



HIGHER EDUCATION GUIDELINES FOR STUDENTS' INDUSTRIAL ATTACHMENT

2021

FOREWORD

In today's rapidly evolving world, the role of higher education has extended beyond the boundaries of traditional classrooms. Education is no longer confined merely to theoretical knowledge, but rather encompasses a holistic approach that integrates practical skills, real-world experiences, and industry relevance. As we stand on the edge of transformative change as stimulated by the National Strategy for Transformation 1 (NST 1), the Higher Education Guidelines for Students' Industrial Attachment presented within this document mark a significant milestone in shaping the educational landscape.

These guidelines represent a collective effort, born from tripartite consultations involving government entities, academic institutions, and industries. They symbolize a commitment to bridge the gap between academia and the workforce, ensuring that our graduates possess not only theoretical expertise but also the practical insight required to thrive in dynamic professional environments.

The evolving demands of the job market have underscored the importance of immersive learning experiences. Students' Industrial Attachment, as outlined in these guidelines, serves as a pivotal avenue for students to translate classroom learning into tangible, real-world application. By engaging with industries, students gain invaluable insights, foster innovative thinking, and cultivate essential interpersonal skills that are instrumental in shaping their future success.

These guidelines underscore key principles such as relevance, transparency, effective communication, and equity. They emphasize the role of regulatory frameworks to ensure the quality and consistency of industrial attachment experiences across institutions. Moreover, these guidelines call for a continuous partnership between academia and industries, wherein both contribute to the enrichment of our students' educational journey.

Institutions of higher learning play a critical role in nurturing the talents and aspirations of the next generation. The Higher Education Guidelines for Students' Industrial Attachment offer a roadmap for educational institutions to enhance the practical dimensions of their programs, align them with industry needs, and produce graduates who are not only academically skilled but also job-competent and capable of contributing to the betterment of Rwanda.

I commend the collaborative efforts that have brought out these guidelines. It is my hope that they will serve as a catalyst for positive change, fostering a new era of education that empowers students, enriches industries, and contributes to the growth and prosperity of our society.

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1.0 INTRODUCTION

Higher Learning and/or Tertiary education to a greater extent is geared to professional career development. Knowledge, skills and values are established pathways and outcomes of the education process. Whereas knowledge is/was looked at as a predominantly classroom-based encounter, and skills recognized as a field (industry) exploit, it is not as explicit though how dispositions (values) are being emphasized. In this regard. Biggs and Tang (2011) and Angélil (2003) are cited (Figure 1) in providing an integrated conceptual framework within which to project the context of future education and training. The scope of teaching and learning therefore, is more and more being emphasized as an immersive encounter that extends beyond the classroom into the field.

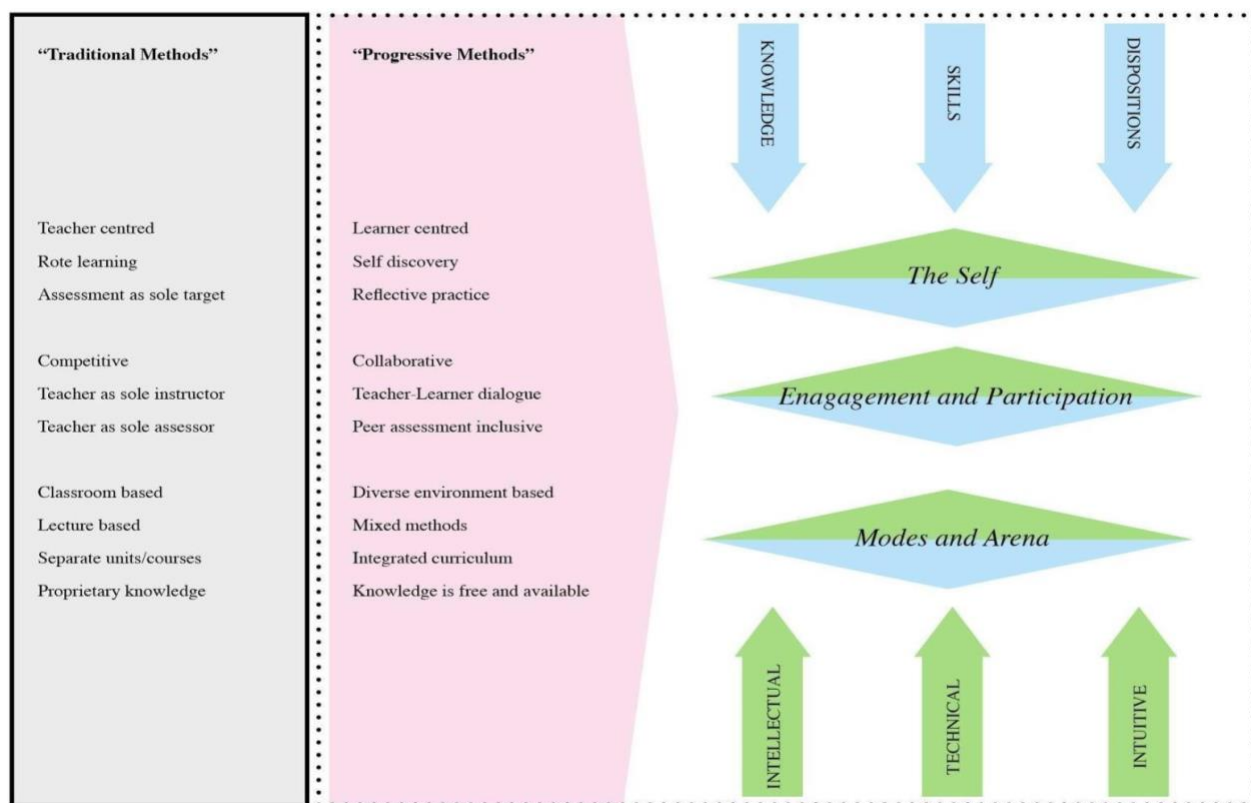


Figure 1: Conceptual Framework on Broad-Based Teaching and Learning Pathways Developed Further from Biggs and Tang (2011) and Angélil (2003)

Any shortage of relevant knowledge, skills and values can be a major impediment to economic growth and competitiveness. According to MIFOTRA (2015), skills are lacking throughout the economy, among people working in the private sector and at public workplaces, as well as among young labour market entrants.

By engaging a rounded education and training experience students will be expected to acquire the following competencies:

1. How to do, make and problem solve
2. How to observe, problematize and be
3. How to shadow, role play, work autonomously and collaborate

Technical skills are a vital tool for the development of any nation. Knowing how to **do**, how to **make** and how to **problem solve** become key ingredients for technical skills development. A workforce with these technical skills constitutes a precious input in enhancing organizational effectiveness, competitiveness, performance and survival.

It is also imperative to cultivate an intuitive mind - the ability to observe, problematize and be. Whereas technical proficiency is a key part of industry exposure, an intuitive mind is better cultivated among unfamiliar surroundings and among people, an outcome of which is an empathetic nation.

Beyond the technical and intuitive mind there is the intellectual, a proficiency developed through familiarity with both routine and peculiar encounters. Being given an opportunity to shadow or role play, work autonomously or collaborate puts one's knowledge and preconceptions to test. A test of all the three - the technical, intuitive and intellectual within an industry setting in the end will contribute to graduating proficient young people.

It is therefore essential that the provisions of education and training be aligned with the demands of the world of work. The collaboration between HLIs among all other education service providers and the industry has increasingly been perceived as a venue for innovation, an intended outcome of which is a knowledge-based economy. This academia-industry linkage is critical to transforming Rwanda into a knowledge-based economy.

These guidelines are the outcomes of tripartite consultations involving government, academic institutions and industry. It is thus expected to contribute to the realization of well-rounded graduates, able to compete in local, regional and global markets. It is expected that the joint efforts of the government, education providers and employers (industry) in all sectors will immensely contribute to enhancement of the relevance and quality of higher education.

Both the Academic institutions and employers have the responsibility to ensure that the industrial attachments are delivered consistently and to a high standard, irrespective of where and when they take place. An Industrial Attachment Program (IAP) is a training program whereby students are placed in industry to acquire practical hands-on skills through on the job training under the mentorship of a company supervisor with considerable experience in that area. IAPs are a marketing forum for various universities. The more students do well the more they market their respective universities and therefore ultimately

the more reputable their universities become. Industrial attachment is a very important component in the learning system particularly for tertiary and higher learning.

2.0 DEFINITION OF KEY TERMS

2.1. Student Industrial Attachment (SIA)

In the context of these guidelines, the SIA is a compulsory part of an education program, usually implemented in the TVET education sub-sector and higher education. It is a structured, credit-bearing work experience in a professional work setting during which the student applies and acquires knowledge and skills. The main purpose of an industrial attachment is work exposure, putting into practice what has been learnt before in an organization related to the students' major. It allows the student to link theory with practice and enables for the development and assessment of interpersonal skills.

It provides a real-life organisational context for students to develop specific or generic skills, valuable to their professional development.

It also provides students with the opportunity to apply knowledge in real work situations, thereby closing the gap between the university work and the actual practice.

SIA encompasses a formal placement of trainees and students in the workplace with the primary objective of achieving a set of specific learning outcomes that can potentially lead to their employability on completing their education.

2.2. Internship

An *internship* is similar to an industrial attachment. However, it is not part of an academic program, but an own-standing work experience scheme, aimed at easing the entrance into work of a young person. Internships give students the opportunity to gain valuable, applied experience and make connections in professional fields they are considering for career paths; and give employers the opportunity to guide and evaluate talent (NACE, 2011). It is an opportunity to work in a company or organization, with or without pay for a certain period, in order to acquire skills and work experience and for some professions such as medicine; it is a key part of getting their qualification. Normally, supervision by a professional in the field is a requirement.

An *attachment*, also known as an industrial attachment is an opportunity for a continuing student to work in a professional work environment, apply learned knowledge and acquire real work experience. Attachment is compulsory for the completion of a given academic programme, and a condition for graduation and certification.

2.3. Attachee

Attachee refers to a student from an accredited HLI gaining supervised practical experience in his/her area of study from the relevant industry/organization. **Academic (Institutional) Supervisor/Mentor**

A member of faculty who follows up the student on industrial attachment to regularly monitor the progress, liaise with the host organization and report to the academic institution.

2.4. Industrial Mentor/Company Supervisor

The industrial mentor is a qualified person, with experience from the host organization who is assigned to ensure smooth facilitation, leads and guides the attachee and regularly monitors the progress of the attachment. An industrial mentor provides feedback along the way, or at least at the conclusion of an industrial attachment, so the student will have a fuller understanding of what they are doing well and where they need to improve.

2.5. Apprenticeship

Unlike attachments and internships, which primarily aim at work experience, apprenticeship training is structured, usually pre-employment – training in the real world of work to prepare someone for a given trade/profession. Apprenticeship aims to build full occupational competence. Apprenticeships are longer than attachments and internships and imply a considerable commitment to and ownership of the training by the involved employer/enterprise.

2.6. Field / Site / Office / Workplace / Community / Clinic

The context or location of a student's industry exposure. Depending on the learning objectives of a given programme and how they are linked to the world of work, a student throughout their time in school may be required to immerse themselves accordingly.

2.7. Experience

The sum of different learning/application encounters is what is referred to as experience. It is imperative that this experience is demonstrable and the outcomes measurable. Experience may be gained in the field, on a site, in an office, at a given workplace or within a given community depending on the discipline and intended learning outcomes.

2.8. The Co-operative system (Co-op)

The Co-op is an alliance between a HLI division and industry with clearly set out objectives and guidelines in an effort to sustain and promote a given profession or field of study. This system has been the basis for engineering and architecture education in some parts of the world and can be emulated by other disciplines. The basis for the Co-op is one or two semesters within a programme of study that are dedicated to training in the workplace. Each work term strives to achieve specific goals, and thus specific employers who are able to dedicate the time and the effort to assist students are selected.

2.9. Job shadowing

Job shadowing is a short-term work-based learning experience that allows students to follow a host employer during a typical day while observing daily activities and asking questions about a particular career. For many students, shadowing may be their first, practical exposure to a particular career or even to the world of work in general. Job Shadowing allows a student to observe a career path of their interest.

3.0 KEY ALLIED INSTITUTIONS

IER: Institute of Engineers Rwanda

RIA: Rwanda Institute of Architects

RMB: Rwanda Mining Board

RISA: Rwanda Information Society Authority

REMA: Rwanda Environment Management Authority

NISR: National Institute of Statistics of Rwanda

NESA: National Examination and School Inspection Authority

NCNM: National Council of Nurses and Midwives

RBC: Rwanda Biomedical Centre

RDB: Rwanda Development Board

REB: Rwanda Basic Education Board

RMI: Rwanda Management Institute

MoH: Ministry of Health

MIFOTRA: Ministry of Public Service and Labour

PSF: Private Sector Federation

NSC: National Service Commission

MINEDUC: Ministry of Education

RTB: Rwanda Technical Vocational Education Board

SSC: Sector Skill Council

NCBS: National Capacity Building Secretariat

APEFE: Association pour la Promotion de l'Éducation et de la Formation Étranger, Rwanda

BEES: Boost Employability and Entrepreneurship Skills in Africa

WF: Wadhwani Foundation

STECOMA: Syndicat des Travailleurs des Entreprises de Construction, Menuiserieet Artisan au Rwanda

EDC: Education Development Center, Rwanda

PRBs: Professional Regulatory Bodies

ADC: African Design Centre

RAC: Rwanda Airports Company

WMS: Volkswagen Mobility Solutions Ltd

RHA: Rwanda Housing Authority

RSB: Rwanda Standards Board

RMC: Rwanda Medical Council

RAHPC: Rwanda Allied Health Professions Council

RPC: Rwanda Pharmacy Council

RYAF: Rwanda Youth in Agribusiness Forum

MB: Mass Build Ltd

ICPAR: Institute of Certified Public Accountants of Rwanda

4.0 PURPOSE

These guidelines will support the implementation of the Workplace Learning Policy, a key strategy for achieving better practical and employability skills, as well as provide an environment to inspire innovations among young talented students. Industrial attachment provides the impetus for the students to comprehend and appreciate real-life working experiences. Students may realize their ambition and ascertain their career path from the experience gained during industrial attachment.

The purpose of industrial attachment is to produce practically oriented graduates that meet the required job-related competences of their future employers. Additionally, it serves as a linkage between the HLIs and various partners who consume their services and/or products.

The overall objective of this guideline is to also to operationalise the approved guidelines on the implementation of workplace learning Policy in Rwanda by providing guidance to all stakeholders involved in designing, planning, implementing, monitoring and evaluation of the students' industrial attachment in Rwanda. The institutional structures, standards and regulations to ensure the full use and recognition of the country's potential of training and learning at the workplace in order to increase the relevance and marketability of skills will be highlighted.

They will spell out clearly the roles and responsibilities of all stakeholders in training and coordination of students' industrial engagement; and lead the establishment of a structured system for effective planning, implementation and monitoring of students' industrial activities especially those formalized to augment the learning experience. In addition, the guidelines establish mechanisms to ensure that the students' industrial engagement is well

institutionalized in both public and private higher learning institutions operating in Rwanda, facilitate quality workplace learning so as to produce the skilled and qualified graduates that respond to market needs.

It will harmonize the planning, implementation and ensure effective coordination and quality assurance of students' industrial engagement in HLIs among all other institutions.

The specific objectives include to:

- Establish parameters for quality standards for student industrial attachment;
- Outline procedures for designing, planning, implementing, monitoring and evaluation of the students' industrial attachment, placement, , experience and co-op in Rwanda;
- Direct better coordination and management of students' industrial attachment focusing on the timing, planning by among the stakeholders and communication between industry and academia;
- Set up and strengthen the culture of knowledge and skills exchange between academic institutions and Industry in order to align the academic training with the labour market needs;
- Enlist and strengthen employers' involvement in institutional activities and the educational process of preparing students for employment in the industry;
- Enhance industry's satisfaction with the university graduate in particular and the university at large;
- Determine how academia - industry engagements are contributing to the investment in Rwandan education that generates the expected returns and save the country from wastage;
- Enlist and clarify key stakeholders' roles and responsibilities thereof;
- Enhance institutions and industry's ownership of the designing, planning, implementing, monitoring and evaluation of the students' industrial engagement in Rwanda;
- Enhance and strengthen linkages between HLIs and various stakeholders;
- Provide an opportunity for students to apply the principles and techniques theoretically learnt into real-life problem-solving situations.

5.0 SCOPE

The scope of these guidelines includes bridging academia and workplace expectations. It is delimited to streamlining and guiding both private and public Higher Learning Institutions (HLIs) in designing, planning, coordination, implementation, monitoring and evaluation of

students' industrial engagement. In addition, these guidelines provide a framework within which industry can define their precise contribution to the shared engagement.

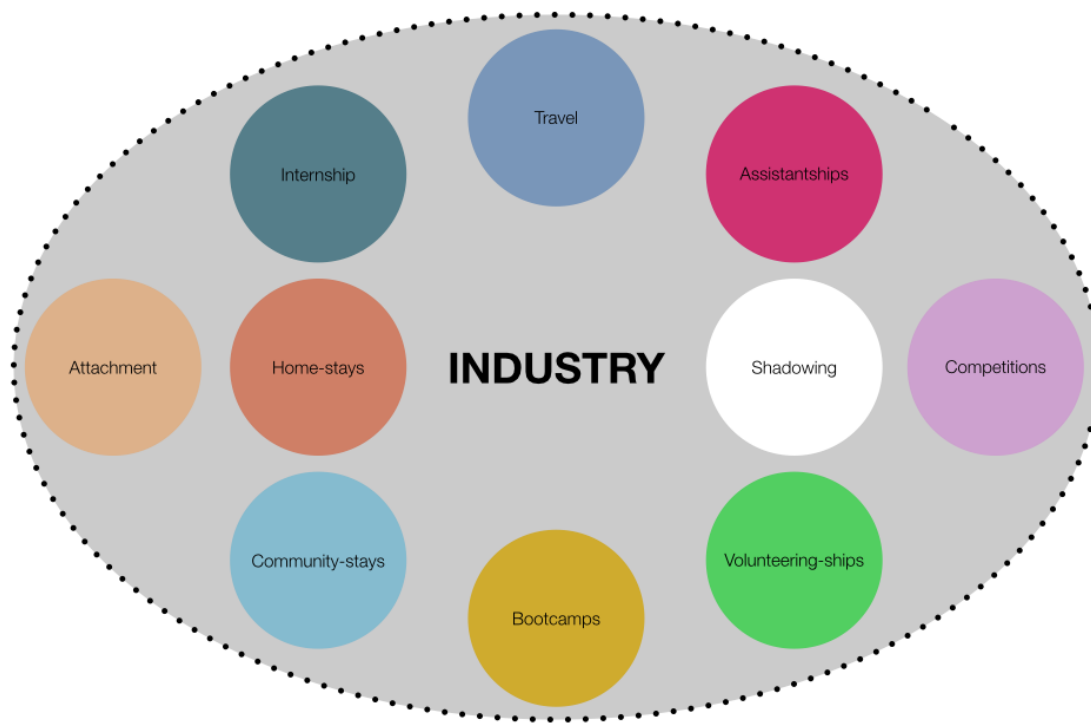


Figure 2: Scoping Industry Attachment Pathways

6.0 PRINCIPLES

The following principles shall govern the industrial engagement of students from all HLIs and related education subsectors operating in Rwanda.

6.1. Relevance

Establishing strategies that will make industrial attachment the great way to apply the knowledge from the classroom to real world experience, thus contributing to meeting the expected learning outcomes.

Depending on the programme cluster, the industrial attachment should provide opportunities for practical, hands-on learning from practitioners in the students' areas of specialization, gaining the experience in the career field they want to pursue.

It can bridge a skills gap and mismatch in graduates if key stakeholders collaborate to thoroughly assess the skills needed in various sectors.

To achieve this, we believe there is a need for partnerships with the corporate world, Industries, Government Institutions, Non-Governmental Organizations etc., by allowing students to be attached to these during their period of training so that they gain work experience.

6.2. Regulatory framework

All students are required to undertake placement(s)/industrial attachment relevant to their programs.

All the institutions of higher learning shall have in place arrangement for students' placement/industrial attachment in compliance with guidelines established by the public organ in charge of regulation of Higher Education

The Students' industrial attachment shall be based on a vibrant and stable regulatory framework, which establishes the overall conditions for design, implementation, monitoring and evaluation.

6.3. Transparency

Defining and recognizing the roles and responsibilities of various stakeholders involved will allow for the achievement of a coordinated direction in the design, implementation, monitoring and evaluation of the students' industrial attachment. This will improve the quality of the students' industrial attachment.

It is worthy to set clear expectations of what is required from both industry and the training providers (HLIs).

It is also important to determine who shares the cost of students' industrial attachment among the relevant stakeholders.

6.4. Shared Values

Host institutions should collaborate with education providers to ensure that the students acquire relevant practical skills required for their professional and career development in their areas of specialization. Students should be encouraged and assisted to develop necessary defined skills at the workplace.

6.5. Effective communication

Negotiation, consultation or exchange of information shall happen between, or among, representatives of academic institutions, industry, government, professional bodies as well as other stakeholders.

Successful, effective communication enables consensus building among stakeholders, resolving important issues related to training. It also allows effectively linking classroom and workplace training and using the knowledge of stakeholders on the content and delivery of training.

6.6. Equity and non-discrimination

The industrial attachment opportunities shall be open to all qualified students irrespective of gender and disability.

6.7. Mutual Respect

The students should abide by the organizational rules and regulations.

6.8. Confidentiality

The attachee is prohibited from revealing any classified information pertaining to the attaching organization or the academic institution. Students on industrial training shall be required to follow the students' code of conduct as well as the professional code of conduct regulating practice in the work area.

7.0 AGREEMENT AND EXPECTED LEARNING OUTCOMES

7.1. A Memorandum of Understanding

A successful implementation of an industrial attachment for students depends on a transparent collaboration between the industry or the Agency and the HLI. Before the commencement of the placement, the academic institutions should establish a relationship with the industry related to their areas of education and training. A Memorandum of Understanding (MoU) shall have been signed between the HLIs and the organizations hosting the students. The agreement shall be signed by both parties prior to the engagement of any industry activities, and shall define mutually agreed learning objectives for the attachees and modalities of collaboration in terms of practical education and training. It is therefore advisable that both parties sign a Memorandum of Understanding that clearly defines agreed roles and responsibilities, principles, expectations and requirements.

As a minimum, any agreement / MoU shall include the following:

1. An elaboration of all key activities;
2. Objectives of the collaboration;
3. An indication of all the related logistics;
4. Provisions for Pre, In and Post-Attachment/Placement;
5. Each player's /stakeholder's privileges, rights and responsibilities;
6. All necessary health and safety considerations;
7. All necessary health and safety considerations;
8. Termination of the Industrial Attachment;
9. Monitoring and Evaluation.

7.2. Intended Learning outcomes of Industrial Attachment

The intended learning outcomes of the industrial attachment may vary from programme to programme. The performance expectations for students are required to carry out an industrial attachment programme for their Professional Career development. These performance expectations represent what students should know and be able to do after completing an industrial attachment. Some of the standards and performance expectations may already have been met through other classes and also may be evaluated during the selection process for the IA program. Upon completion of an industrial attachment, students should achieve the following learning outcomes:

Knowledge & Intellectual Skills

- Demonstrate an understanding of the dynamics of the workplace, and the functional relationships within and among organizations;
- Utilise grounded experiences from real-life lessons and practice to enrich discipline-specific discourse;
- Demonstrate a strong sense of accountability in tasks and projects with proper attitudes and behaviours;
- Follow instructions, play assigned roles and perform personal and group activities using appropriate approaches and strategies;
- Demonstrate and/or work with in-depth specialised technical or theoretical knowledge of a field of work or study;
- Critically analyse, evaluate and/or synthesise concepts, information and issues drawn from a wide range of sources to generate ideas.
- Evaluate own performance and work through regular reflection for self-improvement;
- Demonstrate professional and ethical responsibilities;
- Articulate career options by considering opportunities in industry, professional and educational advancement.

Application of knowledge

- Apply discipline-specific theoretical concepts and analytical skills in dealing with work situations and in formulating feasible solutions to problems;
- Identify and analyse both routine and abstract technical/ professional problems and issues, and formulate evidence-based responses;
- Establish appropriate judgement in planning, designing, technical and/or management functions related to products, services, operations or processes;
- Produce the assigned roles and perform personal and group activities using appropriate approaches and strategies;
- Apply some advanced and specialised skills to support established practices in a subject/discipline;
- Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course;
- Apply higher order thinking skills (critical thinking, analysis, synthesis, evaluation, complex problem solving) to “real world” situations.

Communication, practical and technical skills

- Demonstrate effectively the skills in communication that include active listening, speaking, reading, and writing;
- Acquire additional interpersonal communication and interaction skills.
- Participate constructively in group discussions and make formal and informal presentations to a range of audiences in a subject/discipline;
- Develop some advanced features of ICT applications to support and enhance work;
- Interpret, use and evaluate numerical and graphical data to set and achieve goals/targets;
- Demonstrate ability to select and utilize appropriate technologies to realize given tasks;
- Communicate and collaborate effectively and appropriately with different professionals in the work environment through written and oral means;
- Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges;

Autonomy & Accountability

- Demonstrate a strong sense of accountability in tasks and projects with proper attitudes and behaviours;
- Assess and analyze personal talents, values, and interests as they may relate to a future career;

- Apply knowledge gained from individual assignments to a comprehensive set of goals and a meaningful future plan;
- Create, maintain, and expand the network of people who can assist in achieving career goals.
- Accept responsibility and accountability, within broad parameters, for determining and achieving personal and/or group outcomes.
- Design strategies for working effectively with diverse co-workers to maintain confidentiality and integrity;
- Better explore and pursue the personal and career development.
- Develop self-understanding, self-discipline, maturity and confidence;
- Develop strong networking/mentoring relationships.

8.0 ORGANIZATION OF THE INDUSTRIAL ATTACHMENT

The industrial attachment shall be organized through different steps namely: Program Management, Budgeting, Pre-placement, In-Placement, Post-Placement, Supervision and Evaluation.

8.1. Program management

In order to make industrial attachment effective, a HLI should establish a level of management that shall coordinate and harmonize all the activities, review of supervision, assessment and final evaluation of the industrial attachment programs in different teaching units periodically.

8.2. Budget

The sponsors of students and the HLIs shall consider industrial attachment as an academic activity that requires a cost to be successful. Furthermore, measures should be set in place in order to maintain the sustainability of this activity.

- Tuition fees, whether government or privately sponsored, should have the industrial attachment component for insurance, student's maintenance, material and equipment, meetings, transport, subsistence, communication, stationery and academic supervision facilitation for on-site supervision and coordination expenses.

- Teaching institutions should form partnerships with the private sector and negotiate how best the partners can support the field attachment program if possible.
- Through MoUs negotiation, HLIs and industry players should agree on how the on-site supervisors should be recognized and motivated through appropriate means such as payment of honorarium and/or a letter of recognition.

8.3. Pre-Placement

For an industrial attachment to take place, placement of the students is an essential part before the beginning of the industrial period. Academic Institutions have to make it very clear to the students and their benefactors, prior to being enrolled because the industry placement is a mandatory part of the program.

The students must be fully prepared and have a good understanding of workplace conduct before they start their industrial attachment. A placement should occur after the students have chosen their specialization to ensure the placement gives them sufficient opportunity to develop relevant technical skills and that the employer is able to benefit from them based on their needs. The HLIs are responsible for providing pathways to reputable industry partners for their students with which they have to sign MoUs and are willing to provide the expected practical training.

The pre-placement activity consists of three main tasks namely; visits to industrial attachment areas and joint planning, briefing students or preparing students for the workplace and re-orientating the academic staff who will supervise the students.

8.3.1 Visits to industrial attachment sites and joint planning with the partners

The purpose of the visits is to identify partners/sites and negotiate relationships, roles and responsibilities. The visits should be followed by exchange of communication with the partners to confirm appointments.

Academic staff together with the partners need to identify suitable sites for students' attachment. Criteria for site selection should be as follows:

- Availability of suitable industrial attachment supervisor(s);
- Availability of supportive facilities to the learning of the student(s);
- Availability of on-going activities to provide learning experiences to the student(s);
- Gender needs;
- Health and safety of the site

Joint planning should include drawing an action plan for implementation of the program; agree on the evaluation criteria of the students on industrial attachment and modalities for supervision. It also involves training of the industrial supervisors in specific requirements for supervision and evaluation of the students on industrial attachment.

8.3.2 Briefing the students

Before the placement, students have to be briefed two weeks before they start industrial attachment, so that they can appreciate industrial attachment as an integral part of their training programs. In such briefing, the following areas are to be addressed:

- The purpose of the industrial attachment program;
- Basic requirements in terms of equipment and materials;
- Code of conduct expected of the students during the industrial attachment;
- Roles of the various supervisors (academic and company supervisors);
- Grading/evaluation of the industrial attachment program;
- Various channels of communication for students on industrial attachments e.g. where and how to report when they have problems;
- The final industrial attachment report format;
- When and how to hand over materials/equipment lent to them (by) the host organization) during industrial attachment;
- Other matters concerning their welfare during the industrial attachment;
- Health and safety issues.

8.3.3 Re-orientation of the academic staff

Since all the academic staff will participate in supervision of the students on industrial attachment, they will be all involved in the planning and organization of the exercise. They will be well re-oriented on the following:

- The purpose of the industrial attachment program;
- What the task involves;
- Development and review of the monitoring and evaluation/assessment criteria;

This activity will be carried out before the visits to the industrial attachment sites. This is because some of the staff will be involved in the pre-placement preparations.

9.0 REQUIREMENTS FOR INDUSTRIAL ATTACHMENT

9.1 Learner prerequisite work

The student must have passed the requisite course work including the teaching skills for those following education. This requires that the HLI offering education-related programmes have MoUs with the demonstration schools where students have to participate sufficiently in teaching demonstration before their industrial attachment period.

9.2 Insurance / Indemnity

Before commencing the industrial training, student sponsors and HLIs may plan to obtain insurance to cover incidents resulting in injury or any damages that may occur during the period of attachment. In public HLIs, the life insurance is covered as part of their bursary. For other damages, these shall be specified in MoUs between HLIs and industries or as part of a comprehensive scheme.

9.3 Planning and Coordination

Efficient planning and coordination shall be done by HLIs in collaboration with the industry. The harmonization of HLIs plans should be done per program cluster at the beginning of each academic year.

9.4 Requirements for Industry and Academic Supervisors

There will be two distinct levels of supervision: the academic supervisor from the HLI and the supervisor from the industry. An appointed and qualified academic staff shall be assigned to supervise the attachee who shall be visited over scheduled/structured sessions. During the visit, the academic supervisor will interact with the student, the industry supervisor/other relevant officials and also visit the attachment sites to acquaint himself/herself with the activities of the student. The supervision reports shall be provided within a period of not more than 48 hours and copies given to the student and the industrial attachment coordinator. The Attaching organization shall appoint a suitable immediate Supervisor to progressively supervise the attachment training process of the attachees.

10. IN-PLACEMENT

10.1 Period for attachment

The students' industrial attachment needs to be structured. It should not be done at the end of the program cycle but instead spread across the entire training continuum. The duration

of the Industrial Attachment depends on the requirements of the programme of study. The attachment should meet the mandatory duration stipulated in the academic regulations.

The specific duration varies according to the established three programme clusters namely Science, Technology, Engineering and Mathematics (STEM); Health Sciences and Arts and Social Sciences. However, it shouldn't go below respectively 2-3 months, 12 months and 2 months. The variance would also depend on the different academic programmes and on how credits for the industrial attachment are rated and level of study.

Timing of requests for attachment/placement places from HLIs, shall take into consideration the need to prepare and plan to host students. MoUs will spell out clearly what turnaround time is expected from all parties.

The initial planning shall be done by each institution at the beginning of the academic year, and then the timing will be determined upon consultation of the other HLIs offering the same academic programme based on the places available in the hosting organizations.

A planning session involving all HLIs should be held at the beginning of each academic year to come up with harmonized plans per programme cluster for the academic year.

10.2 Support and communication to employers

It is important that the HLIs have regular communication with the industry before the attachment starts and throughout the whole period of attachment. Academic Institutions have to complete all the administrative tasks related to the attachment such as planning the structure of the attachment, supporting the student selection process, arranging the review meetings, guiding employers through the necessary paperwork, and advising on reasonable adjustments. It is important To HLIs to plan regular communication with employers before the placement starts and throughout the placement. A clear and good communication helps to maintain good relationships with employers that could be relied on for future placements.

10.3 Workplace induction

It is imperative to the HLIs to make a full workplace induction on day one of the placement to cover all health and safety aspects of their workplace. This can also allow the academic institution to use the induction checklist in order to be informed on what to cover.

10.4 Management and training of attachees in the workplace

It is necessary that students have a structured, meaningful learning experience throughout the placement, to keep them interested and motivated to accomplish the work to their best.

The supervisor/mentor might adjust the level of supervision/support to allow the students to develop their technical skills independently, such as allowing them to take ownership of live projects. It is also helpful reading for line managers of the students with special needs education.

10.5 Roles and Responsibilities of Key Stakeholders

For the industrial attachment to be effectively and sustainably implemented, the various partners have to commit themselves to specific roles and responsibilities.

The following are the roles and responsibilities of each partner:

10.5.1 Roles and Responsibilities of Academic Institution

The responsibilities of the HLIs are important to ensure quality of IA programs. The leadership and involvement of administrators is critical to the success of any program.

Related roles and responsibilities of training providers will then include:

- Establish a functional Industrial Attachment Unit at the institution, School/Faculty and department level to handle related matters to Industrial Training. The membership shall consist of the Deputy Vice Chancellor in Charge of Academic Affairs/Deputy Vice Chancellor in Charge of Trainings, Institutional Development and Research, Deputy Principal in charge of Academics and Training, Deans, Heads of Departments, Academic Registrar, Director of Career Development and Guidance Unit and the Industrial Attachment coordinator/Industries liaison specialist/focal person;
- Establish links with the industry for future job reference and placement of students;
- To establish a database including information on organizations offering Industrial Training placements to students in relevant areas of study
- Guide the attachees to acquire meaningful and relevant learning experiences in their areas of specialization: orient students about processes and procedures relating to industrial training, provide preparatory workshops and briefing for students at least one (1) semester before the commencement of placements, ...
- Ensure that trainees are provided with the necessary resources (logbooks, industrial attachment management forms, industrial attachment evaluation forms, etc.) and a safe and healthy workplace necessary for attachment engagements;
- To avail a checklist on the Industrial attachment requirements to be forwarded to hosting organizations;

- Assign academic supervisors to the attachees: appoint a suitable immediate Supervisor to supervise the attachment training process of the attachees in his/ her area of specialization. Other roles of the Academic supervisor should include: guiding students on report writing, visiting students while at place of attachment to ensure presence and involvement in activities of the attaching institution and evaluating the trainee during/at the end of the Industrial Attachment Program period by filling in the school supervisor logbook; but also serve as a go-between the HLI and the hosting institutions, report to the institution after every visit session,
- Have a balanced assessment of its trainees in conjunction with the supervisor of the attaching organization but also following the National Qualifications Framework;
- Discuss the attachee's progress objectively with the attachee, academic supervisor and the hosting organization;
- To take appropriate action on complaints and feedbacks received from hosting organizations or students pertaining to problems encountered during the Industrial attachment;
- Identify skill gaps and improve the quality of training. Education and training institutions will obtain feedback from industry in relation to the training they provide contrasted with the needs of the labour market;
- Involve the industry in the curriculum design, review, implementation and evaluation, new teacher recruitment and mentorship;
- Revise curriculum in accordance with feedback from the industry;
- Informing the industry of the revisions made to the curriculum in response to their feedback through validation workshops and other forums.
- Provide the necessary training materials/kits and tools for learning during the industrial attachment/placement period.

10.5.2 Roles and Responsibilities of attaching Organization

- Indicate and communicate the availability of industrial attachment opportunities to the academic institutions;
- Provide the learning environment necessary for the effective industrial training and preparation for the world of work;
- Provide industrial attachment agreements to the academic institutions and the attachees which should be attested by a proper officer;
- Nominate the key workplace supervisor responsible for the industrial training;

- To ensure that the list of tasks given to the students is suitable to students' major fields of specialization and are included with the offer letter;
- Provide feedback to training institutions on the performance and character of internee;
- To place the students in the department/division/unit that is suitable with their field of study
- To provide proper orientation to students whilst introducing the students to the organisational structure, scope of work and the working environment;
- Liaise with the relevant training institutions if problems arise during the course of the industrial attachment ;
- Build the capacity of in-company mentors and supervisors in instructional, coaching and interpersonal skills;
- Regularly monitor the progress of students/attachees and introduce the relevant supervisory measures to ensure quality practical learning;
- The host institutions shall make an evaluation of the student's performance at mid-term and at the end of the industrial attachment period;
- To complete the feedback form provided by the academic institution and return it to the management of the institution;
- If an organization wishes to pay the student an allowance, the arrangement is only between the two parties, that is, the student and the organization involved.

10.5.3 Roles and Responsibilities of Students

- The student is responsible to ensure that all matters relating to the Industrial attachment are conducted in an ethical, professional, conscientious, trustworthy and committed manner;
- Familiarize with the HLIs' industrial attachment policies and procedures;
- Shall complete the Industrial Training placement process within the specified time based on the Industrial Training Programme schedule;
- Shall maintain discipline and adhere to all rules and regulations/procedures enforced by the host organization including dress Code, respect of the chain of command and to ensure full attendance during the Industrial attachment duration;
- Shall ensure that the industrial attachment is not performed in a family-owned company or workplace so as to avoid conflict of interest;

- Be a good ambassador of his/ her institution and reflect the values of the institution for the training to be effective, it is important that students should be exposed to the departments related to their areas of specialization;
- Once the student has reached the training place, s/he must notify the institution that s/he has joined the training and specify the time;
- Must be responsible for maintaining the security of properties belonging to the organization. Avoid damage to property, misuse or misappropriation of any property belonging to the attaching organization;
- Shall obey and respect the organization's training supervisor during the course of attachment;
- Must keep a daily record of activities/tasks performed and challenges faced;
- Must prepare an attachment report after the completion of the industrial attachment, get approval from the industrial mentor and hand in to the academic supervisor for marking and scoring;
- Intellectual property developed by attachees during the course of industrial attachment shall belong to the university and the organization where the attachee is attached;
- Perform work of professional quality and effort;
- Contribute to insurance/indemnity fees for the attachment
- Complete all reporting/seminar requirements for employer and Academic Institution.
- Make any recommendation to his/her Department and host institution that can improve the designing, planning, implementation and evaluation of industrial attachment in particular and the training in general

10.6 Key Documents for students' attachment

10.6.1. Student's letter of introduction

A letter of introduction endorsed by a Head of Institution or Department or Academic Unit in charge of co-curricular activities shall be provided to each student. The letter shall be supported with an outline of key practical learning activities and intended learning outcomes of the student.

10.6.2. Handbook / Guidelines / Outline

The industrial attachment Handbook provides procedures for better coordination of industrial attachment. Its purpose is to clarify the requirements of the attachment and the responsibilities of the parties who are involved namely the student, the training institution and the hosting organization. Each training institution must develop/revise an elaborate but clear Industrial Attachment Handbook to be availed to each attachee in preparing and guiding him/her for attachment.

10.6.3. Logbook

The logbook is meant to assist students keep detailed descriptions of the tasks done, and new skills learnt over the course of attachment period. It is also meant to enable industry-based and academic supervisors to keep track of the students' progresses, assess their work, and offer guidance where necessary. The log book is expected to document all the activities in which students are engaged in during the attachment period. Each student shall be supplied with a logbook by the Industrial attachment Office.

Logbooks must be completed on a daily/weekly basis and endorsed by both industry and academic supervisors.

The logbook must be submitted to the attachment coordination office at the end of the attachment.

Such a logbook shall follow the format detailing the following information among others (STEM may add a few more items as need arise);

- Student details (names, registration number, level of study, Department, period)
- Student's daily record of activities (Week number, day and date; activities; Supervisor Name, lessons learnt, challenges faced and recommendations, mentor's comments)
- Overall comments by the Student
- Overall comments by the Mentor

10.6.4. Attendance / Timesheet

The attendance template should be provided by the HLI and monitored by the industry supervisor. All parties should enforce compliance to the established rules and regulations.

10.6.5. Evaluation /Appraisal Forms

HLIs shall develop student's industrial attachment forms and avail them to the hosting organizations. At the level of the hosting organization, the evaluation form shall be completed by the industry supervisor. Areas to be appraised should be determined by the HLI and should include Specific Skills, General Skills, and Attitude to work, personal qualities (Politeness, Punctuality, Respect to others, Regularity, Humility, Mien and Decorum, Communication, Admitting mistakes, Teamwork, Acting decisively); performance in assigned tasks (Ability to anticipate needs and wants, Practical and technical skills, Ability to analyze and find solutions to work problems, Understanding of the prominence of data entry, management and reporting).

The academic and industrial supervisors' reports shall be produced by filling prescribed HLI's forms. Other documents/templates necessary for Industrial attachment may include among others depending on each or HLIs education clusters:

- a. Industrial attachment Recommendation form: provided by the academic institution providing with the student a strong basis for especially soliciting for and identification of own industrial attachment/placement.
- b. Industrial attachment agreement: an attestation by organization that it will host the student according to the agreed terms and the student on the other hand that agrees to the same to be hosted signed by both parties and copied to the Academic institution
- c. Guidelines for evaluation of Industrial attachment report: prepared by the academic institution for as a guideline for the academic supervisor to diligently and fairly evaluate and assess the industrial attachment report.
- d. Daily/weekly summary of work performed: a template prepared by the academic institution, filled by the student and signed by both the academic and field or workplace supervisor.
- e. Industrial attachment Completion Declaration form: a template prepared by the academic institution indicating the completion of the Industrial attachment, activities and in the stipulated period signed by the attaching institution and the student.
- f. Industrial Attachment Results submission form: a template prepared by the academic institution for submission of industrial attachment results signed by Academic supervisor and Academic Dean or HoD.
- g. Industrial Attachment Suspension form: a template prepared by the Academic institution in regard to 10.5 above signed by the student, the attaching institution and the HoD or Academic Dean.

10.7 Assessment of the students

The industrial attachment assessment will be based on:

- Students' logbook of daily activities;
- Students' Industrial attachment Final Report;
- Industrial attachment Supervisor's report;
- Industry/Company Feedback Report;
- Industrial attachment academic report through visits.

i. Given the duration and intensity of the industrial attachment program and its assessment (by industry supervisor, academic supervisor, industrial attachment report), the attachment should carry an overall weighting of 70% based on the credits allocated to the attachment.

ii. The industrial attachment, being part of the academic program, must be assessed, graded and the grades should contribute towards the award of a candidate. 20% of the marks of industrial attachment should be given by the industry supervisor, thus giving prominence to the assessment by the industry supervisor, who is best placed to monitor and assess the students' daily performance. The industry supervisor shall use the SIA form provided by the student's HLI to assess and award marks to the student.

iii. 30% of the assessment shall be reserved to the academic supervisor

iv. 20% shall be reserved to the industrial attachment report to be produced by the student and submitted to the designated office in his/her institution.

For the final grading, the HLI has to take into account the performance reported by the industry Supervisor.

Academic supervisor's visit

The academic supervisor will check the student's logbook/ Industrial attachment management form and other assessment/supervision documents when he/she visits the students on attachment to ensure that proper training is being received, and record his/her comments on the space provided in the logbook. The academic supervisor shall take a session to follow the student performing a practical task and if applicable interact with the students on the approach adopted in the conduct of the task and provide him/her with guiding inputs if need be.

Reporting

In addition to the evaluation form and the logbooks, the students shall also submit a comprehensive report of the activities undertaken during the attachment / placement / ,

new skills learnt and challenges faced. The report evaluation shall give credibility to Format (introduction, language command, referencing....), and Content (Major task carried out, identification of skills acquired, experience gained, strengths and weaknesses of the industrial attachment, challenges highlighted and recommendation to improve both the industrial attachment and academic programme).

The students' report shall be in accordance with the guidelines for writing the reports established by the HLI. The pass mark and grading shall be as defined in the institution respective curricula/policy.

11.0 POST-PLACEMENT ROLES AND RESPONSIBILITIES

Confirming industrial attachment completion

The HLIs through the supervisors/mentors are responsible for deciding whether students have satisfactorily completed their industrial attachments, based on whether they have satisfied all the set criteria. Academic institutions must apply their professional judgment in making their decisions, incorporating the industry's feedback, and must ensure that their decisions are evidenced. (see 10.4, e -Industrial Attachment Completion form)

Employer and student feedback

To enhance the industrial attachment offer, HLIs must actively seek the feedback from students and employers about their experiences of the end-to-end process. The host industries have to sign the industrial attachment completion in the student's logbook to confirm the students have met the completion criteria. For this, the employers can provide an appraisal of the students' performance on the placement based on the accomplished assigned tasks.

HLIs responsibilities

The institutions have to provide an evidenced-based decision about whether students have completed their attachment, with input from industry, and use the progress indicators to identify whether they have demonstrated progress towards their learning goals.

It is important to help the students to understand the importance of completing their industry attachment within the proposed period.

HLIs have to sign the industrial attachment completion declaration in student logbooks to confirm that students have met the completion criteria, and ensure the declarations are also signed by students and host industry.

Every such document(s)/book(s) shall be well documented and filled to enable each individual student to be verified and crossed checked as to have fulfilled all the academic requirements as stated by the National Qualifications Framework before Graduation

Industry responsibilities

The host industry shall contribute to students' final review meetings and the decisions about completion based on students' overall performance against their learning goals.

As well, the host industry has to sign the industrial attachment completion declaration in the students' logbook to confirm that the students have met the completion criteria. The industry will provide an appraisal of the students' performance on the attachment.

12.0 ENABLING MECHANISMS

In order to successfully implement these guidelines, enabling mechanisms will have to be constantly identified and advanced. In any case, the success of the industrial attachment / placement will require a mindset open to engaging with the realities of a complex future.

The benefits of workplace learning are clear. It is bound to increase the readiness of prospective workers following their graduation from the education and training programmes. Companies that offer attachments / placements have the opportunity to know and assess future employees thus reducing the risk of hiring incompetent personnel. Companies will save on induction and on-job training related costs by hiring former industrial attachees. Attachees also offer productive value for the company as they work while learning. HLIs are urged to create strong partnership bonds with the private companies focusing on cooperation in the implementation of industrial attachments. The Private Sector Federation will participate in awareness raising on the importance of workplace learning for the general public and the industry to ensure industry players are fully engaged in skill development for the country.

It is therefore not only strategic but also prudent that the following enabling mechanisms be put in place:

Consultative meetings

HEC, HLIs and the industry through the Private Sector Federation and allied government agencies will collaborate to ensure an enabling environment is put in place. On top of a consultative meeting to validate and ensure each party's ownership and awareness of the guidelines, consultative meetings will be held regularly to discuss and advance success stories, overcome key challenges and implement recommendations. It is required that the

guidelines be owned by all levels of Managements (Top to Operational Management) at both institution and industry levels.

Periodic Reviews

These guidelines shall be subject to review on a frequent basis, at least once a year and not more than every three years. This will promote a sense of awareness of key trends while harnessing all opportunities that sustain the quality of industry - academia linkages.

MoUs

Whereas it is expected that MoUs will be developed and maintained among industry and academia partners, HLLs shall constantly identify and write MoUs with key partners in all sectors. In particular, HEC's MoUs will target areas of capacity building for educators, resource mobilization for both institutions and students and; the advancement of innovation, discourse and publication.

From time to time, HLLs will provide a conducive environment for their academic staff to immerse themselves in industry in order for them to be equipped with the necessary tools to better advance student industrial attachment.

Industry recognition

The Ministry of Education and stakeholders shall also preside over an annual ceremony to recognize and reward the best host industry institutions. Doing this will not only motivate them but also highlight high performers to be emulated by others.

Insurance / Indemnity

The cost of insurance / indemnity is rather high and prohibitive, as such, in some cases potential hosts mitigate their risks by either not taking on students or avoiding certain high risk areas. To cater for this, tuition fees, whether government or privately sponsored, should have the industrial attachment component for insurance, student's maintenance, material and equipment.

Tools / Templates

Some key documents have been elaborated in section nine (9) above. These shall form the basis for procedural standards and quality assurance. As such, subsequently these will be

designed and provided as appendices to these guidelines with the view of making it easier for institutions to have minimum standards to emulate.

13.0 BENEFITS

The development and innovation that takes place around the world has become an indication of the benefits linked with this mode of training to the students, education institutions, attachment institutions and the industry at large. The industrial attachment programme becomes a clear indication of benefits experienced by the training institutions, students, host organisations and the industry at large. It is therefore an inevitable practice for the creation of a sustainable human resource to increase industrial productivity.

13.1 Benefits to the students

- i. Attachments create a platform for students to assimilate theory into practice and students are exposed to the real world;
- ii. Students get an opportunity to gain work experience and familiarize with the work environment;
- iii. The industrial attachment leads to the development of experience and increases the self-confidence, communication and time management skills and also provides an opportunity to link with professionals in their respective fields.
- iv. Job prospect, the industrial attachment programme assists the students in attaining a qualification which testifies their competencies in a specific field of work.
- v. Opportunity to work on one's own initiatives;
- vi. Link with professionals in one's own field;
- vii. Opportunity to gauge whether they are capable of working with the prospective employer;
- viii. Opportunity to practice different work related skills;
- ix. Exposure to new methods and tools of performing tasks;
- x. Shadowing workers in the same role in the host organization.

13.2 Benefits for host organization/companies

- i. Low cost labour that reduces the wage bill;
- ii. Less spending in training the employees who went through industrial training programmes;
- iii. Time to identify potential employees and retain them after the completion of the industrial attachment and thus recruiting employees who are already familiar with the world of work;

- iv. Opportunity to attract new trains in technological awareness;
- v. V. Marking forums for the industry.

13.3 Benefits for HLIs

- i. Marketing forums for HLIs: Industrial attachment programmes are marketing forums for various HLIs, the more students do well, the more they market their institutions and ultimately the more reputable institutions become.
- ii. Feedback from the industry to make the training more relevant;
- iii. Networks that help them, in developing, reviewing, validating, revalidating, implementing the curriculum;
- iv. Students raise the flag for their training institution

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