monitor progress. A well-structured SDP not only fosters innovation, collaboration, and accountability but also contributes to long-term educational excellence, the achievement of national objectives, and enhanced global competitiveness.

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CHAPTER 2
APPLICATION OF INDIAN KNOWLEDGE SYSTEM FOR VALUE BASED LEARNING IN HIGHER EDUCATION INSTITUTIONS

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INTRODUCTION

The Indian Knowledge Systems comprise of Jnan (Knowledge), Vignan (Science), and Jeevan Darshan (Philosophy of Life) that have evolved out of experience, observation, experimentation, and rigorous analysis. This tradition and its implementation in different domains has impacted our education, arts, administration, law, justice, health, manufacturing, and commerce. This has influenced classical and other languages of Bharat, that were transmitted through textual, oral, and artistic traditions. It includes knowledge from ancient India and, its successes and challenges, are indeed in all aspects of life. Indian knowledge tradition is extraordinarily rich and unique.

National Education Policy 2020 is the first education policy of the 21st century and aims to solve the problems of our country. A holistic and multidisciplinary approach to education will help develop individuals who possess critical 21st century capacities. The Sustainable Development Goals 4 proposes Quality education which is Value Based and missing out of our old proven traditions essential in the present scenario as the learners are in a dilemma. They are equipped with frustration, tolerance, hardship, endurance, being in a non-comfort zone, etc. which makes them greatly incompetent to survive in adverse circumstances. The consequences are appalling in terms of mental illness, depression, and in most cases suicide. Needless to say, this not only weakens, breaks, or distrusts an individual but also the family, friends, and near and dear ones of that particular individual. The curriculum has been rejuvenated to develop the necessary values in 21st century learners at the policy level. However, much needs to be worked out at the curriculum transacting level. In this regard, teachers play a vital role in envisaging the success of a value-based education system and the development of social as well as professional ethics among students.

Technological advancements, changing information cycles, social cohesion, globalization, and modernization naturally bring change into the education system and the teacher's role to meet the needs of the learners. A revitalization of the curriculum has taken place which includes ethical reasoning, traditional Indian values, and all basic and constitutional values as envisaged by National Education Policy 2020.

In this regard, infusing the knowledge of Para Vidya to make students aware of the knowledge of ourselves, the knowledge of the supreme reality to keep oneself away from vices is all the more imperative. It is essential to assess the transaction of Value Based Education and its effect on the youth. The progress made in this regard and to fulfill the vision of NEP 2020 in latter and spirit through Higher Education.

1. NEP 2020 and IKS

NEP 2020 emphasizes the importance of IKS and advocates for its inclusion in Higher Education Institutions. The policy highlights the Indian knowledge tradition, rich culture, deep-rooted ethos and aims for the well-being of everyone. The mother tongue and physical education have an important role in this revised education policy. To establish ourselves as a knowledge power in this century, it is essential to comprehend our heritage and educate the world on innovative methods of doing things. India boasts an ancient civilization history and practices recognized by humanity. The policy aims to inculcate in students moral, humane and constitutional value-based qualities of empathy and respect for others. Also courtesy, a democratic spirit, sense of service, respect for public property, scientific thinking, freedom, responsibility, equality and justice.

IKS stands for Indian Knowledge System, a term encompassing the vast reservoir of wisdom, practices, and knowledge systems developed and preserved within India's diverse cultural and intellectual landscape. IKS denotes the collective wisdom and methods that have developed in India over thousands of years, covering diverse fields such as philosophy, science, mathematics, engineering, technology, agriculture, medicine, arts, architecture, psychology, and others. A long journey, a sleepless night or a lazy day, a book can be your best friend. Cicero said, A room without book is like a body without a soul. And this is true. There is nothing stronger than the power of words. The contribution of Indian writers is remarkable. Local traditions of knowledge that resist globalization, nationalism, and specific national identity need to be kept alive in Indian English writing thus creating a post-colonial space which will not be destroyed by the sphere of digital information.

It is essential to convey the aspects of Human values through various subjects since students in Higher Education lack values with each new batch year after year.

2. VALUE BASED EDUCATION IN HEI

An exclusive Code of Conduct is displayed in the policy framework including the soft skills, communication skills, knowledge, value education, research, and academic integrity for the 21st century learners. Gender issues in aspects such as reservation policies, constitutional provisions, and social areas of concern such as water conservation, scarcity, urbanization, and modernization are conveyed through Sociology, Geography, and Political Science. Gender equality and relevant issues are best portrayed through literature – poetry, novels, short stories, and drama. Gender sensitization programs are organized. Internal conflict committees create awareness among students regarding the right laws and other facilities available.

Higher Education can inculcate values in youth who, by this time have quite an independent mindset and perception of life's rights and wrongs. Human Values for national integration are essential for the youth who have to face the challenges in the present scenario. A revitalization of the pedagogy is essential to deal with the current problems of the youth and the teachers need to explore to develop the values to meet the challenges in the 21st century. The teachers play a vital role in nation-building by character building of the students. The best and the greatest profession in the world is that of a teacher because the future of a nation depends upon the type of teachers who shape the future generation. Every teacher plays the most important role in shaping the future of the students. Arise, Awake, and Stop not till the goal is achieved should be the aim to achieve Sustainability in Education. A holistic development approach is the need of the hour to create awareness and to develop 21st century skills among learners which will help them in their professional growth and development and also help to meet the challenges in society.

3. FRAMEWORK FOR 21ST CENTURY LEARNING

NEP 2020 has highlighted that Information and Communication Technologies in Education have shifted from how to use technologies to understanding how to teach and learn with technologies. Technologies can be revised to support the journey of 21st century learners and in successfully leading the institutions and to develop a framework of Life and Career skills, Learning and innovation skills and Information, Media and Technology skills among the learners to develop competency. These innovations will help them to face the challenges and to be aware of our traditions, values and culture deep-rooted in our cultural ethos.
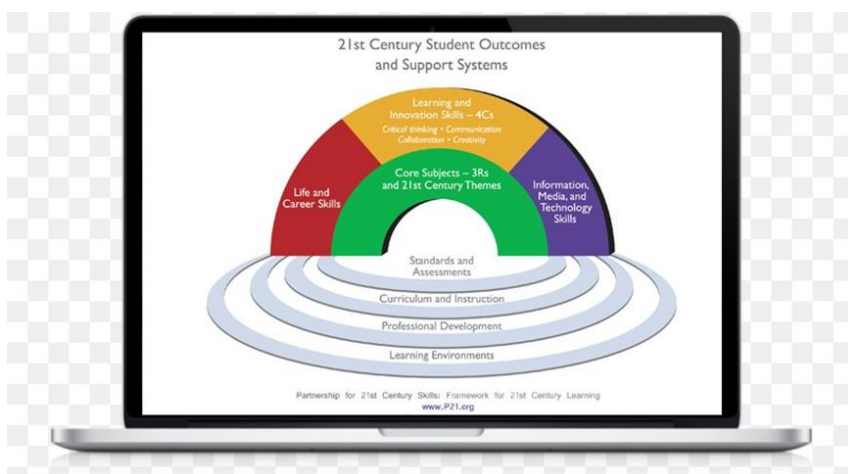
Figure 1. 21st Century Learning Outcomes

3.1 Core Subjects and 21st Century Themes

- English, reading or language arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History

- Government and civics

In addition to the mastery of these core subjects, it is necessary that schools should also include understanding of academic content at much higher levels by including 21st century interdisciplinary themes into core subjects.

3.2 21st Century Interdisciplinary Themes

- Global Awareness
- Financial, economic, business and Entrepreneurial literacy
- Civic literacy
- Health literacy
- Environmental literacy

These themes enable the students to understand and address global issues, make appropriate personal economic choices, exercising the rights of citizenship at local, state, national and global levels, monitoring personal and family health goals, investigate and analyze environmental issues and addressing environmental challenges.

3.3 Learning and Innovation Skills

- Creativity and innovation skill
- Critical thinking and problem solving
- Communication and collaboration skills

A focus on creativity, critical thinking, communication and collaboration is essential to prepare students for the future. Learning and innovation skills enables the students to work more effectively as they learn to explore, explain, expand, elaborate and evaluate their ideas.

3.4 Information, Media and Technology Skills

- Information Literacy
- Media Literacy
- Information and Communication Technology (ICT)

Digitization, globalization and industrialization has a tremendous impact on all the aspects of our life.

Hence, it is essential that the students develop a mastery and competency to be ICT literate and media literate in the present scenario and to understand legal and ethical issues surrounding the access and use of information technologies.

3.5 Life and Career Skills

- Flexibility and adaptability
- Initiative and self - direction
- Social and cross - cultural skills
- Productivity and accountability
- Leadership and responsibility

To be able to navigate the complex life and work environment, it is necessary to work to develop work efficiency, adequate life and career skills. For students to succeed with the skills and knowledge, students must master to succeed in college, work and life. To be educated today requires mastery of core subjects, 21st century themes and 21st century skills. To help students to achieve proficiency in 21st century skills, teachers and administrators need education support systems that strengthen their instructional, leadership and management capacities. And both students and educators need learning environments that are conducive to results. The National Education Policy 2020 of India provides a 21st century framework from elementary education to higher education, vocational education to technical education and new innovative methods of teaching and learning.

This paper discusses the need for promoting moral values in society and the role of educators in imparting value education to students, especially in Higher Education Institutions. The inclusion of values is essential in the curriculum. Today there is a need to implement and add the subject of moral values in the curriculum of Indian students especially in the Higher Education Institutions, since society seems to have lost faith in the ethical values of humanity.

4. REVIEW OF LITERATURE

In the paper, *Moral Intelligence for a More Diverse and Democratic World*, the researcher advocates integrating and practicing moral intelligence activities in each and every lesson while teaching in the classroom to develop democratic citizens and more skilled and committed teachers in social justice and for a better and democratic future.

Development of Education in India during the Medieval Period: A Historical Approach. In this paper, the researcher focuses on the development of India during the medieval period and brings to light the various transformations that were brought during the medieval period in the system of education.

Indian Education: Ancient, Medieval, and Modern. Education at the intersection of Globalization and Technology. Education is a platform through which young generations are trained and make them future-ready. The teachers and students will come to know the differences in the education system through this paper and what else is to be adapted in the future to overcome the problems they face in the education system.

Garg, S.R. & Gupta, D. (2017). *The English Paradigm in India: Essays in Language, Literature and Culture.* The volume considers the relevant and most important question of gender in Indian society, of the role of the woman, the family and the community in patriarchal contemporary Indian society. It highlights the importance of ICT, with the lens of literature, culture, gender, politics, etc. This interesting volume pulls together the threads which constitute modern Indian identity.

Hawkes, Neil. In the paper, *Living Values Education Research. Association for Living Values Education International*, the researcher describes how value-based schools give increasing curriculum and teaching emphasis to Value Education. As a consequence students become more academically diligent, the school assumes a calmer, more peaceful environment. A better student-teacher relationships are established, student and teacher well-being also improves. Parents are more engaged with the school which implements Living Values too! Lakshmi, C (2009). *Value Education: An Indian Perspective on the Need for Moral Education in a Time of Rapid Social Change.*

Technical education is producing skilled and knowledgeable student resources who can, with their intelligence, commitment, and perseverance, help make India a leader among world democracies. This paper advocates the need for inclusion of value education in technical education to assist in creating technically skilled and morally strong engineers and professionals.

Naathi, N.B. (2018). *Paradigm Shifts of Novels in Indian English Writing*. Many novels have served as a platform to address social issues like caste discrimination and women's rights. The paradigm shifts mentioned in the title suggest a focus on how narrative styles, character development, and storytelling methods have changed within the genre. This is a remarkable approach and has created an awareness for the modern Indian culture.

5. INDIAN ENGLISH LITERATURE

Indian Writing in English (IWE) is the body of works by writers in India who write in the English language and their native language is different. Famous writers of the period were Henry Louis, Vivian Derozio and Michael Madhusudan Dutt followed by Rabindranath Tagore and Sri Aurobindo. R.K. Narayan, Mulk Raj Anand and Raja Rao contributed to the growth and popularity of English fiction in the 1930s. It is also associated, in some cases, with the works of members of the Indian Diaspora who compose works in English. Indian English Literature displays an honest enterprise of the very rare gems who were widely appreciated by everyone all over the world. In the modern time, it is guarded by a number of writers who are getting awards and accolades all over the world. These writers enriched their work within a new form. Various Indian Writers, poets, novelists, essayists, and dramatists have been making a dynamic and exclusive contributions to world literature. Since pre- independence era, the past few years have experienced a gigantic prospering and thriving of Indian English Writing in the global market. India's substantial contribution to world literature is largely due to the profusely creative literary works generated by Indian novelists in English. Their works reflected a wide range of issues like nationalism, freedom struggle, social, politics, etc. English is not an alien language to us. It is the language which leads to our intellectual development like Sanskrit or Persian. We all are bilingual, many of us write in our own language and in English.

We cannot write like the English. We should not. We can only write as Indians and our method of expression should be unique. Indian Writing in English has commended unlimited admiration in both home and abroad, is now in its full swing. It has carved out a new track and a new vision. A vision that has gained faith and hope, myths and traditions, customs and rites, etc. If we dive deep into the themes of Indian writers it is revealed their work is not an imitation of English literary pattern but highly original and intensely Indian in both theme and spirit. They have given a new shape and color to English literature.

Prof. M.K. Naik remarks, One of the most notable contributions to English literature to India is prose fiction.

6. INDIAN ENGLISH LITERATURE AND VALUE BASED EDUCATION

The religious aspect of R.K. Narayan is explicit in his Ramayana. The values have been emphasized. His admiration of Ram as a cultural and social ideal is clear throughout the book. Later versions present Ram as an incarnation of Lord Vishnu, the principal Hindu deity who helps preserve moral order in the world, giving epic literature a sacred dimension and helping make The Ramayana part of the cult. The Ramayana was composed by Valmiki in the classical language of Indian–Sanskrit. He composed the whole work. It may sound hyperbolic, but every individual among the five hundred million's living in India is aware of the story of the Ramayana in some measure or the other. The impact of Ramayana on the poet, however, goes beyond some personal edification, it inspires him to compose the epic again in his own language, with the stamp of his own personality on it. The Ramayana has thus been the largest source of inspiration for the parts of India throughout the centuries. We have centuries old Ramayana in many languages. As India is a land of many languages and in each one of them a version of the Ramayana is available, original and brilliant. Mahabharata a shortened modern prose version of the Indian Epic written by R.K. Narayan. As the sun dispels darkness so does Mahabharata.

As the full moon by shedding soft light helps the buds of the lotus to open similarly the Mahabharata creates a intense impact on the intellect and character of every human being. The lamp of history illumines the whole mansion. When Vyasa had the epic well complete in his mind, he invoked Brahma, the Creator, and explained that he had composed a poem which is vast and of all-pervading universal spirit. At that time Brahma suggested to call Ganesh to take down his poem as Vyasa could recite it and Ganesh was the fittest to take down his poem. Vyasa kept up his dictation at breathless speed, and Ganesh took it down with matching zest. When at one point his stylus failed, he broke off one of his tusks and continued his writing. It was composed by Vyasa consisting of twenty -four thousand stanzas. In 1980, R.K. Narayan was awarded the A.C. Bason Medal by the Royal Society of Literature and in 1981 he was made an honorary member of the American Academy and Institute of Arts and Letters. Many of his books are published. The values imbibed in these epics are important for the 21st century learners to meet the challenges of life.

Significance of the Study

The need for Value Based Education has created a zeal to assess the impact of Indian English Literature and integrating Value Based Education in the curriculum of the 21st century learners. The role of teachers in this regard is very important and the assessment of teaching and learning was done by the researcher. The paradigm shift of Indian English Literature from local to global which gave it an appreciation and independent identity as the main stream literature.

Objectives of the Study
- To find out the impact of Value Based Education in teaching English.
- To find out the attitude of teachers towards the use of IKS in teaching program.

Hypothesis of the Study

- There is no significant impact of Value Based Education in teaching English.
- There is no significant impact on the attitude of teachers towards the use of IKS in teaching program.

7. **METHODOLOGY**

In the present study, the researcher for examining the attitude of teachers towards the use of IKS in teaching program constructed an Attitude Scale test based on Likert Method of summated ratings in which respondents specify their level of agreement to a statement typically in five points Strongly Disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree. Summative scales are constructed by taking answers to a set of survey questions that tap a common theme, or concept, and computing a score for each individual that can be used as a representation of their position (negative to positive, high to low) on the concept in question. Therefore, quantitative data is obtained, which means that the data can be analyzed with relative ease.

Sample of the Study

The study was conducted on a sample of 50 teachers of Higher Education Institutions of Ujjain district in Madhya Pradesh.

Tools of the Study

- Attitude scale constructed by the investigator to measure attitude of teachers towards the use of IKS.
- Five-point scale Evaluation sheet to observe and measure the impact of the use of IKS for Value Based Education.

8. ANALYSIS AND INTERPRETATION

To find out the attitude of teachers towards the use of IKS for Value Based Education in teaching program. The data collected using attitude scale, the investigator analyzed the obtained data using percentage analysis.

Based on the descriptive statistics (M+SD), (M - SD), (between M and SD) the total sample is categorized into three groups - High, Average and Low.

Table 1. Percentage Distribution of Teachers' Attitude towards Value Based Education

Sl. No	Category	Number	Percentage%
1.	High	26	52
2.	Average	11	22
3.	Low	13	26
	Total	50	100

Table 1 shows the percentage distribution of Attitude of teachers towards the use of IKS in teaching program. 52% of the sample i.e., 26 teachers have High attitude towards Value Based Education and comes under high group. 22% i.e., 11 teachers have medium attitude towards Value Based Education and comes under Average group and 26% i.e., 13 teachers have Low attitude towards Value Based Education and comes under low group. A pie diagram has been drawn to show the percentage distribution of teacher's attitude towards Value Based Education.
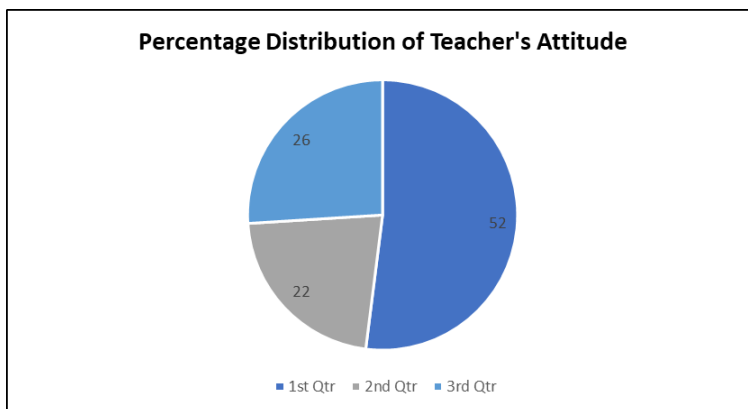
Figure 1. Percentage distribution of the Attitude of teachers

Figure 1 Percentage distribution of the Attitude of teachers towards the use of IKS in teaching program. The figure above shows the High frequency

attitude of teachers towards the use of IKS for Value Based Education. Hence Hypothesis is substantiated.

9. INDIAN KNOWLEDGE SYSTEM AND INTEGRATION OF VALUE BASED EDUCATION

The IKS Division has gathered prominent thinkers and practitioners from various fields of knowledge to create Vision 2047 to outline a roadmap for the establishment of a thriving Bhāratīya Gnana Paramparā. By leveraging our extensive knowledge, it becomes easier to foster and facilitate further research aimed at tackling the challenges of our current era. The inclusion of these courses in mainstream education would offer inspiration while preserving the legacy of our educational traditions. By engaging with both traditional and modern concepts, students can achieve a deeper understanding of their culture, enhance their intellectual growth, and build their confidence. The study of literature is valuable for each student as it causes an awakening for our deep rooted culture and civilization, and for each one of us. When students learn a foreign language like English, it serves multiple purposes. It introduces students to new ways of thinking and viewing the world. Works of English literature provided to the students in Indian universities is either in the original version or sometimes produced by the publishers in simple English. Teaching English literature gives the opportunity for the teacher to contrast the two cultures. The comparative study of literature expands the understanding of students from national to international – from individual to universal, from local to global. Students are attracted towards the new ideas and views of English literature and are able to draw significant inferences and thereby enhance their insight of the subject. The goal of English literature teaching should be to increase proficiency since English language is used across India. While concluding we can say that Indian Knowledge System, which is called Bhartiya Gyan Parampara is as ancient as the time. A revitalization is essential for the integration in the modern education and contemporary world. The goal is to strive for the wisdom for the welfare of all is the aim of IKS.

We need to recognize a 21st century education is the bedrock of competitiveness in the engine. In order to lead to progression of the system of education in all regions, facilitate the acquisition of education among individuals and enable the members of the educational institutions to carry out their tasks and functions in a well- organized manner, it is necessary to make use of modern innovative methods.

A collaborative learning environment is necessary for effective innovations in teaching and learning because it is clear that no group can develop effective innovations on their own. The need for collaborative relationship is increasingly recognized. Educators need to embrace this new world of resources and consider how they might engage with those outside the classroom within the local community and beyond.

10. FINDINGS

The findings of the study revealed that integrating and practicing moral values and activities into every lesson, regardless of the subject, fosters cooperation and mutual understanding among students. The inclusion of intelligence and morality in teacher education programs is expected to bring a dynamic change in teachers' behavior and help prepare more skilled and committed educators for 21st-century learners. It was also highlighted that logical and verbal intelligence alone cannot cultivate compassion and humanity in today's learners. Therefore, the curriculum and pedagogy of educational institutions must nurture in students a deep sense of respect for the Fundamental Duties and Constitutional values, a bond with their country, and an awareness of their roles and responsibilities in a changing world.

Furthermore, the long-term plan of the National Education Policy (NEP) aims to phase out the current system of colleges affiliated with universities and focus on developing ethical intelligence in the new generation. The policy also recognizes the importance of the mother tongue, physical education, and the teacher's role as a mentor, friend, philosopher, and guide. Finally, the vision of the policy is to instill in learners a deep-rooted pride in being Indian—not only in thought, but also in spirit, intellect, and actions—while fostering knowledge, skills, and values to help them become responsible citizens of society.

11. SUGGESTIONS

- In selecting values institutions are advised to be quite clear about the conceptual and practical differences between high level (different from operational) values and how they may manifest in mission, politics, behaviors, processes, and structures. Adopting and implementing a small number of values is effective.

- The Teacher Education programs should organize seminars, workshops and symposium to emphasize on knowledge, skills, values, attitude and strategies that will enable them to infuse these among the 21st century learners.
- Colleges must become the training grounds for students and provide professional guidance and counselling sessions.
- To achieve this vision a varied set of skills and competencies is needed that would allow learners to act as change agents who can achieve positive impact on their surroundings by developing empathy and anticipating the consequences of their actions.
- To cope with the constantly changing landscape, the educational systems should empower learners with skills and competence to face the challenges of society.
- To achieve success, NEP 2020 aims to develop all capacities of human beings intellectual, aesthetic, social, physical, emotional, and moral in an integrated manner.
- Every teacher should aspire to strengthen students' minds, fortify their hearts, vitalize their thoughts, and help them crystallize their principles. Teachers' must help students clarify their values so that they can make wise choices when faced with challenging situations.
- India as any other country is going through an identity crisis, its rich past and present values. It is necessary that the educators should come forward as mentors, facilitator, friend and philosopher to guide the new generation.

CONCLUSION

Values have been at the heart of universities across the globe, since their formation and remains an essential tool in dealing with the challenges, offering universities guidance for their conduct and decision making. Living Value Education exercises enables a university to enhance its performance in teaching, learning, and research and strengthen its sense of community. This will also depend on the starting point and particular circumstances of each university.

The exercise helps to demonstrate to the outside world why the university makes certain decisions and which values it hopes to instill in its graduates. Some values that develop over time and may include are integrity and fairness, equity, creativity, innovative and excellence, social responsibility, community service, diversity, pluralism, inclusiveness and health, well-being and a caring community.

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CHAPTER 3
INTERNATIONALIZATION OF THE CURRICULUM: TECHNOLOGY APPROPRIATION IN EDUCATION IN AN INDIGENOUS COMMUNITY IN THE SOUTHEAST MEXICO.
CASE STUDY

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INTRODUCTION

The globalization process generated a new economy base don knowledge, people, and technology that became the new currency in each nation. This process forced secondary and Higher Education Institutions [HEI] to include a global and international visión in their curricula, leading to the phenomenon of internationalization (Gacel-Ávila, 2005).

The internationalization of Higher Education refers to the incorporation of cooperation and competition dimensions, which imply collaboration in developing teaching through research for the generation of new knowledge (De With, 2011). Within this conception, two key roles can be identified, first the professor and the second one the student. The profesor, as a parto f a formative process, is responsable for motivating and guiding students towards autonomy so that they can organize their own time (Pons, 2007). The students, for their part, become an active and participatory member of their learning, in an autonomous, motivated, and organized manner (Sigalés, 2004). In this new educational context, the concepto of technology appropriation is understood as an emerging element derived from the internationalization of Higher Education. It refers to the ability or capacity to build models that go beyond reality and that depend on their effective and satisfactory use for knowledge construction (Afanador, 2015). The internationalization of the curriculum is the next logical step stemming from these educational changes. This process involves incorporating international, intercultural, and global dimensions into the content of the curriculum as well as into learning outcomes, assessment tasks, teaching methods, and support services in a program of study (De Wit & Leask, 2013).

It also refers to the development of entrepreneurial competences that help satisfy the market, create own enterprises, and positively contribute to the development of countries (Varela, 2024). The formative and profesional graduate that seeks new opportunities and follows innovation process with high commitment for the solution of social problems (Gámez, 2014). To implement internationalization and the internationalization of the curriculum, one essential aspect is technology (Cuevas Álvarez & Pérez Mendoza, 2020).

In urban areas, technology is a common feature; however, in indigenous areas, due to their particular characteristics, access has been limited, creating a digital divide (Djick, 2017: Gómez Navarro, 2019). In Mexico, contrary to what might be expected, 85% of the indigenous population has mobile service coverage with at least one technological device, according to data provided by the National Institute of Indigenous People, along with the 2020 Population and Housing Census, and base don data from mobile service providers (IFT, 2023). Based on this information, the objective of this case study is to caracterize the appropriation of technology as a result of the internationalization of the curriculum by students living in the indigenous community Yokot'an. Among the findings, it is concluded that students in this community not only have they appropriated technology, but they have reached the level or stage of innovation according to Adell's framework.

1. INTERNATIONALIZATION OF THE CURRICULUM AND RECENT MARKETING ORIENTATION

A Curriculum should be dynamic, flexible and with a global orientation towards the development of competences that apply knowledge in a practical manner using a second language in a technical or coloquial way (Becker et al., 2023).

For a curriculum to be considered internationalized, certain criteria should be met according to Guido Guido et al. (2012):

- To address topics globally, considering diverse cultural perspectives.
- To be aware of one's own culture and that of others.
- To value the diversity of languages and cultures.
- To apply internationally accepted standards and practices of the discipline.
- To participate in interdisciplinary programs.
- To prepare through educational experiences.
- To interact with faculty who maintain profesional contacts, preferably international, or internationally recognized quality practices.
- To participate in socio-cultural projects.
- To have support and management services that enable international experiences.

- To have access to information and virtual learning through information technologies.
- To share learning experiences with faculty both on-campus and external.

Understanding these needs, the Marketing science is the perfect educational partner because it allows the comprehension and analysis of new needs, providing problem solutions to society, and specific product offer to certain group of people (Díaz, 2019). The recent marketing is a process that leads to creating, communicate, delivery and exchange of new proposals for clients, partners, or society (AMA, 2017). For Cinkota & Ronkainen (2022) this process consists of four stages and can be implemented in a curriculum:

- **Analysis:** Information collection is carried out through research techniques to determine opportunities and competitive advantage of a product.
- **Planning:** Plan generated to exploit market opportunities, involving long term strategies and short term tactics related to cost and estimated benefits.
- **Implementation:** Based on a plan that the company adjusts itself to the market, considering changes for a swift adaptation.
- **Control:** The market requires a continuous supervisión related to competitors, channels and clients' perception.

And according to the information indicated in the CECyTE web page (CECyTE, 2024) these are the profesional skills the students will develop during their education:

Sales Technician

A graduate who responds to the impact of information and communications technologies, meeting the needs and requirements of real and potential clients. This training develops professional skills in students aimed at positioning and marketing a product or service in a target market. Additionally, students are introduced to the sales management process, how to conduct a market study, and how to market a product or service through certain marketing strategies to achieve the positioning of the value proposition. All of this training is based on generic, disciplinary, and professional skills to achieve comprehensive student development.

Generic skills allow students to understand the world through independent learning and their lifelong application, maintaining a harmonious relationship with their surroundings. Disciplinary skills, on the other hand, allow them to acquire basic knowledge in the area of study that allows them to navigate through the different contexts and situations of everyday life. And the professional ones, which will allow students to perform effectively in their working life.

Digital Animation Technician

The program offers professional skills that allow students to perform activities aimed at capturing and editing photographs and audio and video sequences using electronic equipment and software; creating digital designs; producing 2D and 3D animations; creating virtual worlds using scripts to represent real-life events; and creating advertising video games using graphics engines tailored to the client's needs.

They also contribute to developing generic skills that allow them to understand and influence the world, enabling them to learn independently throughout their lives, develop harmonious relationships, and participate in social, professional, and political spheres.

With employability and productivity skills such as:

- Teamwork and adaptability
- Effective communication
- Achievement orientation
- Planning and organization
- Continuous improvement orientation
- Customer service
- Professional ethics

2. TECHNOLOGY APPROPRIATION PRINCIPLES

The incorporation of technology does not only refer to access to information but also to acquiring knowledge and skills for developing collaboration and adaptable knowledge while at the same time fostering creativity among students (Cobo Romani, 2006).

Bermúdez Tocora & Ochoa Urrego (2013) listed the competencias to be demonstrated in technological literacy processes, divided into three categories: technological, cognitive, and informational skills, which are described below:

- **Technological:** The student has the ability to use productivity tolos, internet resources, handle necessary information to select and acquite technological resources, use technology to communicate, and collaborate in a workgroup.
- **Cognitive:** The student is able to prepare diverse materials using Information and Communication Technologies [ICTs], understands their impact on society, solves problems, produces innovative and continuous knowledge, demonstrates collaborative behavior, demonstrates critical thinking, articulates new knowledge in unfamiliar contexts, and keeps updated with emerging applications.
- **Informational:** The student can identify ethical and legal aspects regarding digital information, integrate and combine data, manage basic concepts, functions of ICTs, and make use of personal computers.

According to Sandia Saldivia et al. (2019), six ICT appropriation models were identified. Out of which Adell's model (2008) was chosen as being considered as appropriate for this study, the number of the levels were assigned according to the indicated by the authors. These models represent various approaches to understanding how ICT is adopted and integrated in educational contexts. Adell's (2008) model was selected because it provides a clear and structured description of the stages involved in ICT appropriation. It outlines a progression from basic use toward a more advanced and transformative integration of technology. Each level reflects a different degree of competence and autonomy in the use of ICT tools. Therefore, this model was considered the most suitable framework for analyzing the process of ICT appropriation in this study.The models are classified as follows:

Table 1. ICT appropriate models and levels

Authors	Level 1	Level 2	Level 3	Level 4	Level 5
Hopper & Rieber (1995).	Familiarizacin	Usage	Integration	Reorientation	Evolution
UNESCO (2022).	Emergence	Aplication	Inclusion	Transformation	
Colas et al. (2005).	Domain	Priviledge	Reintegration	Appropriation	Internalization
Noon (Mckenzie, 2005).	Pre-literacy	Tecnocratic	Tecno-traditionalist	Techno-constuctivist	
Noon(Mckenzie, 2005).	Beginner	Intermediate	Expert	Transformative	
Adell (2008)	Access	Adoption	Adaptation	Appropriation	Innovation

From the literature review conducted by Bermúdez (2023), it is noted that most research is descriptive and tends toward quantitative studes, emphasizing that there are no programs or projects oriented towards applied research. The social networks most used by students of ethnic origin are Facebook and WhatsApp, highlighting the need to develop research aimed at documenting uses and applications that improve profesional objectives.

3. STATE OF THE ART

In the state of the art review six documents, five from Mexico and one from Ecuador, were identified that studied the use and appropriation of technology by students or communities belonging to indigenous groups and their locations, such as mayans, waorani, wixárika, zapotec, mixtec, and mazatec, as well as the technological options employed, among which Social Media with a constant presence, and their various application, ranging from academic purposes to commercialization. These studies highlight the diversity of contexts in which digital tools are being integrated into indigenous communities. They also reveal how access to technology can foster cultural preservation and the dissemination of native languages. In several cases, technology served as a bridge between traditional knowledge and modern communication practices.

Table 2. Recent studies on the appropriation of technology in indigenous communities

Author & Year	Indigenous Group & Academic Level	Location	Technology	Results/Findings
Gómez Navarro (2019).	Maya university students	Quintana Roo, Mexico	Facebook, Instagram, Twitter, WhatsApp, and Snapchat	Most students know how to use Word processors and basic connectivity tools. ICT use depends on economic and local infrastructure circumstances, as well as formal and prior educational trajectories.
Armenta-Zazueta et al. (2021).	Teachers & Primary School	Sonora, Mexico	Virtual classrooms and video calls	Opportunities identified: training in digital and technological skills, availability of experts, and conducting technological diagnoses of students to design lesson plans.
Acosta Marín (2021).	Waorani indigenous Amazonian community	Ecuador	Website, Facebook, Instagram, Twitter and YouTube.	Use these media to promote handicrafts, offering purchasing options and reaching a wider audience.
Cortés Gutiérrez et al. (2022).	Wixárika teacher training students	Jalisco, Mexico	Facebook, Instragram, Twitter, WhatsApp, YouTube, and Snapchat	100% searched for information online; 33% used online dictionaries; 43% used YouTube tutorials for specific learning.
Gómez Navarro (2022).	Maya university students	Quintana Roo, Mexico	Facebook, Instagram, Snapchat, and WhatsApp	The institution had 40 computers with slow internet. 95% of students had a cell pone, 60% a personal computer. 95% used Facebook, Twitter, Instagram, Snapchat, and WhatsApp.
Martínez Domínguez & Gómez Navarro (2024).	16 ethnic groups (Zapotec, Mixtec, Mazatec).	Oaxaca, Mexico	Limited internet access	To raise educational levels, it is necessary to reduce school lag, provide internet Access, and increase the number of connected computers per school.

4. METHODOLOGY

This case study as indicated by Stake (2005, p. 11) is defined as "the study of the particularity and complexity of a singular case, to uunderstand its activity in important circumstances".

The research question was How did students in the technical programs of Sales and Digital Animation at the CECyTE No. 11 high school in the Yokot'an indigenous community appropriate technology as a result of curriculum internationalization? The study's objective was to characterize the appropriation of technology as a result of Internationalization of the Curriculum by Sales and Digital Animation students at CECyTE No. 11.

The study was conducted at the Colegio de Estudios Científicos y Tecnológicos del Estado de Tabasco [CECyTE], a technological high school located in the Yokot'an indigenous community of Buenavista 1st. Section, in the municipality of Centro, Tabasco (CECyTE, 2024).

Information was collected through documentary review (Restrepo Mesa & Tabares Idárraga, 2000), literature review (Purdie University, 2023), and moderate-level participant observation (Spradley, 1980) during the February-June academic term. The process of analysis was as follows:

- Theoretical bases for marketing and social entrepreneurship concepts were analyzed with the first technique.
- With the second technique, recent studies were considered according to related findings as part of the state of the art.
- The observations were carried out in 24 school sessions, observing without direct interaction in the students' project development, though indirectly by the teacher in charge.

5. CONTEXT

The Chontal-Yokot'an community of Buenavista is one out of the 143 communities (INPI, 2024) of this indigenous people and it is located in the municipality of Centro, Tabasco, Mexico. The Yokot'an call themselves "true men and women," speak the Yoko t'aan language, and are characterized by their traditions, rich cuisine, and strong connection to the environment, although they face challenges such as oil pollution and a lack of infrastructure.

Cultural and Linguistic Context

Yokot'an Identity: Members of this community identify themselves as "Yoko Yinikob" (true men) and "Yoko Ixikob" (true women).

Yokot'an Language: Yoko t'aan, their native language, belongs to the Mayan family and is spoken in several communities in Tabasco. For Instituto Nacional de Lenguas Indígenas [INALI] (National Institute of Indigenous Languages in Spanish), this language is at high risk of extinction. The 2010 Census reported 37,224 speakers. They use it every day, at home and in public spaces. This language is in danger of extinction; it needs to be disseminated. Audio and video compilation, development of teaching materials and grammar, and dissemination from parents to children are essential (SIC MEXICO, 2018).

Natural Environment

The region is characterized by tropical rainforest vegetation, lagoons, and streams, with a landscape that influences their traditions and activities.

Traditions and Customs

Agricultural Cycles and Festivities: Rain-practicing ceremonies and celebrations honoring patron saints are a fundamental part of their culture.
Dances and Clothing: Traditional dances, accompanied by music and colorful costumes, are a vivid expression of their identity.

Environmental and Social Challenges

Pollution: The community faces problems of water and land pollution due to oil activity, which affects their environment and livelihoods.
Infrastructure: They are requesting improvements in infrastructure such as bridges, roads, and access to basic services like drinking water and electricity.

Resources and Support

Support Programs: They are requesting that programs such as "Sembrando Vida" (Planting Life) reach the communities directly to take advantage of regional resources and support their agricultural activities.
Language Recovery: There is a strong desire to revitalize and recover the teaching of their language in schools and among young people.

5.1 Object of Study

CECyTE No. 11 is located in the Chontal-Yokot'an Indigenous Community in Buenavista 1st Section in the municipality of Centro in Villahermosa, Tabasco; Mexico. It is a High School with technological careers that offers a dual-skilled education that combines general baccalaureate studies with a professional technical degree to prepare students for the workplace and continuing their studies, by preparing young people to join the productive sector and continue their Higher Education, providing academic, scientific, and technological training.

6. CHARACTERISTICS OF INFORMANTS

The informants were 60 students who were enrolled in the last semesters, fifth and sixth semester. The Sales students were grouped into teams of five people who generated 12 product ideas and brands for commercialization using local raw materials and applying international digital marketing techniques. With guidance from their teachers, students used e-commerce through Wix, a free website creation platform, as part of their digital marketing strategy identified in the literature review. In the case of Digital Animation students, they were a total of 54 people who were grouped in teams of six members. They presented nine video game projects using international animation techniques. Each game had a different theme, both oriented towards entertainment and education.

The information collected through observation was recorded in a field notebook, which was later compared with the documentary and literature review findings. The analysis was carried out using closed coding and based on Adell's theoretical framework or stages (2008): access, adoption, adaptation, appropriation, and innovation, to characterize students' technology appropriation, and it is explained as follows:

- **Access:** This is the initial stage where users become aware of and gain access to a particular technology. It involves the fundamental ability to get the technology.
- **Adoption:** In this phase, users begin to use technology to support existing teaching methods. The focus is on incorporating the technology in a conventional, procedural way.

- **Adaptation:** Users start modifying the technology or its use to better suit specific pedagogical goals and learning needs. This stage marks a shift from simply using the technology to making it work for particular situations.
- **Appropriation:** This is a deeper phase where users creatively and critically integrate the technology into their teaching practice. It goes beyond basic use to a level of sophisticated and personalized application of technology.
- **Innovation:** This represents the highest level, where users are transforming and innovating through the use of technology. It involves a fundamental rethinking and reshaping of teaching and learning practices, going beyond traditional methods to create new possibilities.

7. FINDINGS

To characterize the levels achieved in the students' projects, they were grouped according to similar characteristics based on product creation, business model, technology used, international marketing techniques implemented, Social networks used in each case, social problem solution, and branding; the example of the products are presented with figures, and the results are shown in the following table.

Table 3. Appropriation levels reached by students

Projects	Access	Adoption	Adaptation	Appropriation	Innovation
Soaps (3)				x	
Natural remedies (3)				x	
Coffee				x	
Polvillo or cocoa powder				x	
Nata or cream bread				x	
Japanese candy				x	
Natural deodorant				x	
Jam				x	
Videogames (9)					x

For writing purposes, they are explained into two categories: appropriation and innovation.

7.1 Appropriation

The 12 products in the Sales program that reached the appropriation level conducted an exhaustive search for information on potential existing products or those that could be direct competitors to their project to generate a value proposition.

They based their research on ingredients, direct and indirect benefits, physical and socio-emotional benefits, environmental benefits, benefits to their community, as well as the means or channels for online advertising and sales. They generated a presence on social networks such as Facebook, Instagram, and WhatsApp. They also created a website with the website creation platform Wix, generating the corresponding spaces for online purchases, sales promotions, and brand loyalty.
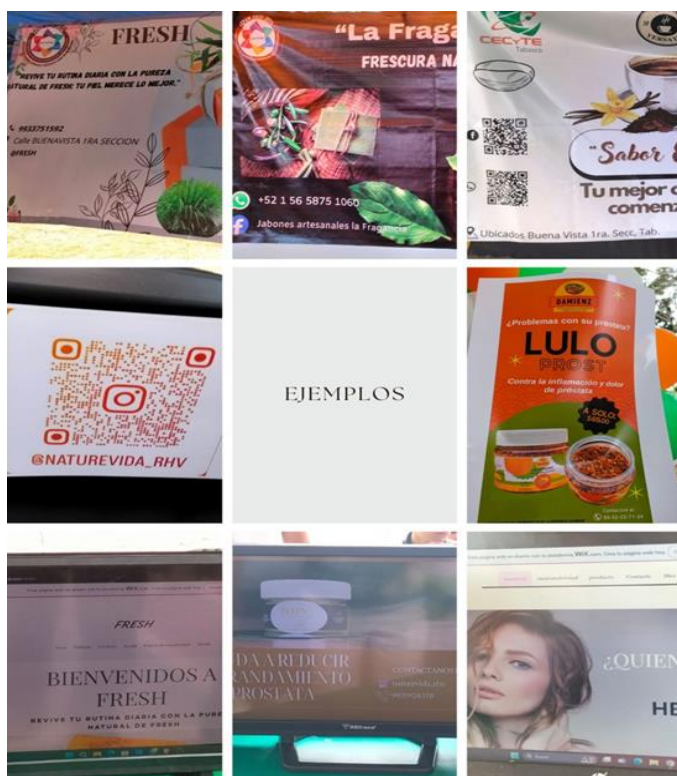
Figure 1. Informative and promotional canvas with technology inclusión

Among the sales promotions, they mentioned discounts for wholesale or initial purchases. In other cases, to generate traffic to their websites or social media, they invited potential customers to participate in a game to win a promotional product by entering a QR code.

To build brand loyalty, they invited local consumers of their products to leave a comment or video message mentioning their experience with the product, with the aim of also associating positive feelings with the product in question.

Figure 2. Other informative and promotional canvas and web pages

As part of the final presentation of the projects, the 2024 Multidisciplinary Academic Projects Fair was held, where the teams exhibited their products and competed for the best spots, using technology to display informative and explanatory videos and offer suggestions for using each of their products. They also used brochures and advertising banners with their social media accounts, websites, and QR codes for additional or contact information.

7.2 Innovation

The nine products created by the students from the Digital Animation program achieved the Innovation level by programming and coding their video games in Unity 2022.3.33f1, Blender 2.25, C sharp, and Corel Draw. They created options for diverse ages and interests, from memory games and racing cars to adventure and treasure hunting games. It should be noted that these students are high school students who lack professional-level experience; however, the complexity and quality of their work could be compared to those created by the best professional developers.

Figure 3. Informative canvas about the Digital Animation projects

Unlike the other projects presented at the 2024 Multidisciplinary Academic Projects Fair, the teams only showcased their projects. However, they allowed the audience to experiment with each of them, even soliciting feedback on the user experience based on functionality, design, complexity, and visual quality. They also had an informational banner on which they included the logo for each video game, as well as a QR code to obtain more information about each of them, their developers, and additional information about each product.

8. DISCUSSION

Students from the Yokot'an indigenous community are in the last two levels or stages indicated by Adell: appropriation for products generated in the Sales program and innovation for products generated in the Digital Animation program. Regarding the social media they use, they use Facebook, Instagram, and WhatsApp to expand their advertising and promotion, supported by printed materials such as brochures and banners for informational and advertising purposes, consistent with the findings and indications of the aforementioned authors in the state of the art.

Regarding the creation of websites, these emerged with the implementation of the international digital marketing strategy, enabling them to expand their market and bring their products closer to the audience, as in the case of the indigenous communities in Ecuador mentioned in Acosta Marín's work. Regarding the Digital Animation projects, the students surpassed the level of appropriation, reaching the level of innovation consolidation by creating nine different video game options, as well as a new range of offerings for that market. One specifically for the preservation of their mother tongue. These projects were developed on their personal computers, applying the knowledge acquired in their classes and under the guidance of their professor.

The above supports the information provided by the IFT on the current access to and technological services available to the country's indigenous groups. It contributes to the literature on the extent to which these young people have achieved in the application of knowledge, as well as their technological, cognitive, and informational competencies, which they have demonstrated, according to the descriptions by Bermúdez Tocora & Ochoa Urrego.

The findings of this case coincide with those of Cortés Gutiérrez et al. (2022) and Gómez Navarro (2022), who highlight that access to technology and its use in indigenous communities is closely tied to the availability of devices and internet connection. However, this study shows that when students receive guidance and motivation, they are capable of moving from access to innovation.

Moreover, these findings expand upon the work of Armenta-Zazueta et al. (2021), by showing that digital skills training, paired with an internationalized curricula, enhances not only the appropriation, but also the creative use of technology.

The case of the Yokot'an students demonstrates that digital inclusion is not only a matter of infrastructure but also about implementing pedagogical strategies that connect the local with the global ones.

The role of internationalization of the curriculum, as proposed by De Wit & Leask (2013), becomes evident here. By integrating global dimensions into content and teaching strategies, students can appropriate technology in a way that fosters innovation, even in contexts of inequality.

CONCLUSION

Technology appropriation occurs when users go beyond merely adopting technology to adapting and integrating it into their existing practices, routines, and social environments. This process involves understanding the affordance of technology, customizing its use to meet local needs, and making it their own. It is a fundamental process that involves social, cognitive, and technical aspects, and that can transform at a deep level.

In the case of the Sales students, they reached the appropriation stage of technology by applying international digital marketing techniques by designing products, brands and websites to advertise their products and services. This in turn, allowed them to develop collaborative work, critical thinking, creativity, and adaptability, skills that are aligned with international competencies.

For he Digital Animation students, appropriation was visible in their ability to integrate international animation techniques and apply them to video game design. They generated projects with cultural relevance, such as a game created to preserve the Yokot'an language, highlighting how technology can be appropriated to strengthen local identity while interacting with global resources.

The innovation stage was reached mainly by Digital Animation students, who not only used existing tools, but also adapted them creatively for their cultural and educational context. The development of a video game in Yokot'an illustrates how digital media can support the revitalization of indigenous languages. This is considered innovation because students went beyond mere appropriation, by generating new knowledge and uses of technology that could inspire similar educational initiatives in other indigenous contexts.

This case study demonstrates that students from the indigenous Yokot'an community of Buenavista 1st Section have reached significant levels of technology appropriation, levels 4 & 5 correspondingly according to Adell's model, as a result of the Internationalization of the Curriculum. The findings confirm that Internationalization of the Curriculum, supported by technology, can empower indigenous students to beome both consumers and producers of knowledge and innovation.

Finally, this study highlights the need to continue promoting applied research in indigenous communities, particularly in the área of digital appropriation, to strengthen their educational processess, cultural identity, and global participation.

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