Exploring the status of Pilot Training in the Aviation Industry of South Africa.

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Abstract: This research study aims to explore the status of Pilot Training in South Africa's aviation industry. The study is premised on the underlying assumption that the current existing Instructor's training (Theory and Practical) have a huge impact on the progression of students. The study will diagnose the challenges or gaps in the training sector as experienced by students Pilots who are respondents in the study. Participants of this study were Pilots students across the Republic of South Africa undergoing Private Pilot Licence training and Commercial Pilot Licence training. They all willingly gave consent to participate in the study (n = 211).

Keywords: Private Pilot Licence (PPL), Commercial Pilot Licence (CPL), Aviation Training Organisation (ATO)

1. Introduction and Background.

The aviation industry of South Africa has over 120 Aviation Training Organizations (SACAA EMPIC system, 2022) and over 60 Airfields and airports. The ATOs are responsible for all flight crew licenses (PPL, CPL and ATPL).
The entire aviation Industry is strictly regulated under South African Civil Aviation Regulations (SA-CAR, 2011). As mandate by the Civil Aviation Act (13 of 2009), the SACAA offers its services by following the international best practice on safety through International Civil Aviation Organization. The SACAA is a Schedule 3A public entity in terms of the Public Finance Management Act (PFMA). It was established on 1 October 1998, following the enactment of the now repealed South African Civil Aviation Authority Act 40 of 1998 (South African Government Gazette, 2009: 1-222).

Furthermore, the SACAA is responsible for ensuring safety over South African skies by way of avoiding the likelihood of accidents, bad incidents, drone attacks, poorly planned, unauthorized or unregulated flights, take-offs or landings, or any other corrupt activities that could put the lives of air travellers at risk. Regulations set out by the SACAA are quite strict and correspond favourably with similar regulations enforced in the USA and Europe.

The Republic of South Africa has a diverse population of over 55 million citizens. The diversity of the citizens is reflected in various ATOs which has indirect impact on training. Since the diversity-relevant trainings are allegedly organizationally driven by liability minimization, trainees may not be particularly invigorated, as the training may be perceived as an end in itself from the organization's perspective rather than a prospect for true skill development (Gardner & Alanis, 2020). However, the frequency of diversity training for both theoretical and practical training is not complemented by empirical research about its effectiveness.

One of the distinguished gaps about the lack of enough empirical research on diversity training is the absence of attention to its impact on discrimination and limited consideration of organizational-level factors. Few conducted surveys about this phenomenon reveal an effect of the extent of diversity training in organizations on ethnic minorities' experiences of discrimination (King, Dawson, Kravitz & Gulick, 2012).

According to ICAO Council Off-site Strategy Meeting (2015), Aviation Industry through Air transportation activities is envisaged to double over the next 15 years which clearly have a direct impact on shortage of qualified employees, supervisors and managers in various positions in the aviation industry and regulatory functions. It is therefore the responsibility of CAAs as well as the aviation community to ensure there are enough qualified employees, supervisors and managers for airlines, airports, air navigation services, and regulatory functions to

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support this growth. As such, efforts to develop essential talents must reflect the principles and practices of human performance improvement and lead to measurable outcomes and ATOs are no exception to the rule.

It is mentioned by Bae (2012) that there is very little training among airline Pilots on how to successfully manage stressful situations events that requires quick and accurate decision-making. Concerns over the dropping standards of pilot training have been voiced (Vaenta, 2018)

2. Literature Review

The importance of Safety is in aviation cannot be overemphasized. The training received by aviators is extensive so that the safety record is maximized and maintained at all times. It is mentioned by Valenta (2018) that the Aviation industry appreciates that training is an essential component of operations and not just an expense. According to Casner, Geven, and Willliams (2012), the manner in which Pilots are trained is determined by how they respond to emergency events. It is however unfortunate that Pilot training and testing has somewhat become routine and predictable. In short, Pilots are able to predict the routine as the result of seeing the same maneuvers at each training event.

An integral part of instruction according Sheeba (2017) is testing or assessment. The assessment therefore provides the assurance to the instructor, teacher, moderator or an assessor to test whether the objectives and the goals of instruction have been successfully achieved. The verdict concerning grades, placement, progression, instructional needs, syllabus and curriculum is lies mainly on assessments or testing.

It is through testing and assessments that difficult questions are asked. An instructor must ask himself/herself the following regarding training and assessment:

1. Does the training represent what the curriculum and the syllabus represents?
2. Are students gaining any knowledge from the instruction?
3. Are there any different methods (locally or globally) that may benefits students better and promote better learning?

Sheeba (2017) state that for assessment works effectively and efficiently when it achieves the following goals:

- Provides diagnostic feedback
- Help educators set standards
- Evaluate progress
- Relates to a student's progress
- Motivates performance.

2.1. Theoretical Training vs Practical Training.

Thompson (2000) and Wrenn and Wrenn (2009) agree that the disconnection between theory and practice as intolerable. Furthermore, it is emphasized by Clapton and Cree (2004) and Wrenn and Wrenn (2009) that there is a dire need for learning models to integrate theory and practice in ways that bring the field into the classroom as well as take the classroom into the field.

According to Riyad, Pramana, Munakib, Maseleno (2020), it is through theoretical teaching that we learn from the expertise of others. A meaningful comprehension of theory offers a deeper understanding of an inspiration through seeing it within the context of a bigger whole and understanding the why behind it. Contrary to theoretical training, it is argued by Riyad, Pramana, Munakib, Maseleno (2020) that practical training has the ability to capture the students' interest compared to effortlessly analyzing and reminiscence from a book.

Cheng, Chen and Tang (2010) argue that the quality of instructor education programs can be enhanced only if the facilitators and instructors identify the gap between teaching and theory and continually facilitate them in connecting their learnt theory and practice.

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3. Methodology

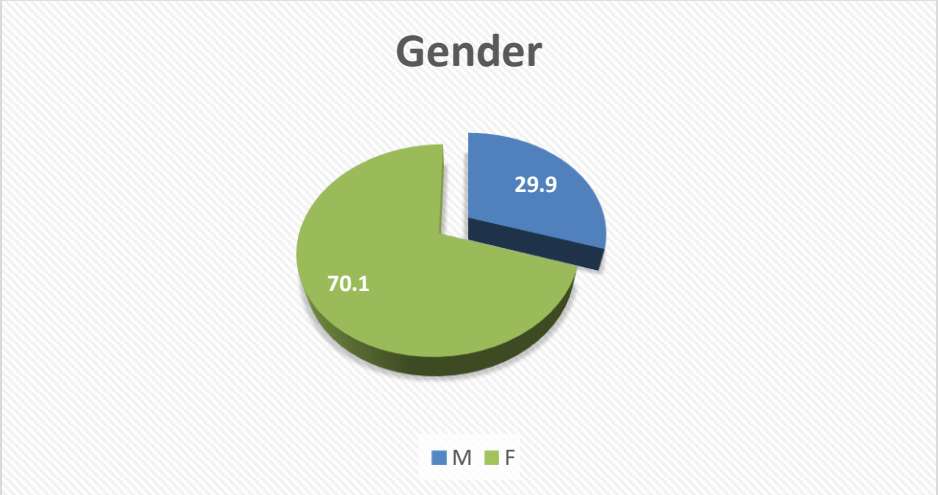
The study adopts a quantitative explorative methodology to examine student's insights and perception about the instructors at SACAA approved ATOs and the role they played in both theory and practical training. According to De Swart, Du Toit and Botha (2012), such insight reflection may occur between facilitators and practitioners or students in a structured way. In setting about the aim of this paper, namely, to explore the views of students Pilots involved in Pilot training for PPL and CPL in South Africa, a questionnaire was developed and send to wiling participants.

4. Research Results

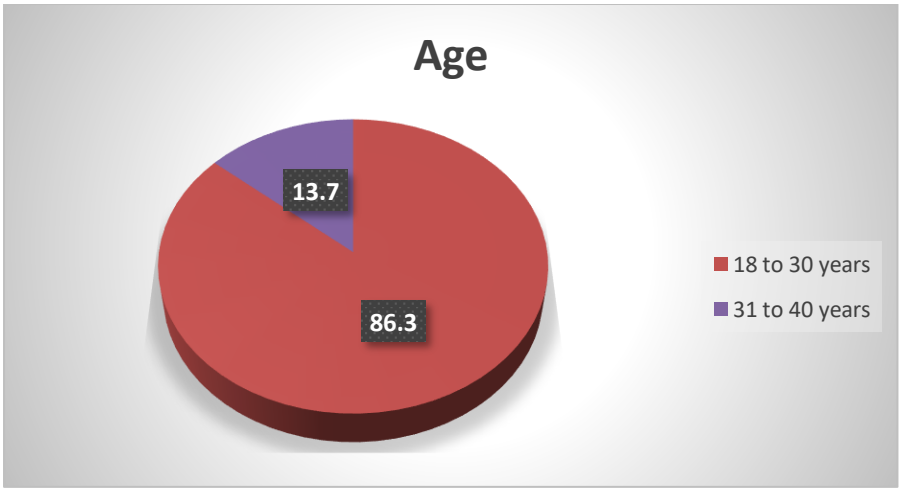
The sample size of study was equal to 211. The questionnaire of study consisted of 32 questions. Some of the questions were subjective in nature and were measured by using a 5-point ordinal scale. For South African aviation industry, the South African Civil Aviation Authority is responsible for Safety and Security of air transport (Strategic Planning, 2020: 10-19). The statistical package SPSS version 25 was used for performing data analyses.

4.1. Section A

The chart below shows a table for the gender of respondents. The pie chart shows that 70.1% of the 211 respondents were male, whereas the remaining 29.9% of respondents were female.



The pie chart below represents the respondents' ages. The pie chart illustrates that 86.3% of the respondents are aged from 18 to 30 years. The pie chart further illustrates that 13.7% of respondents are aged from 31 to 40 years.



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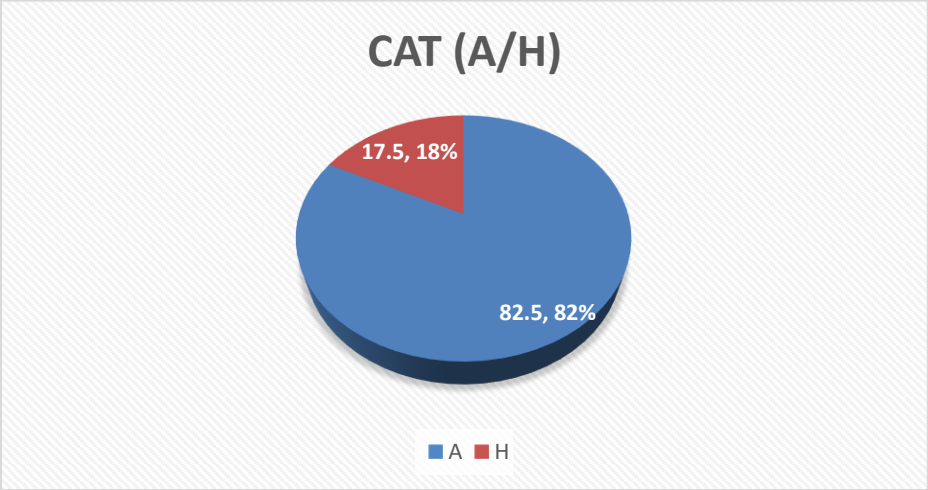
The pie chart below shows the category of the licence held by the respondents. The pie chart illustrates that 82.5% of respondents hold an Aeroplane licence while 17.5% of the respondents hold a Helicopter Licence.



4.2. Section B – Theoretical Knowledge

Table below shows an assessment of the perception held by respondents about the Pilot raining in South Africa regarding theoretical knowledge. Perceptions were measured by using a 5-point ordinal scale that varies from SD (strongly disagree) to SA (strongly agree) as shown below:

SD: Strongly disagree
D: Disagree
NS: Not sure
A: Agree
SA: Strongly agree

Table 1: Exploration of theoretical training for Pilots in South Africa

Questions	SD	D	NS	A	SA
I receive full attention for the duration of my course regarding theoretical knowledge.	3.8%	5.7%	16.7%	34.7%	40.3%
The session for my Theoretical knowledge is well detailed and articulated.	2.8%	6.2%	14.7%	41.7%	35.7%
My instructor pays full attention to the areas that I struggle with.	3.8%	4.7%	15.6%	26.1%	49.8%
There are follow up sessions from the instructor regarding the areas that I struggle with.	4.3%	5.7%	13.3%	31.3%	45.5%
I have developed a trusting and positive relationship with the instructor.	3.8%	2.4%	13.7%	29.4%	50.7%
When I am encouraged by my Instructor, I respond positively.	3.3%	4.7%	9.5%	30.8%	51.7%
My instructor easily becomes easily agitated and angry when I don't understand him.	46.4%	20.9%	13.7%	9.5%	9.5%
The instructor is more concerned about completing the module than making sure I understand.	3.8%	20.4%	14.7%	16.6%	9.5%
The instructor displays signs of Impatience with me whenever I request clarity of issues that I do not understand.	47.9%	17.5%	12.8%	11.8%	10.0%
My instructor is patient with me and respond positively to my questions.	9.5%	8.1%	11.8%	29.4%	41.2%
The instructor takes interest in my wellbeing even outside of	13.7%	14.2%	24.6%	28.0%	19.4%

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school business					
My instructor is concerned on how I progress with the lessons.	4.3%	4.7%	20.4%	32.2%	38.4%
I am not afraid to share my problems with my instructor.	4.3%	4.7%	13.7%	32.2%	45.0%
My instructors are concerned about how I am progressing with my lessons.	3.3%	3.3%	12.3%	32.2%	48.8%
The instructor accepts my race and nationality.	2.8%	6.6%	11.8%	30.3%	48.3%
My instructor is knowledgeable about the study material and the subject.	3.8%	5.2%	6.2%	34.6%	50.2%
My instructor encourages me to work hard to achieve my goal of being a pilot.	3.3%	4.3%	13.3%	34.1%	45.0%
My instructor allows me to express myself and to share my ideas during class discussions.	6.6%	6.6%	20.4%	33.6%	32.7%
The instructor accepts me for who I am and makes me feel part of the aviation Industry.	5.7%	6.2%	15.2%	32.7%	40.3%
My instructor discriminates against me.	59.2%	12.8%	12.8%	6.2%	9.0%
I am satisfied with overall support from my Instructor and my ATO.	4.3%	7.6%	19.4%	28.0%	40.8%

The above Table 1 results indicate the perception regarding theoretical training culture and knowledge deeply entrenched among Pilot Instructors in aviation Industry of South Africa. The results also show that students strongly agree and rely on their Pilot Instructors who are knowledgeable and subject matter expects at 50.2% while 34.6% agrees that the knowledge shared by instructors cannot be overemphasised.

The survey indicates that instructors also invest in follow-up sessions with students regarding areas of concerns. 31.3% of students agree that they face no difficulties whenever they seek clarity regarding their lessons meanwhile 45.5% of students strongly agree with the sentiments. On a question of whether instructors are concerns about the progression of the students, 32.2% of students agree while 38.4% strongly agree that the instructors pay attention to their progress regarding theoretical knowledge.

The level of trust amongst students and Pilots is also clearly articulated on Table 1 above. The trust between the instructors and students is at 50.7% which portrays a positive training environment. Furthermore, the Instructors practices patience when dealing with students. 46.4% seriously disagrees that Instructors are Impatient while 20.9% disagrees that the instructors are impatient with them which portrays a high level of positive relationship and trust amongst the students at a high level of 67.3%.

Table 1 also dealt with the issue of diversity at South African ATOs. South African Population is diverse with various ethnic groups. Equally so, there are quite number of students from Middle East, SADEC, Centra Africa and Northern Africa who receive their training in South Africa. On a question of whether instructors accept students for who they are; 40.3% of students agrees that they are accepted for who they are, 32.7% strongly agrees that they are accepted by instructors for who they are.

The support that student receive from their respective ATOs is also positive with 40.8% of students strongly agreeing that the ATO is supportive of their journey and 28.0% students agreeing that there is support from the ATOs.

There is a significant concern regarding the completion of the course without paying full attention to whether the student fully understands or not. Survey shows that 16.6% strongly agrees that instructors are more concerned about completion of the module rather than ensuring that students clearly understand the course. 9.5% of students also agrees with the sentiments which means that 26,1% of students surveyed are of the believe that instructors rush to complete the module than to make them understand.

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Discrimination can play a huge role in shaping one's future. On whether the instructors discriminate against students, 59.2% of students strongly disagrees that they have been discriminated against with 12.8% also disagreeing of being discriminated against.

4.3. Section B – Practical Training

Table below shows an assessment of the perception held by respondents about the Pilot raining in South Africa. Perceptions were measured by using a 5-point ordinal scale that varies from SD (strongly disagree) to SA (strongly agree) as shown below:

SD: Strongly disagree
D: Disagree
NS: Not sure
A: Agree
SA: Strongly agree

Table 2: Exploration of practical training for Pilots in South Africa (n=211)

Questions	SD	D	NS	A	SA
I receive full attention from my instructor during my practical training duration.	3.3%	5.7%	11.4%	26.5%	53.1%
The practical training is well detailed and structured.	2.8%	4.7%	10.0%	32.2%	50.2%
My instructor always sticks and conforms to the training schedule.	3.3%	7.1%	11.4%	35.5%	42.7%
My instructor focuses on areas that I struggle with to ensure that I understands.	3.8%	4.7%	10.9%	28.9%	51.7%
The instructor is more concerned about the completion of the course rather than helping me to understands.	41.7%	19.9%	12.3%	12.8%	13.3%
My instructor helps me build my confidence and courage towards attaining my pilot goals.	5.2%	1.9%	12.8%	36.5%	43.6%
My instructor practices patience with me during the practical training.	5.7%	4.7%	10.0%	33.6%	46.0%
I feel comfortable about explaining my challenges to the instructor.	5.2%	3.3%	8.5%	34.6%	48.3%
Whenever I experience challenges with practical activities, my instructor is willing to help.	4.3%	2.8%	8.1%	34.1%	50.7%
My instructor is very knowledgeable within all areas of training.	3.3%	4.7%	5.7%	29.9%	56.4%
I always receive feedback after each fight training	3.3%	2.8%	12.3%	22.7%	58.8%

The above Table 2 results indicate the perception of practical training culture of students Pilots in the aviation industry of South Africa. Once again, the relationship between the instructors and students is very positive. Full attention is given to the students during training with 26.5% of students sharing same views and agreeing that there are afforded full attention while 53.1% of students strongly agreeing that they receive full attention from instructors.

Instructors have also created a conducive environment with students being able to share their challenges with their respective Instructors. 48.3% of students strongly agree that they are able to share their training challenges with instructors meanwhile 34.6% agree that they are able to share challenges with their instructors. Furthermore, the study indicates that by sharing challenges with instructors, necessary assistance is received with 50.7% of students strongly agreeing that they receive help after sharing their challenges and 34.1% of students also agreeing to those sentiments.

The feedback from instructors is also positive with 58.8% of students strongly agreeing to receiving feedback from instructors and 22.7% agreeing to also receiving feedback regarding their training from the instructors.

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Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Q1	211	1	5	4.01	1.067	1.138
Q2	211	1	5	4.00	1.002	1.005
Q3	211	1	5	4.13	1.083	1.173
Q4	211	1	5	4.08	1.095	1.198
Q5	211	1	5	4.21	1.021	1.042
Q6	211	1	5	4.23	1.026	1.053
Q7	211	1	5	2.15	1.350	1.821
Q8	211	1	5	2.37	1.386	1.921
Q9	211	1	5	2.18	1.397	1.951
Q10	211	1	5	3.85	1.300	1.691
Q11	211	1	5	3.25	1.301	1.694
Q12	211	1	5	3.96	1.079	1.165
Q13	211	1	5	4.09	1.076	1.159
Q14	211	1	5	4.20	1.004	1.008
Q15	211	1	5	4.15	1.052	1.107
Q16	211	1	5	4.22	1.034	1.069
Q17	211	1	5	4.13	1.020	1.039
Q18	211	1	5	3.79	1.165	1.356
Q19	211	1	5	3.96	1.148	1.317
Q20	211	1	5	1.93	1.334	1.781
Q21	211	1	5	3.93	1.136	1.291
Q22	211	1	5	4.20	1.065	1.134
Q23	211	1	5	4.22	1.001	1.003
Q24	211	1	5	4.07	1.060	1.123
Q25	211	1	5	4.20	1.059	1.122
Q26	211	1	5	2.36	1.458	2.127
Q27	211	1	5	4.11	1.049	1.101
Q28	211	1	5	4.09	1.121	1.258
Q29	211	1	5	4.18	1.070	1.145
Q30	211	1	5	4.24	1.016	1.032
Q31	211	1	5	4.31	1.008	1.016
Q32	211	1	5	4.31	1.016	1.033
Valid N (listwise)	211					

4. Major Findings of the study

The study was conducted in order to to explore the status of Pilot Training in South Africa's aviation industry. The following significant findings were made:

1. There is enough support to students from both the ATO and the Instructors regarding the objectives of the study.
2. There is positive relationship between students and Instructors to ensure the attainment of the students' objectives.
3. The instructors are well informed and knowledgeable about the course material and its contents.
4. There is a significant concern regarding instructors who are more concerned about completing the theoretical modules in time rather than focusing on ensuring that students does understand. Although the concern amount to 26.1%, it is still high to raise concern.

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5. There is significant concern regarding the impatience showcased by instructors whenever clarity is sought by students. Although the recorded percentage is at 21.8, it warrants attention by both ATOs and instructors.
6. Race and Nationality do not play a major role in how students are treated with 78.6% agreeing or strongly agreeing with the sentiments.
7. The high number of students at 72% strongly agrees and agrees that they are not discriminated against by their respective instructors.

4. Recommendations

1. According to Riyad, Pramana, Munakib, Maseleno (2020), it is through theoretical teaching that we learn from the expertise of others. A meaningful comprehension of theory offers a deeper understanding of an inspiration through seeing it within the context of a bigger whole and understanding the why behind it. It is important that Instructors practice patience with students at all times without pressurizing them.

2. It is mentioned by Valenta (2018) that the Aviation industry appreciates that training is an essential component of operations and not just an expense. Instructors must not be money driven by only focusing on the module on the expense of students. Such behavior has long-term consequences and detrimental to the achievement of optimal aviation safety.

BIBLIOGRAPHY

5. BAE. (2012). Final Report AF447. Mi nis tère de l 'Écologie, du Développement durable, des Transpor t s e t du Logement. Paris: Bureau d'Enquêtes et d'Analyses.
6. CASNER, S. M., GEVEN, R. W., & WILLLIAMS, K. T. (2012). The Effectiveness of Airline Pilot Training for Abnormal Events. *Journal of the Human Factors and Ergonomics*, 55(3), 477-485.
7. Cheng, M. M. H., Cheng, A. Y. N. & Tang, S. Y. F. 2010. Closing the gap between the theory and practice of teaching: implications for teacher education programmes in Hong Kong. *Journal of Education for Teaching*, 36(1): 91-104.
8. CLAPTON, G., AND CREE, V. (2004) Integration of learning for practice: Literature review. In Learning for effective and ethical practice. Edinburgh: Scottish Institute for Excellence in Social Work Education. Retrieved from http://www.iriss.org.uk/files/LEEP11LitRev.pdf. (Accessed 03 July 2022).
9. DE SWARDT, H.C., DU TOIT, H.S. AND BOTHA, A. (2012). Guided reflection as a tool to deal with the theory– practice gap in critical care nursing students. Health SA Gesondheid, 17(1). Retrieved from http://dx.doi. org/10.4102/hsag.v17i1.591 (Accessed 03 July 2022).
10. GARDNER, D.M AND ALANIS, J.M. 2020. Together we stand: Ally training for discrimination and harassment reduction. *Industrial and Organizational Psychology*, 13: 196–199.
11. KING, E.B., DAWSON, JF., KRAVITZ, D.A. GULICK, L.M.V. 2012. A multilevel study of the relationships between diversity training, ethnic discrimination and satisfaction in organization, 33(1): 5-20.
12. INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO). 2015. Training: AVIATION TRAINING AND CAPACITY-BUILDING ROADMAP FOR STATES. Montreal: International Civil Aviation Authority.
13. RIYAD1, M., PRAMANA, C., MUNAKIB, AND MASELENO, A. 2020. Theoretical Education vs Practical Education. *Test Engineering and Management*, 82: 5074 – 5081.
14. SOUTH AFRICAN CIVIL AVIATION AUTHORITY (SACAA). 2020. *Annual Report. Keeping you safe in the sky*. Gauteng: Midrand.
15. SOUTH AFRICAN CIVIL AVIATION AUTHORITY (SACAA). 2011. *Civil Aviation Regulation,* Gauteng, Midrand.
16. SOUTH AFRICAN GOVERNMENT GAZETTE. 2009. *Civil Aviation Act (Act no. 13 of 2009)*, 616 (461): 2-222.
17. SHEEBA. 2017. Importance of testing and evaluation in teaching and learning International. *Journal of Society and Humanities*, 11(1), 1-9.
18. VALENTA, V. 2018. Effects of Airline Industry Growth on Pilot Training, 6(4):52-56.
19. WRENN, J. AND WRENN, B. (2009). Enhancing learning by integrating theory and practice. *International Journal of Teaching and Learning in Higher Education*, 21 (2), 258–265.

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