

Republic of Rwanda



Ministry of Education



Students' Satisfaction Survey

Kigali

August 2021

Students' Satisfaction Survey

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EXECUTIVE SUMMARY

Introduction

Rwanda Polytechnic's mission is to provide quality education that complies with applicable standards through Vocational Education that enables beneficiary to acquire skills to create jobs and compete to the labour market. But this cannot be achieved if there are no modern and appropriate training facilities & resources to allow effective teaching/training and learning (Conducive Training Environment). RP is determined to create an environment and community where young people flourish through a competency-based training and assessment. The profile of a Rwanda Polytechnic graduate should be defined by a high work ethic, professionalism, and good citizenship and aspiring to the highest standards.

Periodic assessment of TVET delivery is important to improving the curriculum, the quality of teaching, the learning environment and TVET as a whole. Students' perception of how they are learning and what they are learning; - student satisfaction survey elucidates on actual TVET delivery. Rwanda Management Institute and the Rwanda Polytechnic commissioned this study with a view of assessing TVET delivery as seen through the experiences and perceptions of the students; the key stakeholders. This would contribute to skills development and further Rwanda's social and economic transformation as laid out in key development blue-prints (Rwanda NST-1, Vision 2050, AU Agenda 2063 and SDG 2036).

The main objective of the assignment was to conduct a survey of students' perceptions regarding industrial attachment, quality of teaching and learning in IPRCs and services provided to them.

Methodology

The main approach of the study was a survey. Additional clarification of issues was done through qualitative interviews. From a population of 8,514 registered students in IPRCs, a sample of 263 respondents was selected. The margin of error of 5%, confidence levels of 90% were used. The sampling was clustered according the location of the colleges and stratified by Program, gender, year of study, proportionate to the size of the strata. This survey was descriptive-evaluative and findings are clustered around the key themes of the study. The quantitative data were collected through an Open Data Kit (ODK) and analysis was done using Statistical Package for Social Science (SPSS). The qualitative data were collected through google forms due to the hindrances caused by measures to contain the spread of COVID-19.

Findings

The findings show that most students were satisfied with their curricula. However, the survey also revealed that there are some students who were not satisfied with some aspects of the current curricula including content; courses coverage of relevant topics and courses coverage of standards used in field of work. Referring to the quality of teaching, using English as a medium of instruction, the majority of students considered their level of English proficiency as intermediate and the majority of students agreed that they have adequate English proficiency to interact with trainers. Additionally, the majority of students agreed that the prevailing curricula prepared them for the high level of English proficiency required in real-world situations. It was revealed that industrial attachment helps the students in gaining working ethics, developing work-based skills, and getting to meet different people in their future career path are the main expectations and encountered benefits of the program. The survey results showed that the majority of students are satisfied with learning environment in IPRCs. The assessment also found that some students were not satisfied due to some aspects that need improvement, including lab equipment and materials, internet availability in ICT labs and ICT infrastructures. It was shown that in IPRCs students receive academic and social services but some area need improvement like sport facilities.

Conclusion

Considering the students satisfaction with the current curricula, the survey has shown that the majority of the students are satisfied with the current curricula. Considering the quality of training in line with English as medium of instruction, the survey has revealed that the students are satisfied with the way the training is delivered and they interact smoothly with their trainers/instructors. For the learning environment, labs, workshops and ICT labs availability, the majority of students showed satisfaction but there is a need for some improvement especially labs and workshops materials and equipment. The services provided to students were perceived to be good with some recommendation for improvement.

Recommendations

The majority of students are comfortable with current curricula taught in IPRCs schools. It is an evidence of good reputation of TVET in higher learning, therefore, Rwanda Polytechnic is advised to conduct outreach programs in secondary schools to attract A level graduates and advise them to advance in TVET. Many students confirmed that they have intermediate level of English proficiency; they appreciate quality of teaching in accordance with English as a medium of instruction, they also have enough English proficiency to interact with

trainers. Thus; there is need to particularly reinforce English lesson in academia since from lower level to upper level of education. The majority of students confirm that gaining working ethics, developing work-based skills, and getting to meet different people in their future career path among others are main outcomes and benefits of students 'current industrial attachment. Rwanda Polytechnic should reinforce and establish industrial attachment guidelines to ensure the successful and profitable industrial attachment. The findings highlighted that sport related infrastructure in IPRCs still need to be improved the same as other academic and leisure infrastructures.

ABBREVIATIONS & ACRONYMS

ICT	: Information and Communication Technology
IPRCs	: Integrated Polytechnic Regional Colleges
KIs	: Key Informants
NST1	: National Strategy for Transformation
ODK	: Open Data Kit
PSG	: Priority Skills for Growth
RMI	: Rwanda Management Institute
RP	: Rwanda Polytechnic
RP-IPRCs	: Rwanda Polytechnic- Integrated Polytechnic Regional College
SPSS	: Statistical Package for Social Science
ToRs	: Terms of References
TVET	: Technical and Vocational Education and Training

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1. GENERAL INTRODUCTION

1.1. Background

Rwanda Polytechnic Higher Learning Institution (RP) as established by the Law n° 22/2017 of 30/05/2017 and determining its Mission, Rwanda Polytechnic's mission is to provide quality education that complies with applicable standards through Vocational Education that enables beneficiary to acquire skills to create jobs and compete in the labour market but this cannot be achieved if there are no modern and appropriate training facilities & resources to allow effective teaching/training and learning.

RP is made up of eight Integrated Polytechnic Regional Colleges (IPRCs), with at least one IPRC in each province and the City of Kigali, plus an institute, the Rwanda TVET Trainer Institute which is dedicated to training the teachers and instructors both in educational institutions and industry in order to deliver on high standards of hands-on skills development through a competency-based training and assessment program. RP is determined to create an environment and community where young people flourish through a competency-based teaching and assessment; an industrial or work apprenticeship program, and an active entrepreneurship system involving producing real products for the “Made in Rwanda” market in its well-equipped workshops and business incubation centres.

The profile of a Rwanda Polytechnic graduate should be defined by a high work ethic, professionalism, and good citizenship and aspiring to the highest standards¹. In order to make a well-informed decision, RP will regularly need to collect data related to the current status of TVET delivery as well as assess the student's satisfaction and industrial attachment procedures. For this purpose, Rwanda Polytechnic is in a process of collecting information on students' satisfaction and their perception on quality of teaching, learning environment and curriculum/training delivery, training facilities, academic and social services to ensure that Skills Development through TVET serves to Rwanda's Socio-Economic Transformation & Sustainable Development in line with the Rwanda's Vision 2020/2050 and AU Agenda 2063 and NST1. Periodic assessment of TVET delivery is important to improving the curriculum, the quality of teaching, the learning environment and TVET as a whole. Students' perception of how they are learning and what they are learning; - student satisfaction survey elucidates on actual TVET delivery. Rwanda Management Institute and the Rwanda Polytechnic commissioned this study with a view of assessing TVET delivery as seen through the

¹ Students Handbook, RP (2019)

experiences and perceptions of the students; the key stakeholders. This would contribute to skills development and further Rwanda's social and economic transformation as laid out in key development blue-prints (Rwanda NST-1, Vision 2050, AU Agenda 2063 and SDG 2036)

It is against this background that RP in partnership with MINEDUC and World Bank under PSG-AF Project launched an assessment of students' satisfaction about industrial attachment, quality of teaching and learning environments, and quality of curriculum/training delivery of RP-IPRCs. Findings would inform further action plans to improve industrial attachment and the teaching and learning environments.

1.2. Objectives of the assessment

The main objective of this assignment was to conduct students' satisfaction and industrial attachment survey among students and their perception regarding quality of the teaching and learning in IPRCs.

Specific objectives are:

1. To assess the students' satisfaction in line with current curricula;
2. To assess the students' perception on the quality of teaching in accordance with English as a medium of instruction;
3. Assess the current status of students industrial attachment by training programs, challenges and recommendable actions;
4. To assess the students' perception on the quality of learning environment in Lab and workshop, ICT facilities, etc;
5. assess services provided to students both academic and social (E.g.: Career guidance, health services, sports and leisure, etc);
6. Produce appropriate recommendations related to the findings on students' satisfaction.

2. METHODOLOGY

The study was mainly a survey; however, for clarification of key issues, qualitative interviews were also conducted with key informants. Key documents were reviewed to anchor the study.

2.1. Target population and Sample size

2.1.1. Population

As per the Terms of Reference (ToR), the survey considered N=8, 514 total RP students enrolled in TVET programs in 8 IPRCs (Ngoma, Gishari, Kigali, Tumba, Musanze, Huye, Kitabi, and Karongi). A representative sample was drawn from the total population.

2.1.2. Sampling and Sample size

The sampling followed a multi-stage sampling where all the students at the time of data collection had equal opportunity of being included into the survey following cluster and stratified sampling procedures. It was cluster sampling for first stage because the students were sampled into geographical location, and stratified by program, gender and year of study. The sample size of this study was computed based on the following formula developed by Gall et al. (2014) from a population of 8, 514 students of the academic year of 2020-2021.

$$n = \frac{NZ^2 * 0.25}{[e^2 (N-1) + Z^2 * 0.25]}$$
$$= \frac{(8514 * 1.96^2 * 0.25)}{[(0.0493)^2 * 8513] + (1.962 * 0.25)} = 377.6631406 \cong 378$$

Where:

- **N** is the population
- **n** is the sample size
- **e** is the margin of error here we chose 4.93%
- **Z** is Z-score at 95% confidence level is 1.96. The z-score is the number of standard deviations a given proportion is away from the mean corresponding to desired sample size.

Therefore, the sample for this student's satisfaction survey was 378 graduates.

2.1.3. Sampling techniques

As said above, the survey used multi-stage sampling where the first stage used cluster sampling and second stage used stratified sampling to have a representative sample. The sampling was clustered according the location of the colleges and stratified by Program, gender, year of study, proportionate to the size of the strata. All the students in the strata had equal probability of being selected for survey. The registered students in the academic year of 2020-2021 are; 3,573 student in year one, 2,314 students in year two and 3004 students in year three. The table below gives detailed and sample procedures according to gender, level and college of the students.

Table 1. Sampling frame by college, gender and year of study

College	Levels	Gender				Grand Total	Sample
		Strata (male)	stratum (Male)	strata (Female)	stratum (female)		
IPRC Gishari	Year one	412	18	102	5	514	23
	Year two	359	16	88	4	447	20
	Year three	348	15	53	2	401	18
	S/T	1119	50	243	11	1362	60
IPRC Huye	Year one	420	19	120	5	540	24
	Year two	415	18	132	6	547	24
	Year three	267	12	50	2	317	14
	S/T	1102	49	302	13	1404	62
IPRC Karongi	Year one	189	8	83	4	272	12
	Year two	176	8	47	2	223	10
	Year three	329	15	116	5	445	20
	S/T	694	31	246	11	940	42
IPRC Kigali	Year one	753	33	214	10	967	43
	Year two	360	16	67	3	427	19
	Year three	204	9	33	1	237	11
	S/T	1317	58	314	14	1631	72
IPRC Kitabi	Year one	118	5	74	3	192	9
	Year two	131	6	77	3	208	9
	S/T	249	11	151	7	400	18
IPRC Musanze	Year one	316	14	207	9	523	23
	Year two	332	15	125	6	457	20
	Year three	212	9	45	2	257	11
	S/T	860	38	377	17	1237	55
IPRC Ngoma	Year one	267	12	123	5	390	17
	Year two	212	9	59	3	271	12
	Year three	196	9	56	2	252	11
	S/T	675	30	238	11	913	41
IPRC Tumba	Year one	127	6	48	2	175	8
	Year two	193	9	60	3	253	11
	Year three	149	7	50	2	199	9
	S/T	469	21	158	7	627	28
Grand Total		6485	288	2029	90	8514	378

Source: Rwanda polytechnic, May 2021

2.1.4. Key informants selection

The key informants' selection was done based on their daily responsibilities and mandate linked to TVET and skills development. Key informants were identified in close collaboration with the client (RP), from relevant stakeholders pertaining to the program implementation across the selected country. Anticipatively, the stakeholders involved in the KIIs included, but not limited, to:

- ✓ RP management;
- ✓ MINEDUC;
- ✓ IPRCs
- ✓ TVET schools supervisors;

Both the interview guide and an exhaustive list of participants in the KIIs were agreed with the client during the inception phase.

2.1.5. Approach and design

The study design is the use of evidence-based procedures, protocols, and guidelines that provide the tools and framework for conducting a research study. “The choice of the study design is a methodological decision made by the investigators before submitting the study for ethics review and starting data collection” (Majid et al. 2018; 2). The study design is related to the philosophical orientation of the study and researcher because philosophical “assumptions drive methodological decisions”². The study design is also a consequence of the research question, research objectives, and phenomena of interest, population, and sampling strategies³.

These components are integrated in such a way that their communion often suggests the nature of the study to be conducted. The nature of how these components align stems from the coherent narrative of the topic being studied, starting from pre-existing literature, to the rationale for the study, study approaches, the proposed study findings and the implications of those findings on principles and praxis.

² Lopez KA, Willis DG. *Descriptive versus interpretive phenomenology: Their contributions to nursing knowledge. Qualitative health research. 2004 May; 14 (5):726-35. <https://doi.org.libaccess.lib.mcmaster.ca/10.1177/1049732304263638>*

³ Majid U. *Research Fundamentals: The research question, outcomes, and background. URNCST Journal. 2017 Oct 24; 1(2). <https://doi.org/10.26685/urncst.14>*

The use of the mixed method is mostly used to triangulate in some instances and complement the data collected from each of the strands (**Figure 1**). In this case, quantitative and qualitative methods served in a complementary way. The quantitative data were analysed using SPSS and frequencies and percentages were generated and analysed.

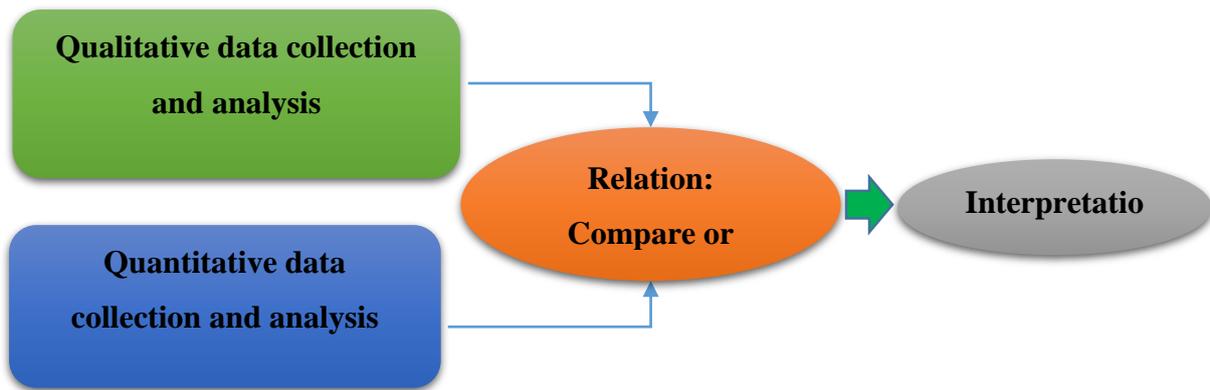


Figure 1: Mixed research design

Source: *Authors' Compilation*, 2021

2.2. Methodological Approach

Regarding the process, the survey was implemented through the following steps:

Planning & Preparation: Under this phase both the client (RP) and the consultant Team reached a common understanding on the process, requirements, methodology, approach and tools that were used.

Data Collection: This phase consisted of the review of existing documents, conversations with Key Informants/stakeholders as well as administration of the survey by questionnaire. The consideration was to ensure that quality data was gathered.

Data Processing, cleaning and Analysis: Data was analysed and interpreted using the key themes contained in the ToRs:

- Students' satisfaction with current curricula.
- Students' perception on the quality of teaching in accordance with English as a medium of instruction,
- Status of students industrial attachment by training programs, challenges and recommendable actions,
- Students' perception on the quality of learning environment in Lab and workshop, ICT facilities, etc
- Services provided to students both academic and social (E.g.: Career guidance, health services, sports and leisure, etc)

The emerging themes from each interview and survey were rigorously scrutinized to understand their meaning and to know where they fit.

2.2.1. Secondary data collection

Secondary data is the existing data collected by other investigators and organizations generally they study done in the same area as the topic under investigation in the past. Secondary data collection is rapid and easy as its collection sources are government publications, websites, books, journal articles, internal records, etc.

At present, a lot of secondary data are being collected and archived by the researcher, (Hox, J. J, & Boeijs, H. R., 2005: 593-599). The secondary data collection focused on reading related textbooks, related document, reports, journal, newsletters, etc. in this assessment secondary data was generated using desk review to learn from the existing, reports, program documents, studies related to theory of change. Both national and international perspectives were used. Particularly, the consultant reviewed relevant major documents including reports, students' data base, students' satisfaction reports, and related policies and program. An exhaustive list of documents to be reviewed was jointly identified and agreed up on with the client.

2.3. Quality assurance

For quality assurance, the following measures were implemented:

- The consultants regularly consulted various resource persons to learn from their experiences and expertise in relation to the assignment and improve both the process and product ;
- Consultations was done with the client and potential stakeholders and happened on regular basis;
- The consultants, in close collaboration with the client (RP), established a working reference group to work closely with the consultancy team throughout the assignment.
- Recruitment and training of 8 experienced enumerators; the selection of enumerators was done by setting the minimum qualification where the person to be involved would at least have a bachelor's degree and experience of at least 2 years in data collection.
- Validation sessions meant to enrich the draft and final report.
- *Pilot Survey*: Before starting the data collection process, a "pilot survey" was implemented. This phase is very important as it enables the consultant to test the questionnaire. The pilot survey shows the problems that may arise at the time of the survey. Mistakes were then corrected before the data collection field phase begins. The pilot survey was run in one sector in which the real survey was not going to be conducted.
- **Disaggregated data**: During the survey, the consultant team ensured that collected data was disaggregated as much as possible. Cross tabulation was used to ensure that data are

disaggregated. At the minimum possible, the survey report produced age and sex disaggregated data.

2.4. Limitations and mitigations

All research designs have limitations. This survey, especially the fieldwork was undertaken in a relatively short period that could only capture a snapshot of the experiences of the students. Literature on research methodology has noted that on cases of surveys based on self-reporting, respondents may exaggerate or underestimate experiences if they think there is a likelihood of future benefits. These biases cannot completely be counteracted. Standardized general questionnaires force oversimplification of social reality on the researcher, possibly missing issues that may be most appropriate to many respondents. Nevertheless, triangulation of methods (qualitative and quantitative) data sources and respondents tried to increase internal validity and reliability of findings.

2.5. The road map of the survey

Based on the ToR, the assignment was carried out within a period of 30 working days structured as follows:

Table 2. Proposed work plan

Activity	5Ds	2Ds	1 D	7 Ds	4 Ds	5 Ds	1 D	1 D	3Ds	1D
Inception report, desk review, development of data collection tools										
Presentation of the inception report, consolidation of inputs and submission final version										
Training of Enumerators										
Field data collection and Supervision										
Data cleaning and analysis										
Report Witting										
Submission of the interim report										
Facilitation of Report Validation workshop										
Integration of comments from validation										
Submission of Final Report										

3. SURVEY FINDINGS

3.1. Introduction

The aim of the survey was to conduct a students' satisfaction and industrial attachment survey among students and their perception regarding the quality of teaching and learning in IPRCs. Since the survey considered all students enrolled in TVET programs in 8 IPRCs (Ngoma, Gishari, Kigali, Tumba, Musanze, Huye, Kitabi, and Karongi) in the previous graduations in different levels. The survey managed to reach all 378 sampled TVET students.

3.2. Demographic profile of the Surveyed Students

The collected sample represents a mix of various demographic factors such as age category, sponsorship status, pursuing level of study in 2021 and students' program enrolment. The demographic data were used to aggregate data according to those data. This helped in capturing the student satisfaction within each category presented in demographic data. The sample comprises 71.4% equivalent to 270 of male students which is consistent to the common norm of male dominance in Rwandan learning institutions.

In fact, girls' enrolment surpasses boys' enrolment at primary and secondary levels and oppositely to higher learning institutions (MINEDUC, 2016)⁴. On the other hand, female students in this survey accounted for 28.6% of students.

Table 3. Age Category of the Surveyed Students

	Below 25	25-30	31-35	36-40	Total
Male	49.7%	19.6%	1.9%	0.3%	71.4%
Female	25.7%	2.9%	0.0%	0.0%	28.6%
Total	75.4%	22.5%	1.9%	0.3%	100.0%

Source: *Field Survey*, 2021

With respect to age those of 25 years and below form the majority of the sample (75.4%) corresponding to 285 students.

⁴ *National gender-responsive teacher training package*

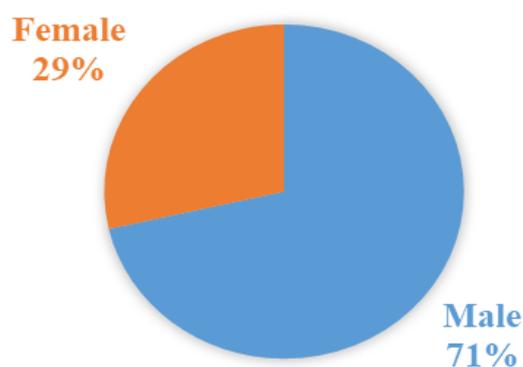


Figure 2. Respondents' distribution by Gender

Source: *Field Survey*, 2021

The disaggregated sample indicated that females accounted for 28.6% while male respondents were 71.4%. This reflects the enduring gender equality challenge in enrolment. RP and MINEDUC are conversant of this issue and several measures have been put in place to encourage enrolment of girls in TVET accompanying the ESSP target of enrolling 60% of post-9YBE candidates to TVET.

Table 4. Pursuing Level of study in 2021

	Year 1	Year 2	Year 3	Total
Male	20.9%	29.1%	21.4%	71.4%
Female	10.6%	6.3%	11.6%	28.6%
Total	31.5%	35.4%	33.1%	100.0%

Source: *Field Survey*, 2021

With respect to education levels the survey results indicated balanced numbers between levels; this does not augur well with the drive to increase enrolment to the 60% threshold of the ESSP indicators. Among the sampled students.

Table 5. Sponsorship Status

	Government	parent/Guardian	family member	Charity Organization	Total
Male	62.2%	5.6%	1.6%	2.1%	270(71.4%)
Female	26.5%	1.6%	0.5%	0.0%	108(28.6%)
Total	88.6%	7.1%	2.1%	2.1%	378(100.0%)

Source: *Field Survey*, 2021

Funding TVET has always been a challenge, and mostly considered the responsibility of the state. The survey confirmed this phenomenon; 88.6% equivalent to 335 students were sponsored by the Government of Rwanda. This category of government sponsorship students is followed by 7.1% of students who are being sponsored by their parents or guardian. In this survey, it was also remarked that there were other categories of sponsors including family member and charity organization (table 4).

The fact that majority of students are being sponsored by the Government, diverse attributes can be thought including but not limited to insufficient financial capacity to pay educational cost. But on the other hand, it is significant to have other partners like parent/Guardian, family member and charity organization who can sponsor students in IPRCs.

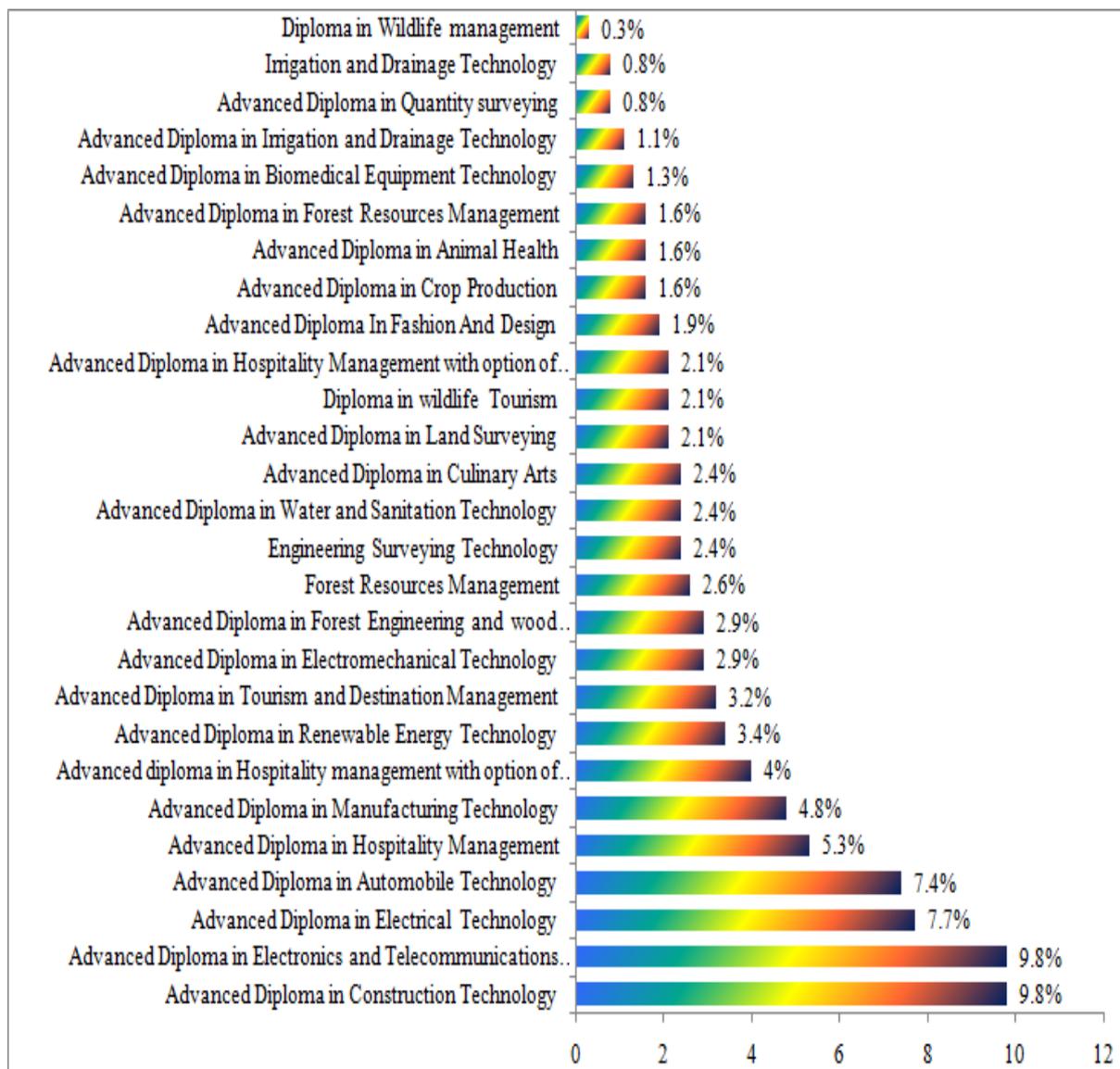


Figure 3. Students' distribution by program Enrolment

Source: *Field Survey*, 2021

The figure 2 indicates that in IPRCs, the majority of students preferred to do advanced diploma in construction technology and in electronics and telecommunication accounting for 9.8% of the surveyed students on program chosen equivalent to 37 participants. This choice is trailed by electrical and automobile technology with 7.7% and 7.4% respectively. As depicted by the figure 2, it was found that in IPRCs, there are 27 programs taught.

Apart from construction technology and in electronics and telecommunication, the survey also found that wildlife management and irrigation and drainage technology were the less preferred technology. The low enrolment in wildlife management may be justified by the fact that it is taught in only one IPRC and it has only two levels. The low enrolment in irrigation also may be justified by the fact that it is among new programs in IPRC. The students are interested in some

fields than others because normally they consider those fields as they give more chances of employment compared to others.

3.3. Students Satisfaction

School, colleges and universities have no value without students. Students are the most important asset for any educational institute (Mahad, et al, 2016). Satisfaction is a well-researched topic in both academic and non-academic (workplace) settings. In academic settings, students' satisfaction data helps colleges and universities make their curriculum more responsive to the needs of a changing marketplace (Eyck, Tews & Ballester, 2009; Witowski, 2008).

3.3.1. Satisfaction in line with current curricula

Table 6. Students' satisfaction with current curricula

Curricula elements	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
Curriculum content						
Male		2.40%	14.00%	49.20%	5.80%	71.40%
Female		1.10%	3.70%	19.80%	4.00%	28.60%
Total		3.40%	17.70%	69.00%	9.80%	100.00%
Organization of course content						
Male		1.60%	15.90%	45.50%	8.50%	71.40%
Female		0.50%	2.90%	21.70%	3.40%	28.60%
Total		2.10%	18.80%	67.20%	11.90%	100.00%
Courses cover relevant topics						
Male		1.90%	15.90%	45.80%	7.90%	71.40%
Female		0.50%	3.70%	18.80%	5.60%	28.60%
Total		2.40%	19.60%	64.60%	13.50%	100.00%
Courses up to date						
Male	0.30%	0.50%	15.60%	43.70%	11.40%	71.40%
Female	0.30%	0.30%	4.80%	17.50%	5.80%	28.60%
Total	0.50%	0.80%	20.40%	61.10%	17.20%	100.00%
Courses cover standards used in field						
Male		2.60%	19.00%	41.50%	8.20%	71.40%
Female		0.80%	4.00%	19.60%	4.20%	28.60%
Total		3.40%	23.00%	61.10%	12.40%	100.00%

Source: *Field Survey*, 2021

Students were generally satisfied with curricula content (78%), how the curricula was organized (79%) relevancy of the topics(78%) and the majority felt that the courses covered standards used in the field of work (73.5%) .

Both students and representatives from IPRCs agreed that current curricula is well developed though there is a need to update it to reflect evolving technologies. To match curricula needs to required skills in the labor market, RP and IPRCs proposed the need of strong partnership between RP and private companies to orient curriculum and consumables in the right direction of future of work.

Numerous researchers have investigated issues related to students' satisfaction (e.g., Astin, 1977; Bryant, 2009; DeShields, Kara, & Kaynak, 2005; Pascarella & Terenzini, 2005), and most of them agree that highly satisfied students are more likely to remain in, and ultimately, successfully graduate from college. Numerous researchers have investigated issues related to students' satisfaction (e.g., Astin, 1977; Bryant, 2009; DeShields, Kara, & Kaynak, 2005; Pascarella & Terenzini, 2005), and most of them agree that highly satisfied students are more likely to remain in, and ultimately, successfully graduate from college.

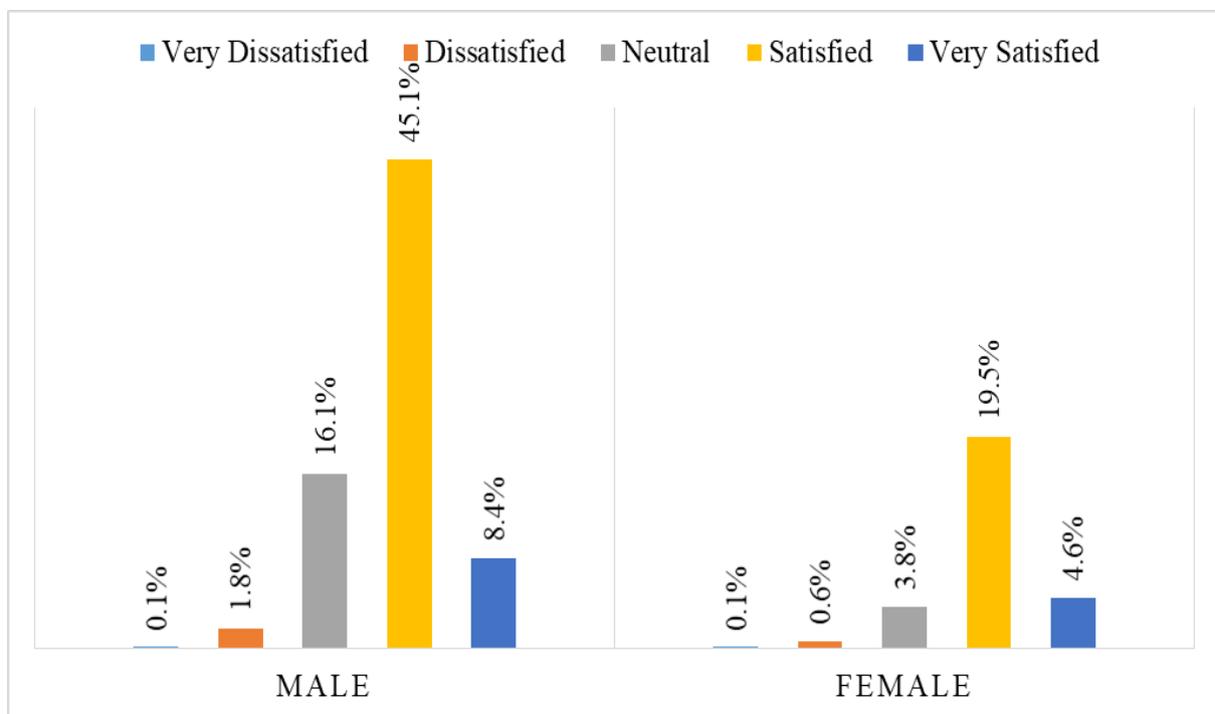


Figure 4. Overall Students Satisfaction in line with current curricula by gender

Source: *Field Survey*, 2021

Looking at figure 4, it is seen that male students are less satisfied than their counterpart female students. This is due to the fact that male normally are not easily convinced and do not easily show they satisfaction. Male also requires more details to get satisfied and they criticise more that female. What is noticed is that the majority of students in both gender are satisfied.

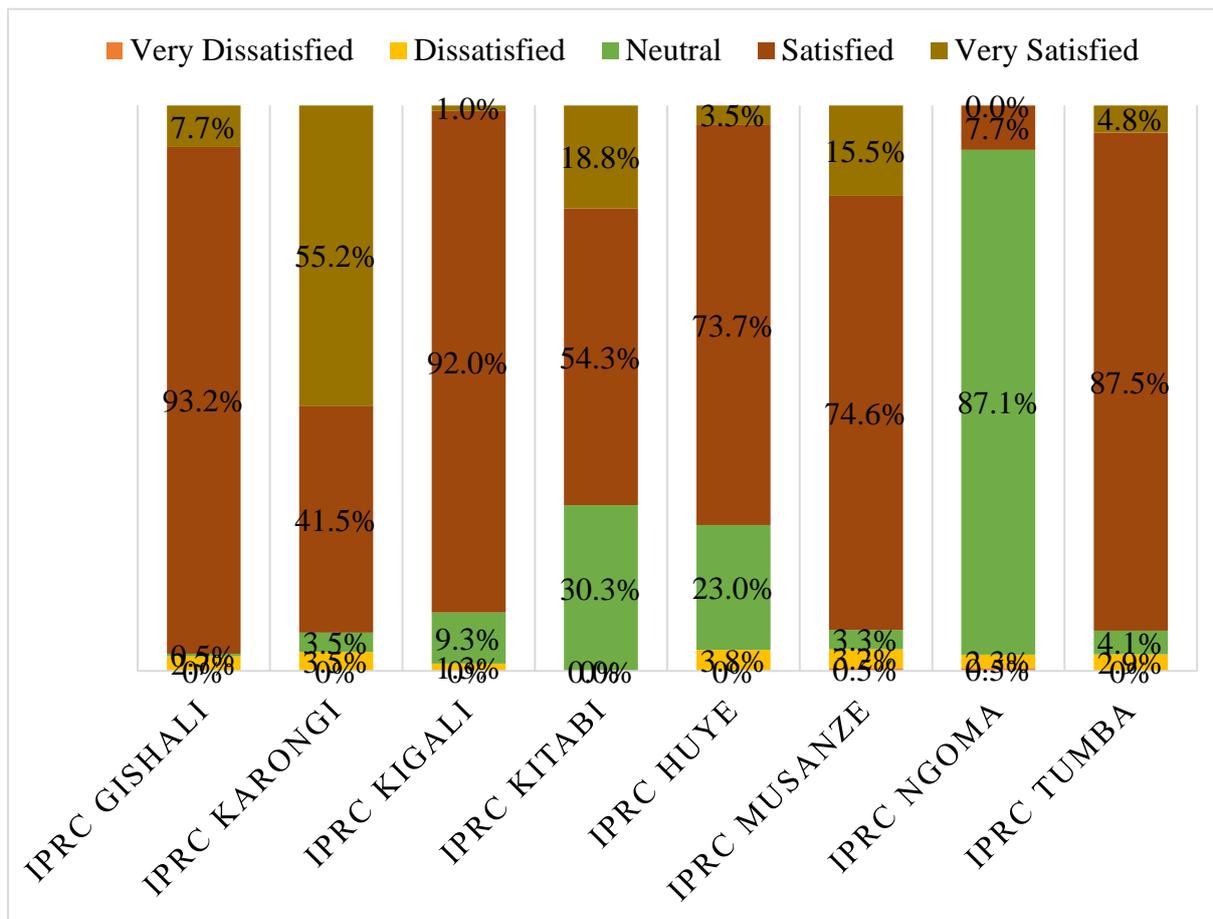


Figure 5. Students' satisfaction with current curricula by IPRC College

The figure 5 above shows that IPRC Gishari has more satisfied students with current curricula, followed by IPRC Musanze, and IPRC Tumba. The least satisfied students with current curricula were found in IPRC Ngoma where the majority chose neutral as their position about their satisfaction. This scenario may be justified by two phenomena. One may be attributed to students' exaggeration, another one may be that the management of the college do not give students freedom of expression, consequently they are not satisfied and do not want to give bad reputation of their college. For this reason they choose neutral position.

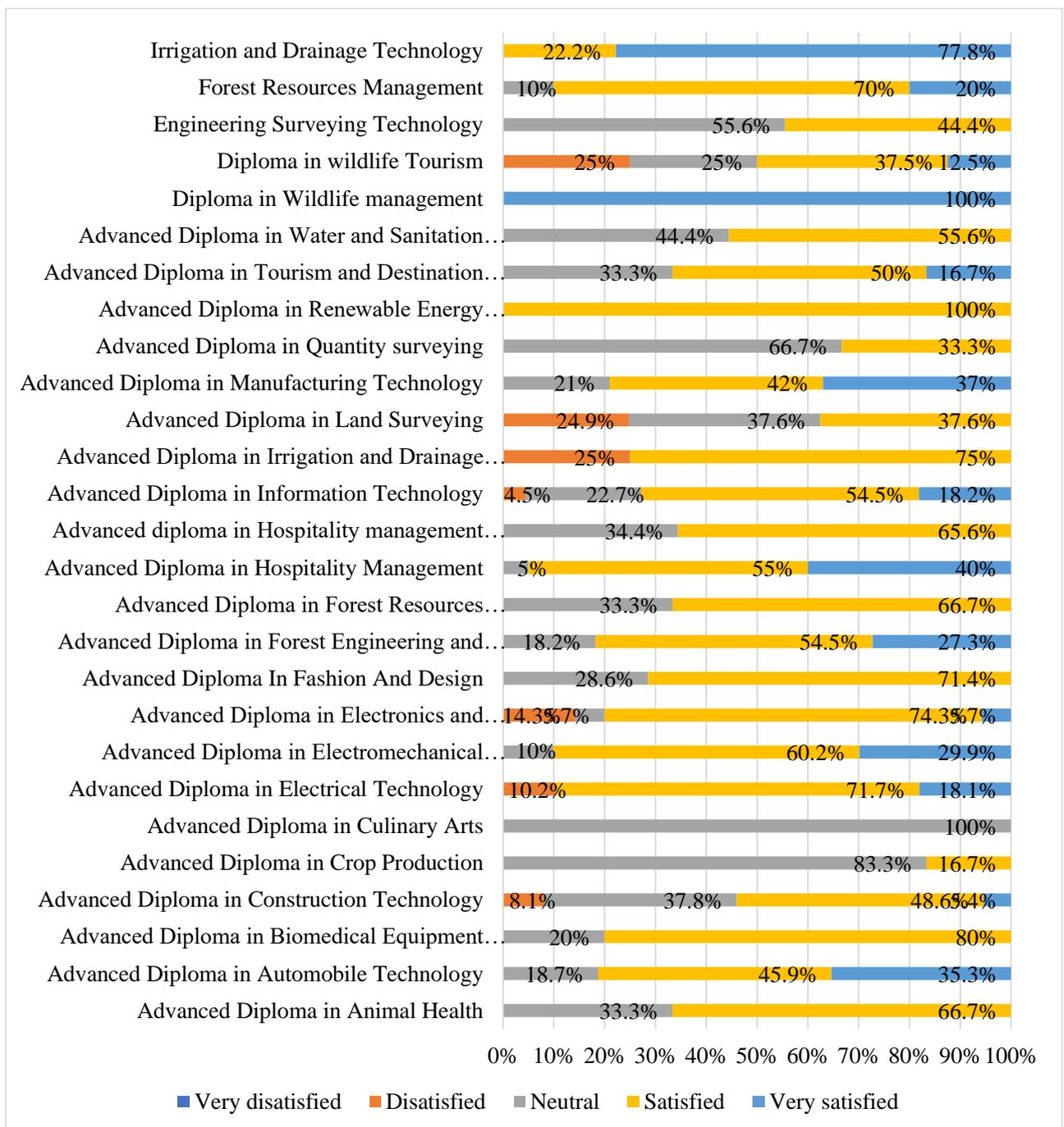


Figure 6. Students' satisfaction with current curricula by Trade

The figure 6 above shows that the students in Information technology a high satisfaction rate where 6.3% of all interviewed student were satisfied and 2.1% were very satisfied.

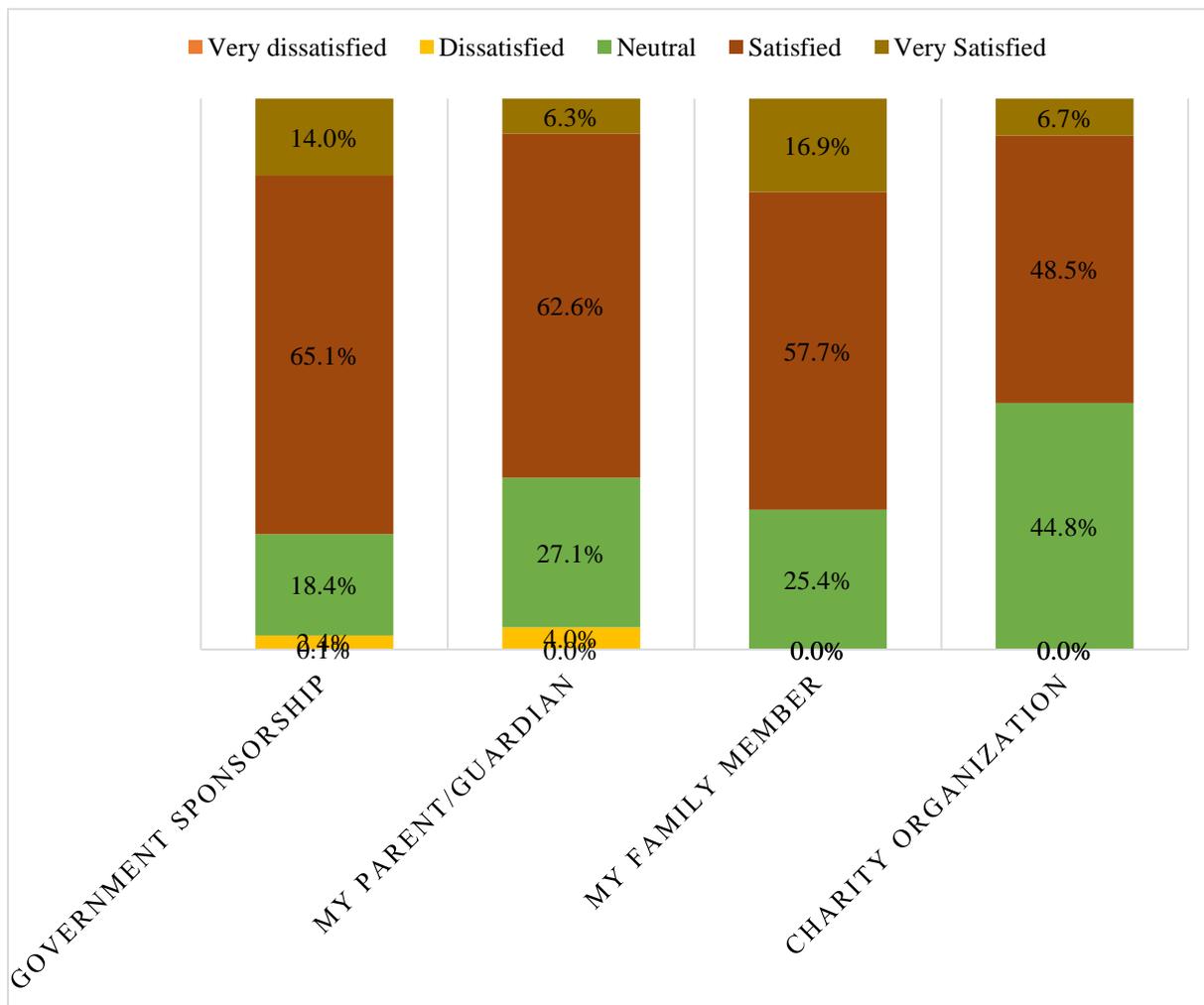


Figure 7. Students' satisfaction with current curricula by sponsorship

The figure 7 above displays the data disaggregation by type of sponsorship. The data shown on this graph are showing that the students satisfaction with the current curricula is high is government sponsored students than other. The less satisfied are students who are sponsored by charity organisations.

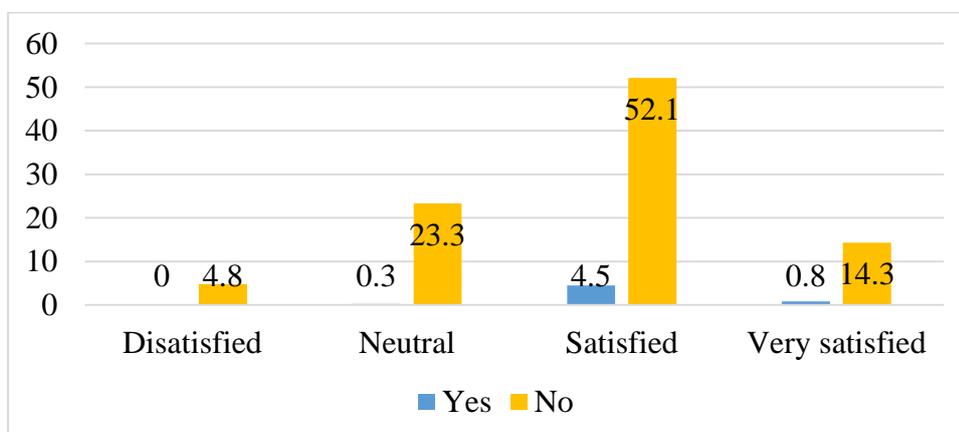


Figure 8. Students' satisfaction with current curricula by Disability status

The students were asked to choose between Yes if they have disability or No if they do not and the findings presented on the figure 8 above shows that the satisfaction among disabled Students is high because students with disability who have the lower rank chose neutral (0.3%) no single one chose dissatisfied.

3.3.2. Curricula related Quality Training

The survey addressed curricula quality related indicators which are herewith presented.

Table 7. Curricula related Quality Training by gender

Curricula quality related indicators	Gender	Very poor	Poor	Fair	Good	Very good
Curricula implementation in line with needs of labour markets	Male		1.9%	17.5%	34.9%	17.2%
	Female			4.0%	18.8%	5.8%
Training in line with training standards and workplace training	Male		0.8%	18.5%	39.9%	12.2%
	Female			7.1%	16.9%	4.5%
Textbooks, learning materials, consumables and equipment	Male	0.8%	4.0%	23.5%	38.1%	5.0%
	Female		1.1%	8.5%	15.9%	3.2%
Delivery of training carried out as planned	Male		0.5%	20.5%	41.6%	8.5%
	Female		0.3%	5.3%	21.1%	2.1%
Assessment of training is conducted as set out in procedures	Male		1.3%	19.6%	45.0%	5.6%
	Female		0.3%	5.6%	20.1%	2.6%
The basics of workplace safety and environmental protection	Male		3.2%	24.1%	38.4%	5.8%
	Female		0.8%	8.7%	17.5%	1.6%
Green values and sustainable development	Male		1.1%	19.6%	31.7%	19.0%
	Female		0.3%	9.0%	14.3%	5.0%
Inclusiveness to all categories of trainees such as vulnerable, gender, special needs, etc.	Male	1.9%	3.7%	22.5%	30.7%	12.7%
	Female		0.8%	6.6%	15.9%	5.3%

Source: *Field Survey, 2021*

The table 6 indicates that the majority of students have appreciated the quality of curricula related training indicators mainly on how assessment of training is conducted as set out in procedures (65.1%) and Delivery of training carried out as planned (62.7%). On the other hand, the results of the survey indicate Green values and sustainable development (46%) and Inclusiveness to all categories of trainees such as vulnerable, gender, special needs, etc. (46.6%) as indicators of Curricula related Quality Training have not been appreciated by students. With respect to gender disaggregation, the results presented in the table 7 portrays that the satisfaction of male is greater than that of female.

A significant number of students therefore, consider Quality Training indicators as key factors that can permit them to compete successfully on the Rwandan labour market as well as rest of

the world. RP and IPRCs representatives, perception regarding quality of education in relation to the current curriculum, were that there is a continuous adjustment in the indicators so that the TVET schools adapt their curricula to the labour market needs, aligning them with required didactic materials and consumables.

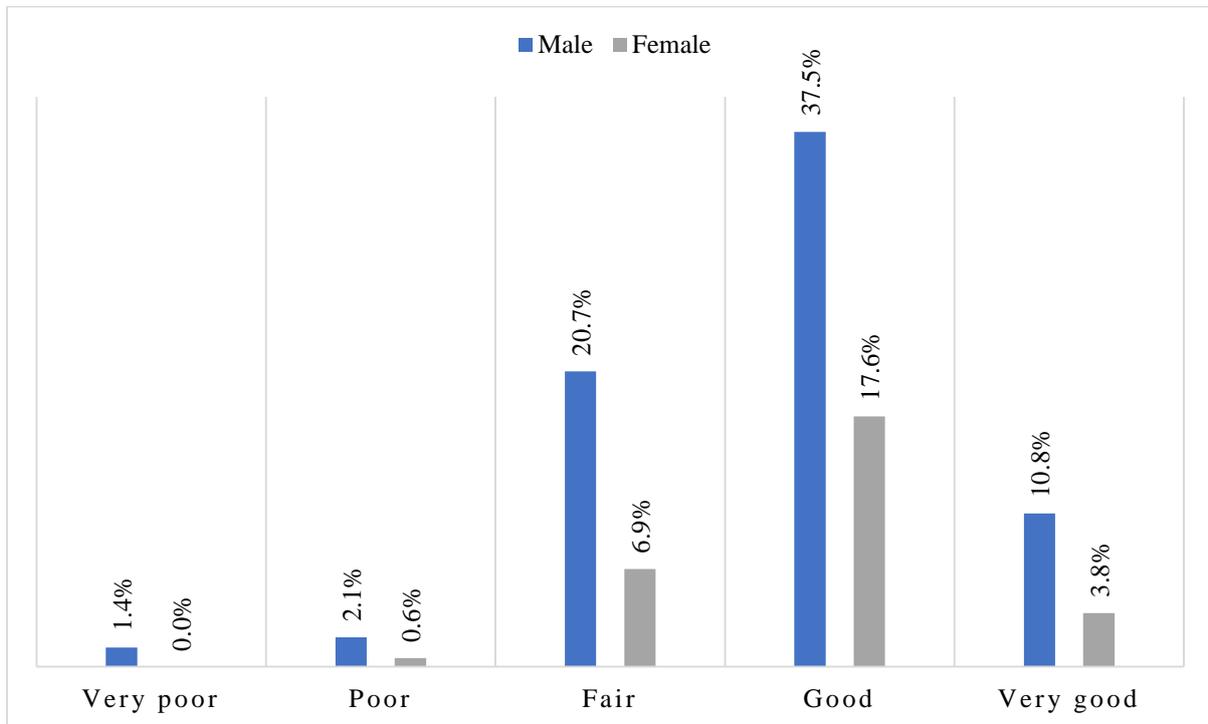


Figure 9. Overall Satisfaction in line with Curricula related Quality Training indicators

Source: *Field Survey*, 2021

3.3.3. Quality of teaching in accordance with English as a medium of instruction

Since 2008, the Government of Rwanda has adopted of English language as primary teaching and learning language. This provides a strong advantage for Rwandans to compete in both national and international labour markets. In this student’s satisfaction survey, it was so important to find out students’ perceptions on the quality of teaching using English as a medium of instruction.

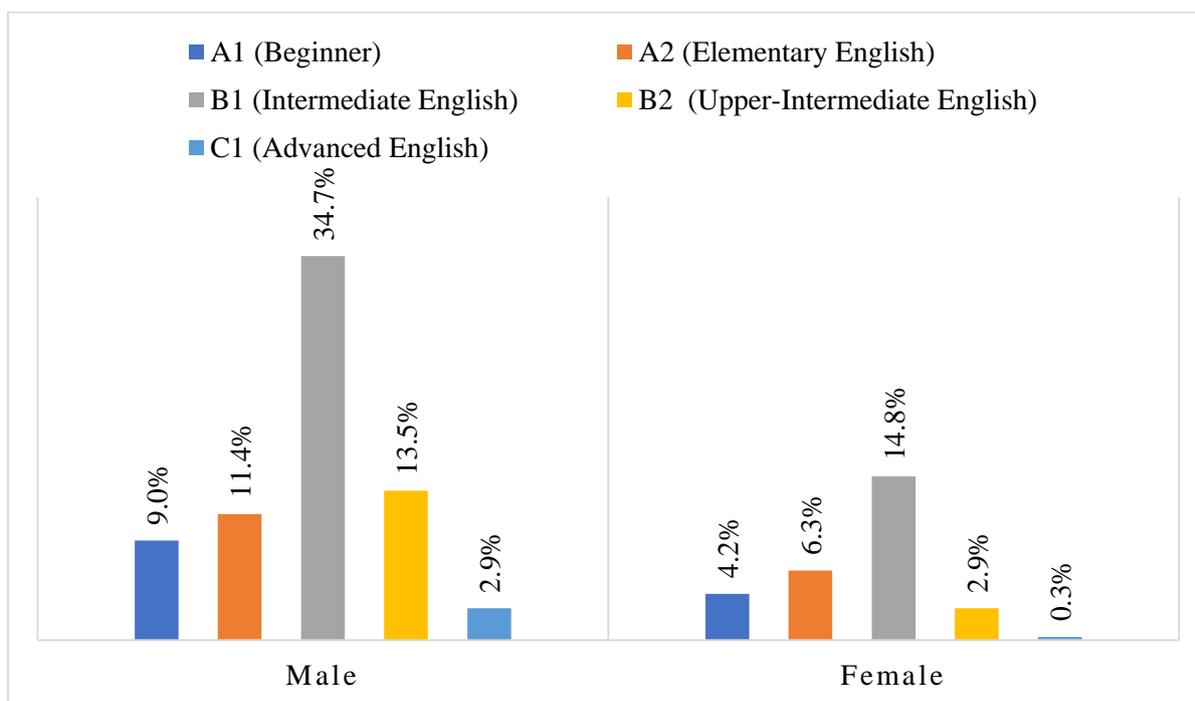


Figure 10. English Proficiency Level among students

Source: *Field Survey*, 2021

In line with the perception of students on the quality of teaching using English as a medium of instruction, the assessment of their proficiency level as depicted by the figure 7 above indicates that 49.5% have intermediate level of English proficiency. This means that they can understand main points on common topics at work, school, or travelling etc. This category is followed by Elementary⁵ and Upper-Intermediate English⁶ with 17.7% and 16.4% of the surveyed students respectively.

The survey results also revealed that there were only 3.2% equivalent to 12 students with advanced level of English. To complement the above descriptive findings, selected key informants from RP and IPRCs were asked to whether they believe that TVET students are English proficient enough to catch all the training content in English.

⁵ *At this level you can understand: Very basic personal, family and job-related language*

They all agreed that it is not 100% but they confirm the situation is improving, this means that some students are still struggling to follow everything taught in English whilst others are on good track. It is worth mentioning that teaching in English as one of the main international communication tools is crucial for students' worldwide exposure. Thus, it requires all stakeholders involved in TVET teaching and learning process to establish strategies that can uplift students' level of English from intermediate to advanced level.

Table 8. Quality of teaching in English

Indicators of quality of teaching in English	Gender	Very disagree	Disagree	Neutral	Agree	Strongly Agree
The instructors deliver training in English easily	Male	0.30%	2.60%	17.70%	39.40%	11.40%
	Female		2.10%	5.80%	17.20%	3.40%
Training is better understood when delivered in English rather than other languages	Male		6.40%	18.60%	37.10%	9.50%
	Female		3.40%	3.20%	20.40%	1.30%
The instructors know different terminologies while delivering training in English	Male		1.30%	17.20%	42.20%	10.60%
	Female		1.30%	5.00%	19.10%	3.20%
All the material needed for training are available in English language	Male		2.90%	19.30%	42.90%	6.30%
	Female		1.90%	5.60%	18.80%	2.40%
The students have enough English proficiency to interact with trainers	Male	1.10%	17.70%	25.90%	24.60%	2.10%
	Female	0.80%	5.60%	7.70%	14.60%	
Trainers are aware of weak students in English language and they also get support to be on the same level as others.	Male		10.10%	22.50%	30.40%	8.50%
	Female		4.00%	4.80%	17.50%	2.40%

Source: *Field Survey*, 2021

With regard to Student perception on quality of teaching in English, the table 7 about Student perception on quality of teaching in English showed that the majority of students at least 39.2% of students agreed that the students have enough English proficiency to interact with trainers. It can be argued that whereas proficiency in English was constrained, a significant number of students said that it was not a problem to their learning. Some students do not have enough English proficiency to be on the same page with others during training sessions, thus proving

their dissatisfaction in line with English as medium of instruction. Most of the materials they use is in English and most said that comprehension and reading skills were fine.

In line with this, Jamil (2016) disclosed that an interactive classroom gives actual opportunity for language learners to practice more. From this, we can infer that the learners don't have significant challenges related to learning using English language.

RP and IPRCs representatives acknowledged that TVET trainers need to continually improve their pedagogical skills as well as English language proficiency in order to produce graduates with skills relevant to the worldwide labour market. They were cognizant that to achieve these ambitious targets it would require regular and continuous capacity development both pedagogical, methodology and English as Medium of instruction in Rwandan academia. RP and IPRCs representatives were of the opinion that English as medium of instruction helps to improve student listening and speaking skills, they emphasized this fact based on their experiences and observations where the more students are exposed to English, the more they improve their speaking and listening ability.

The English language is one of the most geographically widely spoken languages in the world and serves multiple purposes in a rapidly globalizing world. Its wide use extends from politics and economy to technology, science, media and communication. Its mastery opens doors to more information than the mastery of any other language (Crystal, 2003)⁷. The importance of English language learning and its usage as a medium of instruction divides opinions. While some prefer using English as a medium of instruction as opposed to the mother tongue, others are suspicious of English language learning from an early age. In evaluating student's satisfaction, the table 8 below presents benefits of English as medium of instruction.

⁷ Crystal, D. (2003). *English as a global language*. Ernst Klett Sprachen.

Table 9. Benefits of English as medium of instruction

Benefits of English as the medium of instruction	Very high	High	Moderately	Low	Very low
Improving English proficiency					
Improving speaking skills	9.3%	34.7%	50.5%	5.0%	0.5%
Learning new vocabulary	11.4%	32.0%	50.5%	5.8%	0.3%
Preparing for high level of English proficiency required in real-world interaction					
Gaining confidence in English	6.1%)	39.7%)	46.0%	7.1%)	1.1%
Overcoming fear of making mistakes	4.8%)	29.4%)	58.5%	6.9%)	0.5%
Respecting other people					
Helping other student practice English	3.4%)	33.1%	51.1%	10.3%	2.1%
Demonstrating respect for others	5.0%)	30.2%	53.4%	8.5%	2.9%

Source: *Field Survey*, 2021

With respect to English as medium of instruction, students appreciate benefits of English as a medium of instruction. In this survey, students appreciated that training delivery in English prepares them for high level of English proficiency required in real-world interaction and it helps respecting other people as tangible benefits of English as medium of instruction.

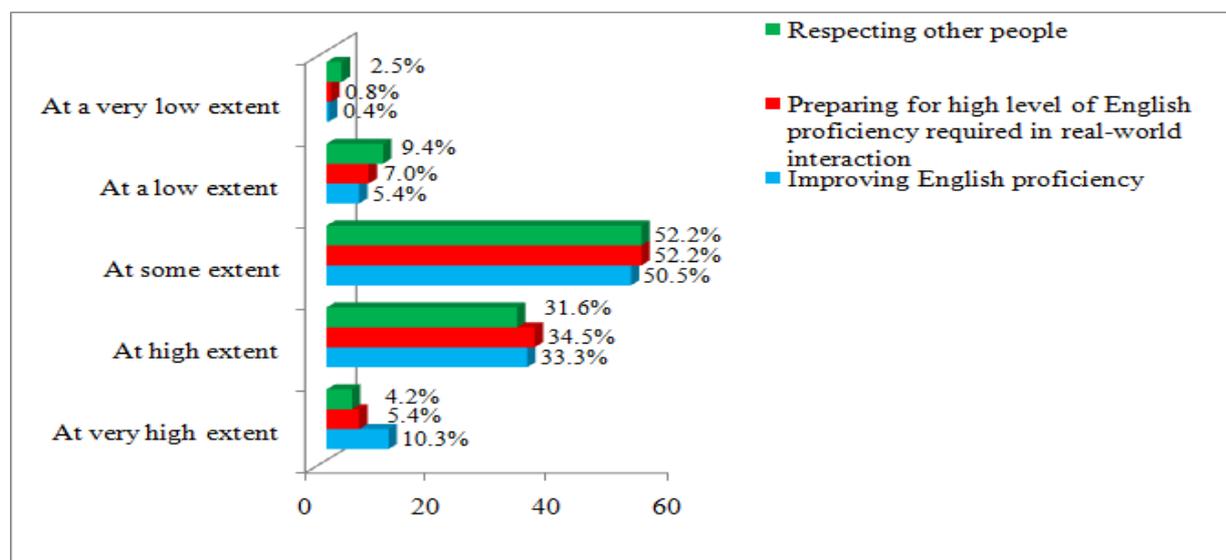


Figure 11. Overall Perception of Students about Benefits of English as medium of instruction

Source: *Field Survey*, 2021

3.3.4. Status of students' industrial attachment

As a way of preparing for successful exposure to the world of work, industrial attachment is not only a compulsory part of academic programs but also beneficial to students as far as hands on skills and work exposure is concerned. It is therefore important to describe the status of students' industrial attachment by training programs, challenges and recommendable actions in students' satisfaction survey. While assessing the current status of industrial attachment in this survey, the emphasis was put on perception of students about the role played by industrial attachment in their skills development journey as well as the role played by host companies through daily supervision.

With respect to prevailing status of students' industrial attachment, the survey sought to know the proportion of students in a selected sample who participated in industrial attachment. The survey results indicates that only 9.5% equivalent to 36 have participated in industrial attachment. The small proportion is based on the fact that this compulsory part of education program is only for students in the second semester of their final academic year. This small number is also justified by coronavirus (COVID-19) pandemic that has locked down almost all economic activities (closure of many host companies for interns).

Table 10. Current status of students' industrial attachment

The contributions of industrial attachment	Gender	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Gaining of practical experience	Male	-	-	-	33.30%	27.80%
	Female	-	-	-	38.90%	0.00%
Gaining of working ethics	Male	-	-	-	58.30%	2.80%
	Female	-	-	-	38.90%	0.00%
Helping the student acquire self-reliance skills	Male	-	-	2.80%	47.20%	11.10%
	Female	-	-	0.00%	25.00%	13.90%
Contribute to local industry	Male	-	-	11.10%	33.30%	16.70%
	Female	-	-	0.00%	16.70%	22.20%
Develop work-based skills	Male	-	-	2.80%	52.80%	5.60%
	Female	-	-	0.00%	30.60%	8.30%
Establish industry networks and contacts	Male	-	-	5.60%	13.90%	41.70%
	Female	-	-	0.00%	16.70%	22.20%
Improve your cross-cultural communication skills	Male	-	2.80%	11.10%	38.90%	8.30%
	Female	-	0.00%	19.40%	19.40%	0.00%
It will give you a competitive edge over graduate with no work experience	Male	-	-	13.90%	11.10%	36.10%
	Female	-	-	5.60%	19.40%	13.90%
You will get to meet different people in your future career path	Male	-	-	2.80%	33.30%	25.00%
	Female	-	-	0.00%	33.30%	5.60%

Source: *Field Survey, 2021*

The satisfaction of the students regarding the current status of students' industrial attachment showed that they all agreed or strongly agreed that they improved with respect to work ethics, developed work-based skills, and got to meet different people in their future career path. According to table 9, a significant number of students were non-committal as far as perceptions regarding the benefits of industrial attachment to improvement of cross-cultural communication skills.

In this regard, representatives of RP and IPRCs supported student's perception saying the status of industrial attachment for TVET institution is satisfactory although there is a need for improvement mainly because the number of applicants/students exceeds available internship opportunities in government or private sector firms. They also proved their satisfaction was based on the fact that through industrial attachment, students can get jobs, enough practical skills, build networks together with references in host companies, enhance competencies, competitiveness in their fields of study; gain understanding of workplace expectations, professional ethics; take advantage of invaluable guidance from skilled supervisors; build a network of professional, personal contacts, pursue their personal and career development. The perception of RP and IPRC representatives indicates currently host companies have enough places to accommodate TVET students for industrial attachment. But with the increase of students joining TVET it might be a challenge in future. Key informants interviews revealed the following hindrances for implementation of industrial attachment:

- Placement of students for industrial work experience is problematic since the number of student surpasses the number of willing and capable host companies;
- Lack of strong partnership between hosting institutions and RP;
- Resistance to change on the side of hosting companies while supporting the trainees during industrial attachment programs;
- Limited time for conducting industrial attachment;
- Financial constraint on the side of trainees during industrial attachment programs;
- Lack of enough mobilization/ awareness of RP to the companies for the purpose of supporting trainees during industrial attachment;
- Lack of memorandums of understanding;
- Little attention given to training by some big companies.

Despite the above mentioned hindrances, RP and IPRCs representatives think that industrial attachment can offer required practical skills to students. They agree that there are challenges of getting placements for students. "Some of the students seek attachment in companies which

do not specialize in their trades” they noted. Additionally, RP and IPRCs representatives observed that students face the following challenges during industrial attachment:

- Some host companies offer industrial attachment to students but they do not expose them to needed real practical experience;
- Lack of proper assistance in the company;
- Lack of enough supervision from training institutions;
- Lack of enough collaboration between some hosting companies and trainees during industrial attachment program;
- Lack of enough supervision from host companies;
- Language barrier in terms of industrial slangs.

There are no minimum and harmonized standard requirements for receiving institutions (host companies) and sometimes in-company supervisors have a lower educational level than the students they are guiding. This could perhaps explain the mixed levels of satisfaction of students with respect to the acquisition of practical and hands on skills relevant to current and future worldwide labour needs where digital technology is likely to be dominant.

Through industrial attachment, supervisors from the organizations to which students are assigned (Host Supervisors) are responsible for supervising and assessing the attached students. In this regard, students should be provided with a set of assessment guidelines so that they are aware of the areas of knowledge and skills on which they should prioritise during industrial attachment. During industrial attachment, host companies also among others expect benefits in terms of the following aspects: benefit from short-time additional manpower to supplement existing staff; benefit from and exploit students’ fresh perspectives and initiatives; know future skills availability and scout potential employees among attached students and influence the training of future generation of employees. To get all these benefits among others, there should be responsible and qualified supervision of students during their industrial attachment.

Table 11. Perception of Students with regard to Quality of Supervision at Host Company

Quality of Supervision indicators	Gender	Very Poor	Poor	Fair	Good	Very good
Supportiveness of the supervisor	Male	-	-	8.30%	38.90%	13.90%
	Female	-	-	0.00%	38.90%	0.00%
Approachability and rapport with the supervisor	Male	-	-	2.80%	47.20%	11.10%
	Female	-	-	5.60%	33.30%	0.00%
Availability/quality time for meetings with the supervisor	Male	-	-	8.30%	50.00%	2.80%
	Female	-	-	16.70%	22.20%	0.00%
Number and duration of meetings with supervisor	Male	-	-	22.20%	38.90%	-
	Female	-	-	13.90%	25.00%	-
Commitment, interest and enthusiasm of the supervisor	Male	-	0.00%	13.90%	27.80%	19.40%
	Female	-	5.60%	0.00%	27.80%	5.60%
Supervisor's knowledge and expertise in the TVET program	Male	-	-	22.20%	33.30%	5.60%
	Female	-	-	8.30%	30.60%	0.00%
Constructive feedback from the supervisor	Male	-	-	8.30%	50.00%	2.80%
	Female	-	-	0.00%	38.90%	0.00%
Providing direction and structure to the TVET program and student Development	Male	-	-	5.60%	52.80%	2.80%
	Female	-	-	0.00%	38.90%	0.00%
Interest in the student's career	Male	-	-	2.80%	58.30%	-
	Female	-	-	0.00%	38.90%	-

Source: *Field Survey, 2021*

With regard to the quality of supervision at host companies, the majority of students have fairly good appreciation on the way host companies supervise them. In terms of quality supervision, students mainly appreciate the following aspects in training: providing direction and structure to the TVET program and student development, constructive feedback from the supervisor, approachability and rapport with the supervisor, supportiveness of the supervisor and availability/quality time for meetings with supervisors as well as the quality of content of industrial attachment and adequate supervision.

3.3.5. Quality of learning environment

A learning environment is an important base for learning processes of students and for preferences of future workplaces. It is considered as an essential factor in determining the success of an effective curriculum and the students' academic achievements. Teaching and learning activities should have clearly stated aims and well-defined and measurable intended outcomes.

The workplace should enable students to apply their theoretical knowledge through hands-on experience of real-world practices in an authentic organizational context. The teaching and learning process occurs through a cycle of engagement and reflection to connect what students have learned in the classroom with real life lessons learned in the workplace. This achievement requires conducive environment with adequate and proper equipment for practical sessions. It is in this perspective, students satisfaction survey also considered the perception of students regarding the learning environment.

Table 12. Students Satisfaction with the learning environment in Lab and workshop

Elements of lab and workshop	Gender	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
Lab equipment and materials	Male	0.50%	8.70%	15.60%	41.30%	5.30%
	Female	0.30%	4.00%	4.80%	19.00%	0.50%
ICT infrastructures	Male	0.00%	5.30%	15.60%	42.10%	8.50%
	Female	0.30%	1.90%	3.20%	20.60%	2.60%
The condition of the equipment and materials	Male	0.00%	8.70%	17.50%	40.20%	5.00%
	Female	0.30%	4.50%	5.00%	16.70%	2.10%
Availability of Lab equipment and materials	Male	0.30%	6.90%	17.50%	41.50%	5.30%
	Female	0.30%	2.90%	5.80%	18.30%	1.30%
Time allocation for practical works in Labs or workshops	Male	-	10.70%	9.10%	34.70%	17.60%
	Female	-	2.90%	3.20%	16.50%	5.30%
Internet availability in ICT labs	Male	0.80%	15.30%	9.50%	29.90%	15.90%
	Female	0.00%	4.50%	4.20%	15.90%	4.00%
Availability of smart classrooms	Male	-	10.80%	20.40%	30.70%	9.50%
	Female	-	5.30%	7.70%	12.70%	2.90%
The way trainers conduct workshop sessions	Male	-	1.30%	11.40%	50.30%	8.50%
	Female	-	0.30%	3.40%	22.20%	2.60%

Source: *Field Survey*, 2021

Table 11 about Students ‘Satisfaction with the learning environment in Lab and workshop show that the majority of students were satisfied with learning environment in IPRCs .On the other hand, this category is followed by a significant number of students who were non-committal when asked to about their perception regarding learning environment in IPRCs. The study also found that among the respondents, there were some of them who were not satisfied with the learning environment.

Those aspects of learning environment that could have contributed to dissatisfaction include limited lab equipment and materials, limited internet availability in ICT labs and ICT infrastructures.

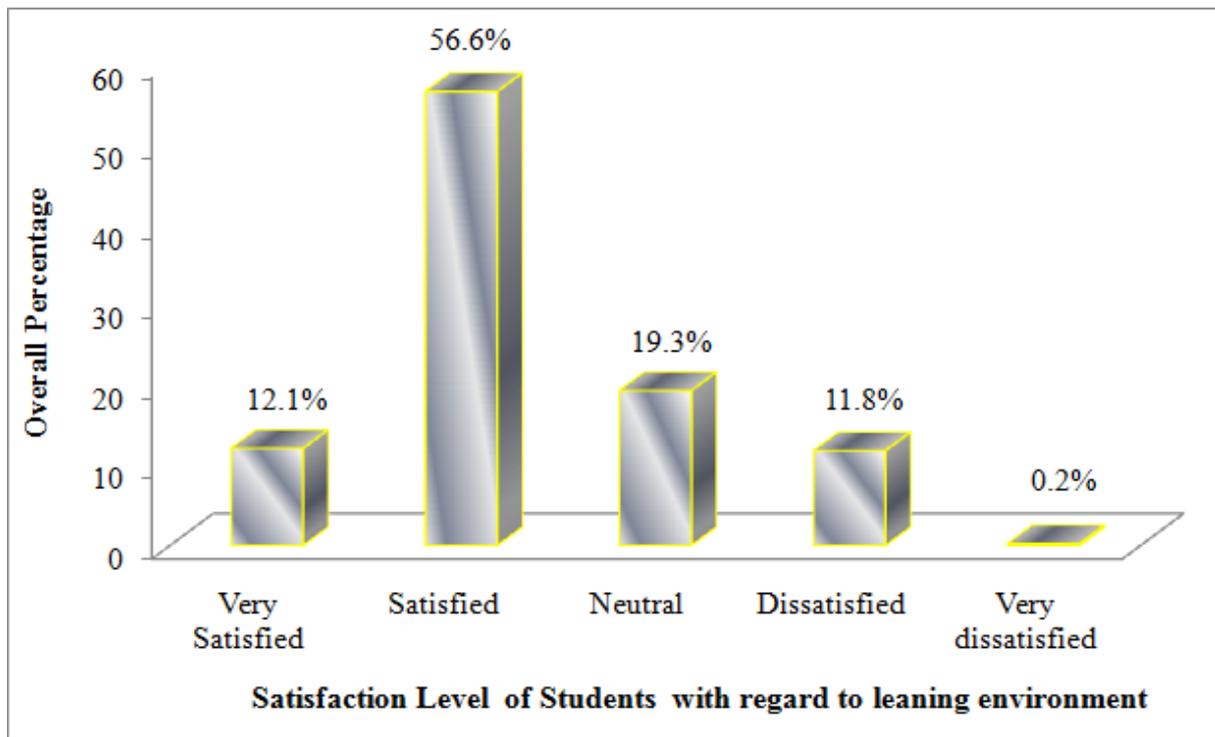


Figure 12. Overall Students Satisfaction with the learning environment

Source: *Field Survey*, 2021

3.2.5. Services provided to students both academic and social

Students who enrol in colleges with the goal of seeking a diploma or certification may not persist. . In addition, a portion of students choose to quit school because they are less involved academically and socially and, in comparison to those who do choose to persist, perceive their school’s attempts to support and engage them as being less than those who do persist in college (Williford & Wadley, 2008)⁸.

Students may drop courses because they are not satisfied with the quality of college life, a factor that the relationships in the students’ lives can either positively or negatively influence.

⁸ Williford, A. M., & Wadley, J. Y. (2008). How Institutional Research Can Create and Synthesize Retention and Attrition Information. Professional File Number 108, Fall 2008. *Association for Institutional Research (NJ1)*.

Table 13. Perception of Students with regard to academic and social Services

Academic and social Services	Gender	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
Our college has a career guidance center	Male	-	2.10%	13.50%	41.60%	14.10%
	Female	-	0.30%	4.50%	17.80%	6.10%
Our college has an emergency sick bay	Male	0.30%	1.60%	14.00%	43.90%	11.60%
	Female	0.00%	0.50%	3.40%	20.10%	4.50%
Our college provides the sport facilities and infrastructures	Male	2.10%	5.00%	10.80%	45.50%	7.90%
	Female	0.00%	0.50%	5.00%	20.40%	2.60%
Our college makes available leisure materials and equipment	Male	-	5.10%	26.60%	34.80%	4.80%
	Female	-	1.10%	7.20%	19.40%	1.10%
Our college values our emotional health and physical fitness	Male	0.30%	4.80%	23.70%	39.60%	2.90%
	Female	0.30%	0.50%	5.60%	22.10%	0.30%
All sports are treated equally and supported for a better performance of our teams in tournaments	Male	4.50%	8.00%	16.80%	38.90%	3.20%
	Female	0.80%	0.80%	5.30%	20.00%	1.60%
The available resources are used to provide students with good academic and social welfare	Male	-	6.20%	20.40%	43.40%	1.10%
	Female	-	1.90%	6.40%	20.10%	0.50%
The social welfare unit works closely with students' guild to provide the students with a good treatment at campus	Male	0.30%	1.60%	21.50%	42.60%	5.30%
	Female	0.00%	1.10%	5.90%	20.70%	1.10%

Source: *Field Survey*, 2021

The survey results showed that the majority of students confirm that in IPRCs they receive satisfying academic, health and social services. With regard to what is being done, the majority of students agreed that they receive services related to emergency sick bay, use of available resource to provide students with good academic and social welfare, values their emotional

health and physical fitness, provision of the sport facilities and infrastructures. All these services are there to enhance students' learning atmosphere. Oppositely to services that are appreciated by students, there are also other services related to sport that were considered as not satisfying, including: sport facilities, infrastructures, leisure materials, equipment, sports treatment and support for a better performance of teams in tournaments.

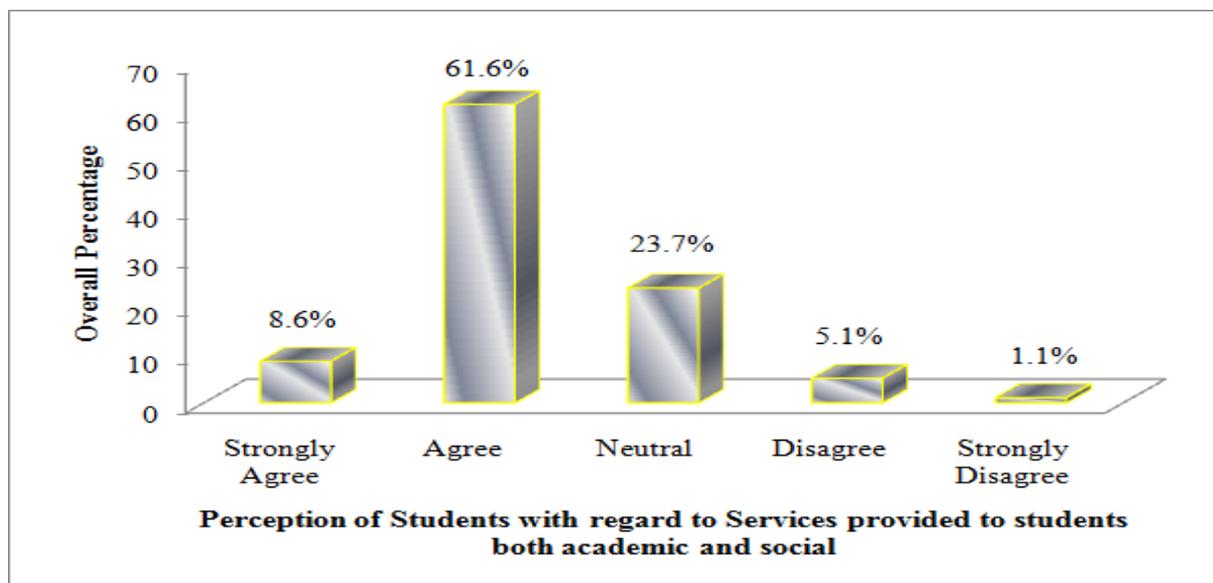


Figure 13. Overall Perception about Services provided to students both academic and social

Source: *Field Survey*, 2021

The views of RP and IPRCs representatives here they confirm that educational services for students are well organized. However, infrastructures for leisure services are very few and insufficient in relation to the number of students.

Generally the students' satisfaction rate is low compared to previous surveys because sometimes social events are not catered for because of insufficient budget. This period of COVID-19 has worsened things because students could not study and complete the level as they wish. Also they could not get industrial attachment when needed due to measures to contain the spread of coronavirus. Though it is like that, it is important to note that in academic life, sports provides a great opportunity for students to head outside, get active, and focus on developing different skills. Therefore, the benefits of sports in education are vast, and they aren't just physical benefits. When asked what can be done to increase the level of student's satisfaction in TVET institutions, RP and IPRCs representatives suggested to reinforce industrial training since it helps to sharpen professional and practical skills of students in order to meet the required capabilities demanded by the private sector. Thus, RP, IPRCs and other TVET institutions

should improve the mechanisms aiming at supporting students' industrial attachment and industry exposure for TVET trainers.

4. CONCLUSION AND ECOMMENDATIONS

The primary objective of this assignment was to conduct a students' satisfaction survey on their perceptions regarding industrial attachment and quality of the teaching and learning in IPRCs. We hereby present our conclusions and propose recommendations. .

4.1. Key findings

The findings on students' satisfaction with curricula: the majority of respondents expressed satisfaction with the following: curricula, particularly with curriculum content, organization of course content, courses coverage and relevancy of topics, and courses standards used in field of work.

With regards to students' perceptions about the quality of teaching using English as a medium of instruction, the majority of students rated their level of mastery of English as intermediate. Students were confident of their proficiency to interact with trainers in English, and the ability to use English in a real world situation.

With regards to the status of student's industrial attachment, the majority of students affirmed gaining work ethics, developing work-based skills, and getting to meet different people in their future career path were the main expectations and encountered benefits of the current industrial attachment. On the other hand, a significant number of students chose to keep neutral as their position in confirming that industrial attachment helps student to improve their cross-cultural communication skills.

The fourth objective seeks to assess the students' perception on the quality of learning environment in Lab and workshop, ICT facilities, etc. The survey results showed that the majority of students appreciated the learning environment in IPRCs. The assessment also found that among surveyed students, there were some of them who were not satisfied and even very dissatisfied with current learning environment. The availability of dissatisfaction level implies also the existence of some aspects that needs improvement; those aspects of learning environment include lab equipment and materials, availability of lab equipment and materials, internet availability in ICT labs and ICT infrastructures.

Last but not least, the survey results in assessing services provided to students both academically and socially showed that the majority of students confirmed that in IPRCs they receive satisfactory academic and social services. With regard to what was being done, the majority of students agreed that they receive services related to emergency sick bay, use of available resource to provide students with good academic and social welfare, value of emotional health

and physical fitness and provision of the sport facilities and infrastructures. Based on the findings, the following appropriate recommendation were drawn.

Generally the students' satisfaction was neither too high nor too low but it is low compared to the previous survey. The reason behind the low satisfaction is that the infrastructures of training institutions are getting deteriorated and modern technology comes with increase in students expectations. The COVID-19 also aggravated the situation where students take a long period to finish their academic year. In addition to this the placements for industrial attachment are not easily found due to the consequences of COVID-19.

4.2. Recommendations and policy action plan matrix

Challenges	Proposed actions (Solutions)
Short term	
Low level of enrolment in IPRCs	Rwanda Polytechnic through IPRCs is advised to strengthen outreach programs in secondary schools to attract young graduates and advise them for their technical future career development
Low level of English proficiency for the students	Reinforce English lesson in academia from lower level to upper level of education
Inadequate participation of students in industrial attachment program	Rwanda Polytechnic should reinforce and establish industrial attachment guidelines to ensure a successful and profitable Program
Lack of sport infrastructure and leisure in some of IPRCs	Develop and renovate sport related infrastructure in IPRCs in line with other academic and leisure infrastructure.
Lack of training material and or consumables	All needed materials/equipment in their workshops, consumables should be made available in all IPRCs.
Inadequate link to the real life skills on job market	Some training courses should be conducted in industries (companies)
In some IPRCs infrastructure especially classrooms are not enough and even the workshops are not fully equipped	Increasing training infrastructures which are well equipped

Long term	
Poor English proficiency	1. Remedial programs should be availed to students who desire to improve their mastery of the language. 2. Strengthening English teaching downstream education for IPRCs to get English proficient students
Poor academic, health, social and leisure infrastructures	Improve academic as well as health, social and leisure infrastructures so as to produce competent and satisfied students
Lack of information on students' satisfaction by IPRCs	Regularly conduct internal students satisfaction surveys within colleges to enhance teaching and learning environment as well as outcomes
Low level of graduates absorption on labour market	RP in partnership with relevant stakeholders to conduct IPRCs graduates' labour market absorption and rank them for encouraging competition in teaching, learning and intensive industrial attachment for work exposure and innovation

Source: Author's compilation, 2021

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ANNEXES

Annex-1: Students Satisfaction Questionnaire

Dear participant,

My name isand I am working with RMI (Rwanda Management Institute). RMI in partnership with RP (Rwanda Polytechnic) are conducting a student satisfaction survey to assess the RP-IPRCs students' satisfaction with training program delivery and industrial attachment. We will treat all data and responses confidentially. This means that we will not share your personal data with anyone and the provided information / responses will be analysed anonymously and the information you provide will only be used for this purpose.

The interview will take approximately 15 minutes.

THANK YOU FOR YOUR PARTICIPATION!

PART I. PERSONAL DATA

1. In which age bracket are you?

Below 20	
21-25	
26-30	
31-35	
36-40	
Above 40	

2. What is your gender?

Female	
Male	

3. In which IPRC are you enrolled

Ngoma	
Kigali	
Musanze	
Huye	
Karongi	
Gishari	
Kitabi	
Tumba	

4. What program are you enrolled in?

Accounting	
Agriculture (crop production)	
Agriculture and Food Processing	
Alternative Energy	
Automobile technology	
Business & Management	
Business studies	
Civil engineering	
Cloud Computer	
Computer Engineering	
Construction Technology	
Co-Operative Management & Entrepreneurship	
Electrical and electronics engineering	
Electrical Technology	
Electronic technology	
Electronics and Telecommunication	
Entrepreneurship	
Environmental Management & Water Technology	
Forest resources management	
Hospitality management	
Hotel and Restaurant Management	
ICT	
Information system	
Information Technology	
Irrigation and Drainage Technology	
Land surveying	
Logistics and Procurement	
Mechanical engineering	
Mechanical Production technology	
Mining Engineering	
Project Management	
Technical Accounting	
Tourism and Travel Management	
Veterinary technology	
Wildlife Management	
Wildlife tourism	

5. Which level of study are you currently pursuing in 2021?

Year one	
Year two	
Year three	

6. Which course are you currently registered for?

.....

7. In which province are you from?

Eastern	
Kigali City	
Northern	
Southern	
Western	

8. What is your sponsorship status?

Government sponsorship	
My parent/Guardian	
My family member	
Charity Organization	
Other specify.....	

9. Do you have any disability?

Yes	
No	

If yes explain

If yes, how is the school environment friendly to your situation?

.....

PART II. STUDENTS SATISFACTION

a. The students’ satisfaction in line with current curricula.

10. What is your satisfaction with the current curricula.

Please tick (√) in the box that best describe your agreement in line with your satisfaction with current curricula. 1=Very Dissatisfied, 2= Dissatisfied, 3=Neutral, 4=Satisfied, 5=Very Agree.

Students satisfaction elements	5	4	3	2	1
1. Curriculum content					
2. Organization of course content					
3. Courses cover relevant topics					
4. Courses up to date					
5. Courses cover standards used in field of work					

Comment on your satisfaction with current curriculum

.....

.....

11. How do you rate the training delivery to achieve intended quality?

Tick (√) the statement that best describes the quality of training at the institution from which you graduated. 1=Very poor, 2=Poor, 3=Fair, 4=Good, 5=Very good

Curricula related Quality Training indicators	5	4	3	2	1
1. Curricula implementation in line with needs of labour markets.					
2. Training in line with training standards and workplace training					
3. Textbooks, learning materials, consumables and equipment					
4. Delivery of training carried out as planned					
5. Assessment of training is conducted as set out in procedures.					
6. The basics of workplace safety and environmental protection					
7. Green Growth and Sustainable Development practices during training					
8. Inclusiveness to all categories of trainees such as vulnerable, gender, special needs, etc.					

Comment on the quality of training delivery

.....

b. The students' perception on the quality of teaching using English as a medium of instruction.

12. What is would you say is your English language level?

A1 (Beginner) At this level you can understand: Very basic, everyday phrases; carefully articulated, slow speech with long pauses; very short, simple texts, familiar names and words	
A2 (Elementary English) At this level you can understand: Very basic personal, family and job-related language; enough to meet the needs with slow, clear speech; short, simple texts on familiar matter	
B1 (Intermediate English) At this level you can understand main points on common topics at work, school, or traveling; general and specific details given clear speech; factual texts on subjects of interest.	
B2 (Upper-Intermediate English)At this level you can understand: Main ideas of complex text; Standard spoken language, live or broadcast; Texts with a broad reading vocabulary and large degree of autonomy	
C1 (Advanced English)At this level you can understand: Lengthy speech on abstract topics with relative ease; Longer texts and their implicit meaning; Details in complex texts, even if not relating to your own specialty.	
C2 (Proficiency English) At this level you can understand: Virtually everything heard or read with ease; All spoken language at a fast, native pace; Abstract, structurally complex text and literary writings	

Comment on your English language level

.....

11. How does English language make teaching and learning smooth?

Tick (√) the cell that best describes your level of agreement with the statement provided in relation to quality of education with English as medium of instruction. 1=Strongly disagree, 2=Disagree, 2=Neutral, 4=Agree 5=Strongly Agree

Student perception on quality of teaching in English	5	4	3	2	1
1. The instructors deliver training in English easily.					
2. Training is better understood when delivered in English rather than other languages					
3. The instructors know different terminologies while delivering training in English					
4. All the material needed for training are available in English language					
5. The students have enough English proficiency to interact with trainers					
6. Trainers are aware of weak students in English language and they also get support to be on the same level as others.					

Comment on quality on education in relation to English as medium of instruction

.....

12. At which extent do you consider the benefits of English as a medium of Instruction?

Tick (√) the cell that best describe your level of agreement with the statement provided in relation to quality of education with English as medium of instruction. 1=at a very low extent, 2=at a low extent, 2=At some extent, 4=at high extent 5=At very high extent

Benefits of English as medium of instruction	5	4	3	2	1
Improving English proficiency					
Improving speaking skills					
Learning new vocabulary					
Preparing for high level of English proficiency required in real-world interaction					
Gaining confidence in English					
Overcoming fear of making mistakes					
Respecting other people					
Helping other student practice English					
Demonstrating respect for others					

Any other information on the benefits of English as medium of instruction

.....

c. The current status of students' industrial attachment by training programs, challenges and recommendable actions.

13. Did you participated in industrial attachment (internship)?

Yes	
Not	

If no, please continue to the section d.

14. Current status of students' industrial attachment

Please Tick (√) the cell that best describe your level of agreement or disagreement with the statement provided in relation to status of students' industrial attachment. 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

Elements of students' perception on industrial attachment.	5	4	3	2	1
Gaining of practical experience.					
Gaining of working ethics.					
Helping the student acquire self-reliance skills.					
Contribute to local industry.					
Develop work-based skills.					
Establish industry networks and contacts.					
Improve your cross-cultural communication skills.					
It will give you a competitive edge over graduate with no work experience.					
You will get to meet different people in your future career path.					

Comment on the status of industrial attachment

.....

15. Quality of supervision at host company

Please Tick (√) the cell that best describe how you rate the quality of supervision at Host Company/ institution. 1= Very Poor 2=Poor 3=Acceptable 4=Good 5=Very Good

Elements of students' perception on industrial attachment.	5	4	3	2	1
Supportiveness of the supervisor					
Approachability and rapport with the supervisor					
Availability/quality time for meetings with the supervisor					
Allocation of duration of meetings with supervisor					
Commitment, interest and enthusiasm of the supervisor					
Supervisor's knowledge and expertise in the TVET programme					
Constructive feedback from the supervisor					
Providing direction and structure to the TVET program and student Development					
Interest in the student's career					

Comment on the quality of supervision

.....

16. What do you think must be improved in the current industrial attachment programme to get as much impact as expected?

.....

17. Did you face any challenge during industrial attachment?

Yes	
Not	

If yes elaborate

.....

d. Students perception on the quality of learning environment in *Lab and workshop, ICT facilities, etc*

18. How are you satisfied with the learning environment in Lab and workshop.

Please Tick (√) the cell that best describe your level of satisfaction with the learning environment. 1=Very dissatisfied 2=Dissatisfied 3=Neutral 4=Satisfied 5=Very Satisfied

Learning Environment elements	5	4	3	2	1
1. Lab equipment and materials					
2. ICT infrastructures					
3. The condition of the equipment and materials					
4. Availability of Lab equipment and materials					
5. Time allocation for practical works in Labs or workshops					
6. Internet availability in ICT labs					
7. Availability of smart classrooms					
8. The way trainers conduct workshop sessions					

19. Do you have any additional information?

Yes	
Not	

If yes, elaborate it

.....

.....

.....

e. Services provided to students both *academic and social*(E.g.: Career guidance, health services, sports and leisure, etc)

20. What are the services provided to students both academic and social?

Please Tick (√) the cell that best describe your level of agreement with the statement provided in relation to services provided to students both academic and social. 1=Strongly disagree

2=Disagree 3=Neutral 4=Agree 5=Strongly agree

Services provided to students	5	4	3	2	1
1. Our college has a career guidance centre					
2. Our college has an emergency sick bay					
3. Our college provides the sport facilities and infrastructures					
4. Our college makes available leisure materials and equipment					
5. Our college values our emotional health and physical fitness					
6. All sports are treated equally and supported for a better performance of our teams in tournaments					
7. The available resource are used to provide students with good academic and social welfare					
8. The social welfare unity work closely with students' guild to provide the students with a good treatment at campus					

21. What are main challenges do you face during your classes?

.....

22. What do you appreciate in your college?

.....

23. What do you thing can be done to make students' learning environment better?

.....

24. Are the current offered courses in line with your expectations before joining this college?

.....
.....

Annex-2: Interview Guide

This Interview guide is to be addressed to Rwanda Polytechnic (RP) representatives and principle of IPRCs

1. IPRCs students' English proficient adequacy catch all the training content in English.
2. IPRCs trainers English proficient adequacy to deliver trainings smoothly.
3. The help of using English as Medium of Instruction to improve student English listening and speaking ability.
4. The status of industrial attachment for IPRCs students.
5. Quality of education in relation to the current curriculum.
6. IPRCs' services in terms of educational, social and leisure services.
7. Improvement needed to increase the level of students' satisfaction in IPRCs.
8. The companies' capacity to accommodate IPRCs' students for industrial attachment.
9. Industrial attachment and required practical skills to students.
10. The challenges faced by students during industrial attachment.
11. The hindrance for implementation of industrial attachment.

Annex-3: Data disaggregation

Students' satisfaction in line with current curricula by gender

Curriculum content						
	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total	
Male	2.4%	14.0%	49.2%	5.8%	71.4%	
Female	1.1%	3.7%	19.8%	4.0%	28.6%	
Total	3.4%	17.7%	69.0%	9.8%	100.0%	
Organization of course content						
	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total	
Male	1.6%	15.9%	45.5%	8.5%	71.4%	
Female	.5%	2.9%	21.7%	3.4%	28.6%	
Total	2.1%	18.8%	67.2%	11.9%	100.0%	
Courses cover relevant topics						
	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total	
Male	1.9%	15.9%	45.8%	7.9%	71.4%	
Female	0.5%	3.7%	18.8%	5.6%	28.6%	
Total	2.4%	19.6%	64.6%	13.5%	100.0%	
Courses up to date						
	V. Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
Male	0.3%	0.5%	15.6%	43.7%	11.4%	71.4%
Female	0.3%	0.3%	4.8%	17.5%	5.8%	28.6%
Total	0.5%	0.8%	20.4%	61.1%	17.2%	100.0%
Courses cover standards used in field						
	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total	
Male	2.6%	19.0%	41.5%	8.2%	71.4%	
Female	0.8%	4.0%	19.6%	4.2%	28.6%	
Total	3.4%	23.0%	61.1%	12.4%	100.0%	

Students' satisfaction in line with current curricula by IPRC Campus (ANNEX)

Curriculum content

	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total	
IPRC Gishali			11.4%	1.1%	12.4%	
IPRC Karongi	0.5%		6.6%	5.3%	12.4%	
IPRC Kigali	0.5%	1.9%	10.1%		12.4%	
IPRC Kitabi		2.4%	7.9%	2.1%	12.4%	
IPRC Huye	0.3%	2.4%	9.8%		12.4%	
IPRC Musanze	0.5%		11.1%	0.8%	12.4%	
IPRC Ngoma	0.5%	11.1%	1.1%		12.7%	
IPRC Tumba	1.1%		11.1%	0.5%	12.7%	
Total	3.4%	17.7%	69.0%	9.8%	100.0%	
Organization of course content						
IPRC Gishali			11.4%	1.1%	12.4%	
IPRC Karongi	0.8%	0.8%	4.8%	6.1%	12.4%	
IPRC Kigali		0.5%	11.6%	.3%	12.4%	
IPRC Kitabi		3.2%	7.4%	1.9%	12.4%	
IPRC Huye	0.3%	1.3%	10.3%	.5%	12.4%	
IPRC Musanze		0.8%	10.6%	1.1%	12.4%	
IPRC Ngoma	0.5%	11.6%	.5%		12.7%	
IPRC Tumba	0.5%	0.5%	10.6%	1.1%	12.7%	
Total	2.1%	18.8%	67.2%	11.9%	100.0%	
Courses cover relevant topics						
IPRC Gishali		.3%	10.6%	1.6%	12.4%	
IPRC Karongi	0.5%	.5%	4.5%	6.9%	12.4%	
IPRC Kigali		.8%	11.6%		12.4%	
IPRC Kitabi		4.2%	6.9%	1.3%	12.4%	
IPRC Huye	.3%	1.6%	10.1%	0.5%	12.4%	
IPRC Musanze	1.3%		8.5%	2.6%	12.4%	
IPRC Ngoma		12.2%	.5%		12.7%	
IPRC Tumba	.3%		11.9%	0.5%	12.7%	
Total	2.4%	19.6%	64.6%	13.5%	100.0%	
Courses up to date						
IPRC Gishali		0.5%		11.1%	0.8%	12.4%
IPRC Karongi				4.8%	7.7%	12.4%
IPRC Kigali			1.6%	10.8%		12.4%
IPRC Kitabi			4.2%	4.8%	3.4%	12.4%
IPRC Huye		0.3%	4.5%	6.6%	1.1%	12.4%
IPRC Musanze	0.3%			8.5%	3.7%	12.4%
IPRC Ngoma	0.3%		10.1%	2.4%		12.7%
IPRC Tumba				12.2%	.5%	12.7%
Total	0.5%	0.8%	20.4%	61.1%	17.2%	100%
Courses cover standards used in field						
IPRC Gishali	1.1%		11.4%		12.4%	
IPRC Karongi	0.3%	.8%	4.2%	7.1%	12.4%	

IPRC Kigali	0.3%	.8%	11.1%	0.3%	12.4%
IPRC Kitabi		4.2%	5.6%	2.6%	12.4%
IPRC Huye	1.1%	4.0%	7.4%		12.4%
IPRC Musanze	0.3%	.5%	9.8%	1.9%	12.4%
IPRC Ngoma	0.5%	11.6%	.5%		12.7%
IPRC Tumba		1.1%	11.1%	0.5%	12.7%
Total	3.4%	23.0%	61.1%	12.4%	100.0%

Students' satisfaction in line with current curricula by IPRC Sponsorship

Curriculum content					
	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
Government sponsorship	3.2%	15.3%	61.1%	9.0%	88.6%
My parent/Guardian	.3%	1.3%	5.3%	.3%	7.1%
My family member		.3%	1.6%	.3%	2.1%
Charity Organization		.8%	1.1%	.3%	2.1%
Total	3.4%	17.7%	69.0%	9.8%	100.0%
Organization of course content					
Government sponsorship	1.9%	15.9%	59.5%	11.4%	88.6%
My parent/Guardian	.3%	1.6%	5.3%		7.1%
My family member		.3%	1.6%	.3%	2.1%
Charity Organization		1.1%	.8%	.3%	2.1%
Total	2.1%	18.8%	67.2%	11.9%	100.0%
Courses cover relevant topics					
Government sponsorship	2.1%	16.1%	57.1%	13.2%	88.6%
My parent/Guardian	.3%	2.1%	4.8%		7.1%
My family member		.3%	1.6%	.3%	2.1%
Charity Organization		1.1%	1.1%		2.1%
Total	2.4%	19.6%	64.6%	13.5%	100.0%
Courses up to date					

Government sponsorship	0.5%	0.5%	16.1%	55.0%	16.4%	88.6%
My parent/Guardian		.3%	2.6%	4.0%	0.3%	7.1%
My family member			0.8%	0.8%	0.5%	2.1%
Charity Organization			0.8%	1.3%		2.1%
Total	0.5%	0.8%	20.4%	61.1%	17.2%	100%
Courses cover standards used in field						
Government sponsorship	3.2%	18.3%	56.1%	11.1%		88.6%
My parent/Guardian	.3%	2.4%	3.7%	.8%		7.1%
My family member		1.3%	.3%	.5%		2.1%
Charity Organization		1.1%	1.1%			2.1%
Total	3.4%	23.0%	61.1%	12.4%		100.0%

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