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A Case Study On Manufacturing Industry Used Prognostic Tools To Remove The Problems In Shop Floor Challenges Faced In Maintenance Engineering

Ajay Kumar Pagare, Dr. Neeraj Kumar, Mohammad Salman Ilahi, Robin Khandelwal, Dr. Mohammad Israr

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education in Indonesia. Higher education is the main driving force for the development of property, land, and buildings as well as the growth of commercial areas, and is in a good spot for collaborating with communities in dealing with urban problems. The development of higher education in Malang city has improved because many students are interested in continuing their studies in this city. The increase in the number of students reaches 10% per year; this is due to the quality of public and private tertiary institutions, the availability of various types of study programs, high and fast access (from Jakarta, Surabaya, and other cities in eastern Indonesia), comfort, safety, and relatively low cost of living compared to other large cities. Malang has 62 colleges with 300,000 students from various places; this brings changes in the physical environment, socio-culture, and economy in Malang. The results of the analysis indicate that Malang City has met the college town criteria, and this will be used as part of research studentification in Malang. This research is intended to confirm the capability of Malang as a city of higher education, referring to the college town characteristics in the related literature, as well as the use of SWOT analysis to identify the potential and obstacles encountered by Malang city as a college town.

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The Advantages Of Water Painting Activity In Teaching English Vocabulary For Children

Doni Damara, Rany Sylvia Pertiwi, Icu Salabiyati, Akmal

The learning process is important part to make children motivated with the things. The teacher will be happy when the children look enjoyed, self-confidence and low anxiety. The objectives of the study are to know the advantages of painting activity in teaching vocabulary for young learner and to know the students respond of painting activity in teaching vocabulary. This research uses the qualitative method. The data were collected from the observation and documents. To analyze the data, this research did the direct observation during the class and taken the documents. The subject of this research is children or young learners who they are 2 till 6 years old. The data is taken form English course for kids. The results show that the advantages of painting activity in teaching English vocabulary are useful. There advantages are appropriate strategy, introducing the art project, practicing psychomotor, giving motivation, building their

confidants and independent. The respond are positive because this activity can make the children addictive, enthusiasm and interested.

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Student's Worksheet Design To Improving Problem-Solving Ability Of Seventh Grade With PBL

Adhitya Prasetyaningtyas, Suparman

The purpose of this study was to develop student's worksheet design based on PBL to improve student's problem solving abilities of seventh class. The development model used in this study is the ADDIE development model. The steps in this study are analysis, design, development, implementation, and evaluation. The subjects in this study were seventh grade students of Muhammadiyah 1 Junior high school in Depok, in Indonesia. The objects in this study are curriculum, material, and student characteristics. The results in this study are, first, students need teaching materials that are in accordance with the curriculum, material, and characteristics of students who can improve problem solving skills. Second, the design results in this study include cover, preface, and table of contents, instructions for using student's worksheet, basic competencies, supporting information, work steps, and individual assignments. The results of design validation show that the student's worksheet has very good criteria with an average value of 43.

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Standard Pathways Guides For The Disabled At The Commuter Line Stations In JABODETABEK

Ryan Ikhsan Laksana, Maria Immaculata Ririk Winandari, Julindiani Iskandar

The purpose of this study was to obtain and compare the percentage of guiding path facilities in the commuter train station buildings. The three most populous stations in JABODETABEK namely Tanah Abang, Bogor, and Bekasi were involved in the study. The commuter line station is one of the public facilities which needs to be present, as a required standard in the train stations as well as ease in accessing the technical areas by the disabled, especially the blind users. However, all stations have not been able to meet up with these standards such as do not have a guide path from the entrance to the platform

and other technical areas. The research therefore was conducted through the quantitative descriptive method with these variables; path locations, colors, guide and warning textures. The results showed that Tanah Abang and Bogor stations had all the required guidelines by 100%. However, Bekasi Station was in compliance by 20% by only fulfilling the requirements as regards the availability of yellow or orange marker tiles near the platform. Furthermore, these three densely populated stations had an average percentage of 73, in terms of availability of standard facilities and accessibility of the buildings by the disable people.

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Design Development Of Interactive Mathematics Learning Media Based On Character Education Using Macromedia Flash

Muh Suhuddinul Islam, Suparman

The character of honesty is one of the core competencies students must possess based on the 2013 curriculum. Less honest students tend to take actions that are not commendable and harm others. Learning media that do not integrate honesty has an impact on not achieving one of the core competencies. This study aims to design learning media that can improve the character of student honesty. The subjects of this study were mathematics teachers and seventh-grade junior high school students. The instruments of data collection are questionnaires to determine product feasibility, observation guidelines, and interview guidelines. Interview guidelines are used to obtain information about student difficulties, student learning resources, media used, and student honesty levels. Observation guidelines are used to determine the behavior of students during the school environment both during the teaching and learning process in the classroom and when students are outside the classroom. Data analysis techniques used descriptive data analysis. This study uses the ADDIE method. The results of this study indicate that social arithmetic material is still considered difficult by some students, especially in translating story questions into mathematical models. Also, learning media that can support the character of honesty has not been developed. The study concluded that teachers and students need the development of mathematical interactive learning media with character education

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Standard Pathways Guides For The Disabled At The Commuter Line Stations In JABODETABEK

Ryan Ikhsan Laksana, Maria Immaculata Ririk Winandari, Julindiani Iskandar

Abstract: The purpose of this study was to obtain and compare the percentage of guiding path facilities in the commuter train station buildings. The three most populous stations in JABODETABEK namely Tanah Abang, Bogor, and Bekasi were involved in the study. The commuter line station is one of the public facilities which needs to be present, as a required standard in the train stations as well as ease in accessing the technical areas by the disabled, especially the blind users. However, all stations have not been able to meet up with these standards such as do not have a guide path from the entrance to the platform and other technical areas. The research therefore was conducted through the quantitative descriptive method with these variables; path locations, colors, guide and warning textures. The results showed that Tanah Abang and Bogor stations had all the required guidelines by 100%. However, Bekasi Station was in compliance by 20% by only fulfilling the requirements as regards the availability of yellow or orange marker tiles near the platform. Furthermore, these three densely populated stations had an average percentage of 73, in terms of availability of standard facilities and accessibility of the buildings by the disable people.

Index Terms: Blind Users, Commuter Line Stations, Disable, Guideline Requirements, Jabodetabek, Pathways Standard, Public Facilities.

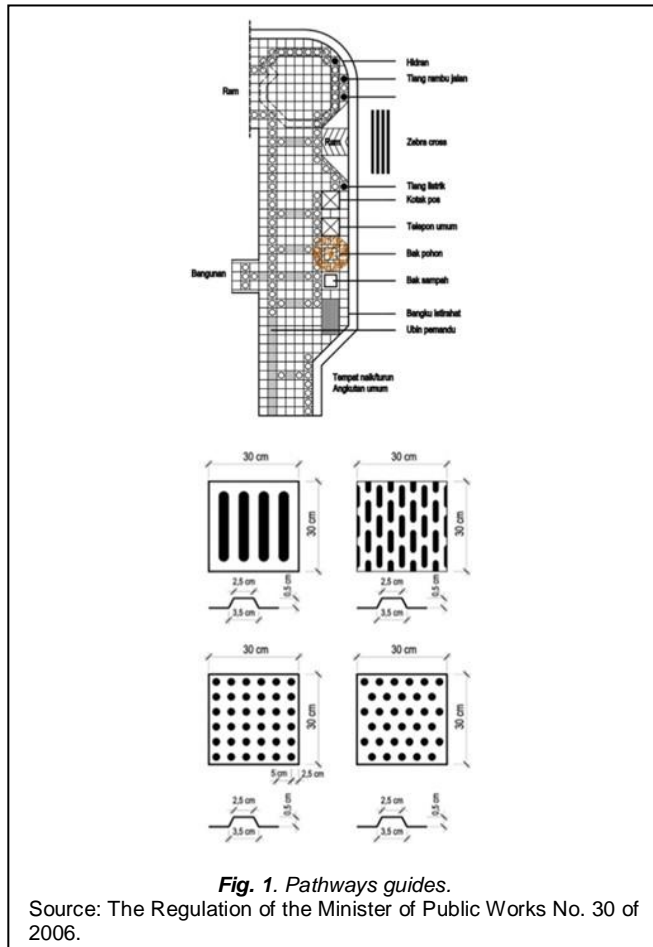
1. INTRODUCTION

There is need for the implementation of standard facilities and accessibility of various technical areas by the disable people for the creation of equality of right with the general public. Also, adequate access is needed in building transportation facilities which are in accordance with the standards for the general public and the disabled. Based on a survey conducted at the end of 2017, involving a total of 6,904 respondents, commuter line railroad transportation was ranked first with a total of 28.3% in terms of usage [1]. Considering this high number of commuter line train station users, the facilities within the train station building need to be accessible to all users. And accessibility is one of the important keys in our daily routine particularly in connecting with the environment internally or externally. However, most of the public transport stations have some fundamental problems in terms of having good designs and facilities [2]. An example of such public facilities in a train station is the guiding line. This is one of the minimum standard facilities required in any train station building to maintain the right of equality for all train station users in the general public including the disable people. In some train stations, the facilities within the buildings are difficult to use by the disabled people [3]. For example, the conditions of pedestrian ways show the quality and how its pathways generally work [4]. More so, the public facilities in the external environment which need serious attention include access to the parking areas, pedestrian, signs and markers, etc., which makes navigating the areas easier for users, especially those with disabilities. Hence, public space should be accessible for users irrespective of their age and physical conditions [5]. And according to Williams et al [6], accessible architecture is important in supporting the blind. Also, there is a relationship between the available space and station facilities which affects accessibility of the passengers [7].

The reasons for lack of facilities and accessibility in the railway station building are explained in Law No. 14. [8]. According to this, most disable people in Indonesia live under vulnerable, underdeveloped and poor conditions due to the non-existence of disable persons' rights. Therefore, there is need to improve on the roles and comfortability of people with disabilities in national development [9]. An individual with different abilities has various movement patterns and interactions with the environment. Such people also need a special "treat" in a public pedestrian way to enhance their walking capabilities [10]. More so, if pathways are not optimally used for the rightful purpose, it results to inadequate facility support and consequently utilized for other functions [11]. Fulfilling all the requirements of the pathway guides in the train station makes the embodiment of buildings friendlier to the general public and disable blind people. According to Silveira and Dischinger [12], tactile floors are very important for all users of the train stations. The area of focus in this research is the provision of guiding lines to aid the blind people in navigating through the station. The case study was from the 3 most populous stations in Indonesia, namely Tanah Abang, Bogor, and Bekasi. This research was conducted to analyze and compare the percentage of guide lane among these 3 stations. It is hoped that the results obtained from research will become knowledge and useful for the future researchers. The train stations operate in accordance with the Law of the Republic of Indonesia, No. 23 of 2007 [13] in article 1, which specifies the type of infrastructure that function as a train station - for departing and stopping passengers, loading and unloading of goods, etc. It also gives the understanding that a commuter station is a place of departure or stoppage for boarding local and regional trains between downtown, suburbs, and other cities. The notion of commuter is seen from the point of view of vehicle or train taking people from home to work and vice-versa [14]. According to the Universal Design Handbook [15], there are three different aspects of disability - physical, sensory and cognitive, captioned in the universal design based on their classification. Sensory disability is divided into two, namely hearing and vision. These set of people are with limitations in comparison with what is obtainable with normal people. Also, the visually impaired ones might only see objects within the visibility of 4m. This category is further divided into prolonged visual disabilities such as cataracts or glaucoma, and

- Author name is Ryan Ikhsan Laksana currently pursuing bachelor's degree program in architecture engineering in Universitas Trisakti, Indonesia, PH-087757010006. E-mail: Ryanikhsan@rocketmail.com
- Co-Author name is Maria Immaculata Ririk Winandari currently lecturer in Architecture Department in Universitas Trisakti, Indonesia, PH-628129409897. E-mail: mi.ririk@trisakti.ac.id
- Co-Author name is Julindiani Iskandar currently, PH-8164854251. E-mail: lhamanov@gmail.com

short-term visual disabilities such as temporary blindness as a result of an accident or due to illness. Concrete concepts generally refer to external objects or referents which could be "pointed" to in the real world, which is different from abstract concepts. Nevertheless, these two dimensions are nearly impossible to be separated in most circumstances as most referents are intrinsically sensible [16]. Although most individuals are truly visually blind, a small percentage respond to other non-object forms of light or color [17].



The essence of the walking path guides is to allow the disable to utilize the provided facilities with reference to the provided warning signs. One of such, is the provision of texture tiles with stripes showing the direction of travel. Warning tiles tells of changes in the environment which users need to be aware of. And the guiding blocks are constructed in front of the vehicle traffic lane, as well as the entrance and exit to stairs or crossing facilities with different heights, at the entrance and exit of public transport terminals or passenger areas, pedestrians connecting roads and buildings, guiding directions from public facilities to the nearest public transport station, etc. All these are distinctly represented so that there is no confusion in distinguishing the tiles for guide and those for warning through color difference, which could be yellow or orange, separating them from other tiles [18].

2 METHOD

The research was conducted through quantitative descriptive methods [19], in which the analyzing results are presented in

the form of numerical data, in order to provide a concise and clear description of the process. In addition, workable conclusion could be drawn from such results. The two forms of analysis used in this research are analysis of frequency and mean. The results were then subjected to the recapitulation table in order to produce answers to aspects of the guiding lines especially at electric train stations in Jakarta Bogor, Depok, Tangerang, and Bekasi (JABODETABEK), which have met the required standards for disable rights. Also, this research made use of both primary and secondary data. The primary data were obtained through direct observations, measurements and interviews on the field. The direct measurements are carried out at the station with the documentations assisted by tools such as cameras for capturing the current situations at the stations. Furthermore, interviews were conducted with train stations users such as the travelers, station officers, and managers. The secondary data were obtained through the study of literature such as journals, legislation etc. It also included the law used as a reference by the author of the Regulation of the Minister of Public Works No. 30 of 2006 concerning Facility Technical Guidelines and Accessibility of Buildings and the Environment. The research variables are made up of three elements which include the location, color, and texture of the guide tiles. Based on the Regulation of the Minister of Transportation No. 29 of 2011 [20], a train station is a railroad infrastructure used for the departure and receiving of trains. And considering the data from KAI Company 2018 covering 72 stations in JABODETABEK, there are 10 most dense stations, these are Depok, Jakarta Kota, Tebet, Citayam, Sudirman, Bojong Gede, Depok Baru, Bekasi, Bogor, and the Tanah Abang which is most dense. This study focuses on discussing the 3 most densely populated stations in JABODETABEK, which are Tanah Abang, Bogor, and Bekasi.

3 RESULTS AND DISCUSSION

The guiding aspects of the track are 3 variables with 5 standard points measured for the convenience of the disable people accessing and using the train station facilities. The type of disability in focus is blindness considering the fact that it requires a guiding path with the use of guide tiles giving directions and warnings. However, disabilities involving the use of wheelchair or crutches, deafness and mentally unstable, do not experience similar obstacles. The first variable is the guiding path location, in the commuter line train station areas which need the guiding blocks tiles at the entrance and exit to and from the stairs or crossing facilities with different floor heights, as well as the entrance and exit at the public transportation terminal or passenger area. The color of the guiding path is the second variable, which gives color difference between the guide tiles and other tiles in the areas. The guide tiles could be yellow or orange. The last variable is path texture, which could be stripes, showing the direction of travel. And the warning tiles texture alert users of changes in the environments. The results from the measurements showed that the level of similarity of facilities in the stations in terms of accessibility standards was 100% for Tanah Abang and Bogor, with 5 points in accordance to the normal standard of operations. However, 20% conformity according to the normal standard was observed in Bekasi Station, representing one point, while the other four did not match the standard.

Considering the fact that Tanah Abang and Bogor stations have the highest possible percentage (100%), it connotes they were built based on the required standard. The observation of the first variable, which is the path location, showed it has 2 points standards. This was in the form of the guide texture tiles present at the appropriate areas of the buildings. These were also found at the passenger platform area, in the form of stripe patterned tiles and the warning tiles came with round shape. The observation of the second variable, i.e., the path color, showed only 1-point standard requirement. This was marked by yellow guide tiles which are in accordance with the specified standard. On observing the last variable, which is the path texture, showed it has 2 points standard requirements. These are shown by the stripes and round patterned tiles present on the platforms and within the station's buildings. The only standard point available in the Bekasi Station are the yellow or orange marker tiles used on platforms. Other areas are covered with guiding blocks such as the ones present at

TABLE 1
PATHWAYS GUIDES STANDARD COMPARISON

VARIABLE	STANDARD	TANAH ABANG STATION	BOGOR STATION	BEKASI STATION	RESULTS BETWEEN EACH STATION
• Path Location	Areas that must use guiding blocks/tiles:				
	• In front of the entrance / exit to and from the stairs or crossing facilities with differences in floor height.	Guide texture tiles lead from platform to escalator as a difference in floor height markers.	Guide texture tiles lead from platform to escalator as a difference in floor height markers.	There are no guide texture tiles leading from the entrance to the crossing counter	2 stations meet the standards, namely Tanah Abang Station and Bogor Station. 1 station has not met the standard, namely Bekasi Station.
	• At the entrance / exit at the public transportation terminal or passenger area.	Available in the passenger platform area, striped patterned tiles and in front of rounded (warning) tiles.	Available in the passenger platform area, striped patterned tiles and in front of rounded (warning) tiles.	Not available in the passenger platform area, striped tiles and in front of a round patterned (warning) tile.	2 stations meet the standards, namely Tanah Abang Station and Bogor Station. 1 station has not met the standard, namely Bekasi Station.
• Path Color	• The guide tiles can be yellow or orange.	Yellow guide tile color according to the specified standard.	Yellow guide tile color according to the specified standard.	Yellow guide tile colors are available according to the specified standards.	All three stations meet the standards
• Path Texture	• There is a texture of the guide tile with stripes showing the direction of travel.	There is a patterned tile texture on the platform and inside around the station building.	There is a patterned tile texture on the platform and inside around the station building.	There is no patterned tile texture on the platform and inside around the station building.	2 stations meet the standards, namely Tanah Abang Station and Bogor Station. 1 station has not met the standard, namely Bekasi Station.
	• Warning tile texture (round) warns of a change in the surrounding situation / warning.	There is a patterned tile texture on the platform and inside around the station building.	There is a patterned tile texture on the platform and inside around the station building.	There is no patterned tile texture on the platform and inside around the station building.	2 stations meet the standards, namely Tanah Abang Station and Bogor Station. 1 station has not met the standard, namely Bekasi Station.
RESULT OF EACH STATION		(100%) 5 points according to the standard.	(100%) 5 points according to the standard.	(20%) 1 point according, 4 points are not to the standard.	

the entrance and exit to and from stairs or crossing facilities with different floor heights, as well as entrance and exit at public transport terminals or passenger areas. The guiding tiles with stripes show the direction of travel, and the warning tiles, usually round, indicate changes in the environment, which is usually not in accordance with the set standards, for the convenience of the blind in accessing the stations buildings.

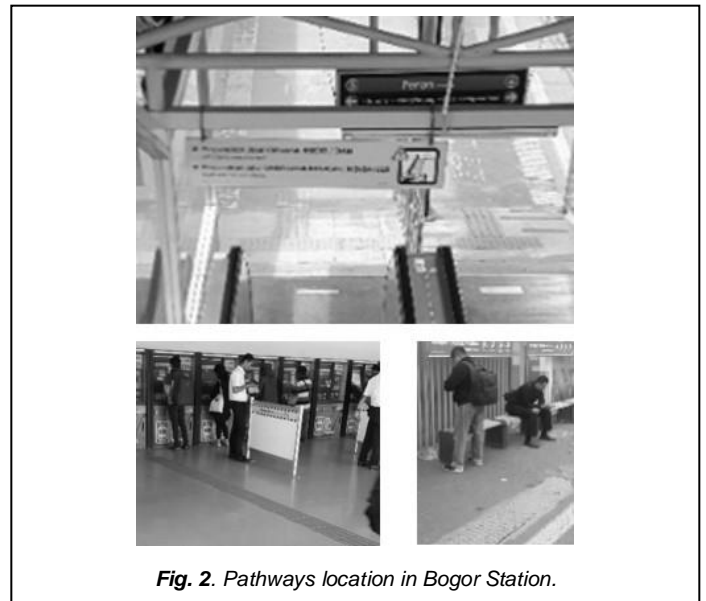


Fig. 2. Pathways location in Bogor Station.

ones with the complete guidance line facilities (ranked first) are the Tanah Abang and Bogor stations, while the Bekasi station is ranked second considering the fact that both Tanah Abang and Bogor stations have accessibility percentage of 100 while that of Bekasi was 20%. Hence, the average percentage with reference to the standard facilities and the accessibility of guide tiles from the three stations is 73. The main problem with the incompatibility of guide tiles present at Tanah Abang Station, however, with the continuous improvement of these facilities, it would always be accessible, not only to the general public, but also for the use of people with different kinds of disabilities without the help of station officials. Then, the main problem with the incompatibility of guide tiles at Bogor Station with respect to usage by disable people, was obtained from an interview with Mr. C, the representative of the Head of the Bogor Big Station. According to the interview, the establishment of Kereta Api Indonesia Company plays a monopolistic role in rail transportation. And KAI, being a monopoly company make and change policies without the inputs of the public opinions. The construction of the train station buildings is usually with the orders and requests of the developers, hence, the discrepancies found within the stations need to be corrected by the station's personnel, as well as the developers for the welfare of the general public and disabled people.

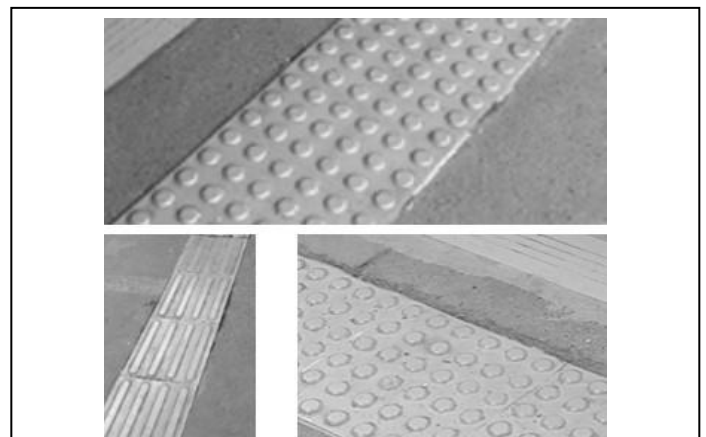


Fig. 3. Pathways texture in Tanah Abang Station and Bogor Station.

Lastly, the main problem with the incompatibility of guide tiles at Bekasi Station with respect to usage by disabled people was obtained through an interview with Mr. E, the Head of the station. According to the interview, the buildings are to be improved in 2019. And previously, the transit stations to this main train station, such as Kranji, Cakung, etc. were renovated to improve their facilities and accessibility. Therefore, it is also expected that by improving the buildings of Bekasi Station, the disabled people will be able to conveniently use the available facilities and access the important areas of the station.



Fig. 4. Pathways marker in Bekasi Station.

Considering the main problems of incompatibility of the stations guide tiles with reference to usage by the disabled people in these three stations, there are several conclusions, among which are explained as follows. There is no more improvement on the facilities at Tanah Abang Station, as well as the accessibility for disabled people. In addition, the Bogor Station buildings were constructed based on orders and requests from the developers, hence, various mismatch were present which need to be fixed by the station and the developer. Finally, the Bekasi Station is slated to be upgraded in 2019 and it is expected that along with the equitable improvement of station buildings, it would support the disabled to use the available facilities with improved accessibility.

4 CONCLUSION

Conclusively, it was observed based that Tanah Abang and Bogor stations had the highest standard in terms of available facilities and accessibility of the building by the disabled people, compared with Bekasi Station. Then, the average percentage was 73%. Furthermore, there were a lot of mismatch in the buildings of the third station which made it challenging for the disabled people to conveniently use the available facilities as well as the accessibility of buildings within the station. It is recommended that there should be continuous improvement in the facilities and accessibility guide tiles in the three stations for effective usage. More so, the general public and the disabled could have an unhindered access and enjoy utilizing the various buildings within the station. Furthermore, the average percentage for the three stations which was 73%, is an indication of the need to improve and develop the stations buildings, this could be a sort of motivation and encouragement. Lastly, constructing the stations buildings using the required standard will increase the ease with which the disabled uses the facilities as well as the accessibility in accordance with the applicable standards.

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