

# Criteria for Resources Facilities for Inclusive School to Meet the Needs of Students with Special Needs in Lebanon

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## ABSTRACT

In Lebanon, even though the Ministry of Education and Higher Education (MEHE) released a decree law number 9091, which details the public schools in Lebanon should be built upon, the decree doesn't mention the criteria required for accessibility of learner with special needs. Thus, there is a need to come up with several criteria which meet the necessities of learners with special needs, which will help the responsible people while building inclusive pilot schools. This study is concerned with helping overcome the physical barriers by suggesting different criteria for inclusive schools. The data for this study was collected from private schools in Lebanon. In this study, the researchers analyzed the data quantitatively and qualitatively, which is used in the resource facilities. The results of this study cannot be generalized to all schools in Lebanon. Findings reveal that most private schools are not fully equipped with the essential criteria to meet the necessities of the learners with special needs. They still lack the significant criteria of building facilities and specially adapted rooms. The study is concluded by several significant criteria to be considered based on the previous literature obtained from different resources.

## HIGHLIGHTS

- ① Inclusion education is concerned with removing all the obstacles encountered by learners with special needs.
- ① There is a need to come up with several criteria which meet the necessities of learners with special needs, which will help the responsible people while building inclusive pilot schools.
- ① The social, cultural, and economic realities in Lebanon's schools contribute to the growth of diversity.
- ① Beyond the schooling of learners' with special needs, inclusive schools are the most effective way to combat discriminatory behavior, create inclusive societies, and achieve education for all.
- ① Inclusive schools are a way to fight exclusion from the school..

**Keywords:** Inclusion, Special needs, Criteria, facilities

Inclusion education is concerned with removing all the obstacles encountered by learners with special needs (Ahmad, 2012). Several barriers might affect the enrollment and/or drop-out of learners with special needs, such as barriers related to skills, physical, attitudinal, curriculum, and communication, and

many other ones. This study is concerned with helping

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overcome the physical barriers but suggesting different criteria for inclusive schools.

In Lebanon, some schools meet the necessities of learners' with special needs, yet not all of them are ready to merge learners' with special needs with other learners for several reasons. Even though the Ministry of Education and Higher Education (MEHE) released a decree law number 9091, which explains the criteria the public schools in Lebanon should be built upon, explains in detail the criteria of. Yet, the decree doesn't mention the criteria required for the accessibility of learners with special needs. Thus, there is a need to come up with several criteria which meet the necessities of learners with special needs, which will help the responsible people while building inclusive pilot schools. Briefly, the education system in Lebanon depends on the Ministry of Education and Higher education (MEHE), which coordinates with the Center of Educational Research and Development (CERD) when applying any rule related to schools. One of the Lebanese educational system. Lebanese educational system's characteristics is the multiplicity of sectors of education, a result of the Lebanese constitution. The public, private, and semi-subsidized schools administration is centralized and run by the Ministry of Education (Legislative Decree number 10832, October 9, 1962) (Hajal, 2018). On the other hand, private schools are run either by confessional communities or private associations and individuals as legitimized by Article 10 of the Lebanese Constitution of May 23, 1926, and by Decrees number 7962 May 1, 1931, and number 7000 October 1, 1946 (Hajal, 2018).

### **Education for all Despite Diversity**

As mentioned earlier, Lebanon has three types of schools: public, semi-subsidized private, and private. Depending on whether the school is a public or a private one, a foreign language can be taught to children starting the age of three, either French or English depending if the school is Francophone or Anglophone. Like anywhere else in the world, when it comes to fulfilling the needs of learners with special needs, the reality on the ground reflects that there are still many gaps that require attention (Akiki and Frangieh, 2017). Although public schools in Lebanon are obliged by the law to accept all

students despite their diversity, many schools do not accept enrolling students with Special Educational Needs (SEN) because of the lack of a regulatory framework and inadequate school facilities. Many learners also cannot enroll due to a lack of available places, given unsanitary premises or curricula and learning methods not suitable to their needs (Prud'homme, Vienneau, Ramel and Rousseau, 2011). The social, cultural, and economic realities in Lebanon's schools contribute to the growth of diversity. Beyond the schooling of learners' with special needs, inclusive schools are, from UNESCO's point of view, the most effective way to combat discriminatory behavior, create inclusive societies, and achieve education for all. This implies that these schools can "provide quality education for most children, improve efficiency, and ultimately the profitability of the entire education system (UNESCO, 1994), implying all students' presence, participation, and success. Thus, inclusive schools are a way to fight exclusion from the school. It is a continuous process without end (Ainscow and Miles, 2008) and a "way to the future". Such schools align with the fundamental principles that drive quality Education for All (EFA) - that is, the establishment of education systems that benefit from diversity and build a more just and democratic society (Ainscow and Miles, 2008).

### **Brief Literature Review on the Importance of School Facilities**

Integrating special-needs learners into the regular school system has been increasing for the past years, whether in the western world or Asian regions (Wong-Ratcliff Kwok-Keung, 2011). Inadequate school facilities have negative impact on both, the students and the teachers (Higgins *et al.* 2013). According to UNESCO (1994), learners with special needs must have access to regular schools, accommodating them with suitable learning processes and facilities. Research has shown that when the school improves its facilities to meet the minimum needs of learners with special needs, they improve in many aspects (Higgins *et al.* 2013). Lyons (2001) also agrees that school facilities such as the building age, temperature, ventilation, acoustics, lighting, curriculum development, and school size affect the learners in several perspectives. Lyons (2001) adds

that if school facilities are not available, this negative affects the children's education. For example, suppose the temperature and air circulation in a classroom is not properly installed. In that case, several asthma problems might encounter some learners, which eventually might lead to less concentration and might also lead to dropping out of school.

Moreover, according to Halstead (1974), the physical environment of schools is designed in such a way that might block the learning process. Researchers have established a close correlation between the amount of work an individual does and their physical environment. For example, learners sitting in an insufferably hot, the airless room would not learn as much as they would in a cool, comfortable space. Lyons (2001) says that acoustics affects learners too. Noise from outside, mechanical noise generated between rooms, and noise generated within the classrooms might affect the learning situation and make learners struggle to hear and concentrate, affecting the learning process.

Moreover, various studies show the importance and relation between daylight and human performance, which help decrease the dropout rate of learners with special needs ("Daylighting in schools," 1999). Research shows that one of the most significant factors of learning is the visual environment ("Summary of research on the effect of lighting," n.d.). Several studies explain the link between school facilities and educational outcome, whether about the students' achievement or dropout rate (Lyons, 2001; Duyar, 2010; Suleman, 2012). These studies stress the importance of having convenient school facilities for a better learning process. This briefly explained literature highlights the importance of having specific criteria that the schools should adapt to have school facilities that encourage and motivate the learners with special needs. In order to fulfill the objective of this study, detailed criteria will be recommended for piloting inclusive schools in Lebanon based on several international and national studies.

Higher quality buildings and facilities indirectly decrease drop-out rates. Research shows that learners with special needs are happier, more motivated, and feel more respected in higher quality facility. The

modernity and flexibility of the school building and facilities are related directly and indirectly to moderate and flexible learning spaces, which decrease dropout rates of learners from schools (Osborne, 2013; Cheryan *et al.* 2014; Wall, 2016). Consequently, several criteria should be taken into consideration when designing school facilities. These criteria help reduce the number of learners who drop out from the education system in general and Lebanon in particular. Even though there are criteria guidelines required by the Americans with Disabilities Act (ADA) in the States, yet in Lebanon, MEHE is still in the process of integrating Learners with special needs with the other learners in the same schools. Besides ramps, handicapped-accessible bathrooms, and stair railing extensions, there are non-regulated improvements that significantly affect the learners passively with special needs. Those criteria can be categorized into several categories and will be explained in detail later in this section of the study. In brief, learners have a different understanding of the physical space between them and other students, which might lead to conflict. According to Primary Students Needs (PSN) Team, many of the special needs learners are not aware or are not familiar with the rules regarding social distances, such as taking turns or having distance between people. School spaces can be designed in a way to reduce the potential for 'path crossing'; the corridors and learners' working areas can be made in a way to reduce conflict. In addition, many learners with special needs have difficulty staying focused and might lose attention quickly. Thus, according to PSN Team, classrooms across hallways should not be facing each other (see illustration 3). The entry doors should not directly align. In this way, less visual connection between the rooms reduces noise transfer. Moreover, the windows placed within each room should be held higher where learners cannot see outside.

The amount of glass within the entry door should be minimized. The heating and cooling system should be designed so that the teacher can control from within the classroom. As for the lighting, it should be chosen in a way to eliminate glare and flickering. Moreover, Emotional Disturbance (ED) issues should be taken into consideration. For example, color through a floor

tile and stered concrete floors; wall protection panels, spray-on durable paint, and corner guard impact-resistant drywall, plywood sheeting under drywall ... (see illustrations 1 and 2). As for the sound level can create learning problems for learners with special needs, especially those with auditory issues. Windows, walls, and doors should be made from absorbing materials as wall or ceiling panels, installing carpets, placing rubber balls on the balloon of furniture legs, hanging baffles and banners within the class, utilizing fabrics on furniture, and installing airflow silencers. Studies showed that students are more interactive when they can see activities from a transparent glass in which the teacher's face can be easily seen due to natural environments

### **Review on the criteria for inclusive school to meet the needs of learners' with special needs**

Schools and teachers should understand the essential principles to help develop cultures, policies, and practices to include learners with special needs in the education system. Learners with special needs usually face physical barriers which prohibit them to participate in the learning process equally to other learners fully. Many learners face problems accessing and integrating with other learners in the schools in the past. Learners with special needs, for example, cannot learn in an inclusive classroom if he/she cannot have proper access to different school facilities such a having ramps and toilets. The same is true when it comes to the classrooms, which must be able to accommodate the learning' special needs such as technological devices and furniture to meet their needs. All of these criteria, if failed to accommodate with the Learners' special needs, will lead to drop-out of learners (Ahmad, 2012).

Mitchell (2010) explained that the physical element of an innovative learning environment makes it easier to address differing learning needs. Routes should be minimized and direct to ease circulation. It is also important to provide a sign language conversation room in the hallways which are suitable for deaf learners (Mitchell, 2010). However in some schools, there are inadequate furniture (Bruke and Grosvenor, 2003). They suggested a design for adjustable desk and seat. Troussier, Davoine, De Gaudemaris, Fauconnier and

Phelip (1994) admitted that learners experienced back pain after using traditional and ergonomically designed classroom furniture. However, the furniture that are ergonomically designed are a preference to be used in classrooms. The classroom furniture's design should be based on the learner's popliteal height (Molenbroek *et al.* 2003) in order to avoid mismatch. Galton *et al.* (1999) stated that desk rows should be prepared for individual work. The learning space should have flexibility in furniture fitting and equipment to support different activities and student needs. Students should have the chance to organize their learning needs with their configuration. Flexibility increased in student achievement as it supported different learning activities and different types of learning. Tanner (2000) focuses on the features which simplify the learners with special needs' achievements in the outdoor spaces which are found to be efficient for learners. These spaces must be well equipped so that they take into consideration the learners' special needs. As for the temperature and air quality, Earthman (2007) estimates that temperature, heating, and air quality are the principal individual elements for learners with special needs. It is marked that air conditioning, ventilation, and heating systems are found to afford precisely to the level of classroom noise. Studies investigate the relationship between student achievement and engagement outcomes, and that learning places should have a proper temperature. Acoustics is very important to teachers and learners compared with the other traits of learning settings, because it has negative effects on learners related to their health, engagement and achievements. It is affected by three correlated factors which are; relationship between teacher's voice and the background noise, how does the sound last in the room, and the level of noise when the room is empty. Poor acoustics can mainly effect on the teachers by reducing their time due to pauses which cause annoyance and less patience to repeat the information. However, noise level affects positively to learners who have hearing impairments and helps them to hear the others, but it may be considered carefully to avoid short term hearing loss and infections (Higgins *et al.* 2005). Children learning in noisy environment has a lots of effects on human functioning. As for technology, it has an impact on the learning space but it's limited by

the availability and cost of technology (Higgins and Holl, 2002). The combination between portable technologies and mobile furniture helps all the students to see and hear as if they were in the front of the classroom. The exit from school is very important. Exit in case of emergency should not be hindered by the safety equipment as fire doors that are considered to block their escape.

The purpose of this study is to suggest criteria for resources facilities for inclusive school to meet the needs of students with special needs.

In order to achieve the objective of this study which is suggesting criteria for resources facilities for inclusive school to meet the needs of students with special needs, two research questions will be answered.

The research questions of this study are as follow:

1. What criteria for resource facilities are needed to meet the needs of learners with special needs?
2. To what extend do private schools in Lebanon meet the criteria for learners with special needs?

## METHODOLOGY

The data analysis follows a mixed methodology approach. The quantitative methodology depends on the collected data and is analyzed in a descriptive, analytical, predictable or controlled variable. When conducting a quantitative methodology, the researcher intends to understand and describe the existing situation (Creswell, 2003). As when conducting a qualitative methodology, the role is different. The researcher intends to become deeply immersed in the setting and participants of any study (Creswell, 2003). In this study, the researchers chose to analyze the data quantitatively and qualitatively, which is used in the resource facilities to analyze the situation from different sample perspectives (Yin, 2003). Note that the results of this study cannot be generalized to all schools in Lebanon. It only represents the situation in the 160 schools the checklists were filled at. The checklist was designed in a way to meet the particularity of public schools in order to meet the existing situation of the country.

A checklist was used in a simple and comprehensible way. The criteria used for each section is based on

international and national ones for school facilities to meet the necessities of learners with special needs. However, the criteria suggested at the end of this study are more detailed to facilitate the building process of any inclusive pilot school. The checklist is divided into four categories: building facilities, unique rooms adapted for learners with special needs, equipment in class, and other electronic devices. Each category also includes several sub-categories which deal with details of the school facilities.

### Data collection protocol

Checklists were distributed to 10 private schools on school facilities, and they were filled out with each of the school's principals after taking permission from the school principals.

### Participants and Sample

**Participants:** Private inclusive schools in Lebanon distributed on the Bekaa Plane Governorates

**Sample:** Ten (10) private inclusive schools selected by the researcher distributed on the Bekaa plane governorates. As for the checklist participants, the checklist was filled by a response from the school. Another checklist was filled by the researcher.

### Data analysis method: Mixed methodology

The data from 20 checklists is inserted on Statistical Package for the Social Sciences (SPSS) to analyze the current school facilities in Lebanon.

The findings are analyzed qualitatively: Each section is analyzed separately. Cross sectional analysis is conducted to compare the results between the public schools with no facilities for learners with special needs in private inclusive schools and public schools with or without intervention.

## FINDINGS AND DISCUSSION

### Findings of 20 checklists' outcomes

#### *Findings from the 10 private inclusive schools' checklists*

Considering that 4 schools out of the 10 private schools

did not fill out the checklist, the following percentages represented in the data analysis highlight the situation in 6 private inclusive schools in Lebanon. Thus, the missing percentage is for the four schools that did not answer on the school facilities checklist, which is 40%.

To begin with the first category in the checklist, building facilities, the findings indicate that 35.3% of the 6 schools meet the required standards of any school with learners with special needs. However, 24.7% of the schools do not have building facilities that meet the needs of learners with special needs. To elaborate more, the findings show that those 6 private inclusive schools still need to enhance the building facilities even though it is expected that they have got all the standards for schools that welcome learner with special needs. For example, only 10% of the 6 schools agreed that they have control of the acoustic, whereas 50% agreed that they don't. It is also obvious that only 2 schools have control of light whereas 4 schools do not. It is worth mentioning also that the majority of the schools are not equipped with appropriate WC for learners with special needs, and not all of them have accessible lifts. As for the adapted field, emergency exit doorways, and parking for vehicles, the findings indicate that most of the schools agreed that their school buildings do not meet the requirements, and they replied by no.

As for the second category, unique rooms adapted for learners with special needs, the findings indicates that the average of 27.8% of the schools agreed that they have and 32.2% of the schools replied that they do not have all the requirements for unique rooms for learners with special needs. This also led us to question the reliability of the inclusive schools chosen by the responsible people and to question the reliability of how much these schools meet the requirements of meeting the needs of exceptional needs learners. For example, 5 schools do not have accessible shelves in their libraries, 4 do not have sensory impairment aids, and 4 do not have technology labs and food shops. As for the other sub-categories, such as having rooms for extra-curricular activities, cafeterias, and computer labs, 4% of the schools meet the requirements.

For the third category, equipment in class, 32.5% of the schools replied that they have got the required subcategories, and 27.5% replied that they do not. To

explain more, this category of the checklist designates that most of the schools meet the requirements needed for the equipment in class in schools for special needed learners. In the class, opposite to the libraries, the shelves are accessible in 5 schools. Also 5 schools have whiteboards, and the majority are equipped with heaters. As for the other sub-categories of this section, the majority of the schools should still have adapted chairs and desks, fire and smoke detectors, and AC to meet the requirements.

Finally, the fourth section of the checklist filled by the 6 private schools shows that 35.4% of the schools are equipped with other devices, where 24.6% of the schools are not. To begin with, none of the schools is equipped with visual aids such as braille materials and audible signage in WC, lift, classrooms, and hallways. 5 schools do not have computers with screen readers and hearing aids or illuminated information signs. However as, all of the 6 schools have CD players projectors, LCD projectors, screens, and internet connections. 1 to 2 schools still need to get a laptop, iPad, and active boards. All in all, the majority of the schools meet the requirements needed for other devices when it comes to schools with exceptional needed learners.

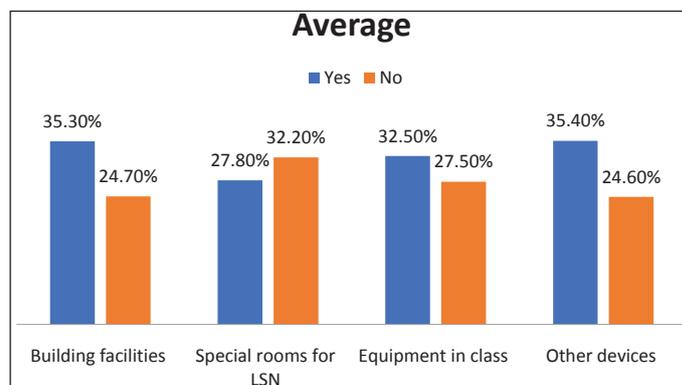


Fig. 1: Average in 10 private schools

As a summary, as revealed from the findings of the checklists, the 6 private schools are not fully equipped with the essential criteria to meet the necessities of the learners with special needs. They still lack the significant criteria of building facilities and special adapted rooms. Even though the percentage of the schools who replied by 'yes' to the third category, equipment in class, yet the

difference is not much. Almost half of the schools still lack the essential criteria to meet learners with special needs. Finally, the majority of the schools meet the requirement needed for the learners with special needs.

### **Cross sectional analysis**

A cross-sectional analysis, also known as study population cross-section, between public and private schools is conducted to compare the schools' current situation and find patterns (Creswell, 2003). Since both qualitative and quantitative data are collected to build a comprehensive understanding of any situation, the data retrieved from the checklists are analyzed in a cross-sectional strategy to serve one of the objectives of the activity. The data collected from the three samples are compared and analyzed.

When looking at Fig. 1, the average of the schools that do not meet the criteria of building facilities are more or less equivalent, and this is obvious in the 10 public schools. It is also evident that private inclusive schools meet more minor than the required criteria. The situation is a bit similar when it comes to the unique rooms. The public schools also do not meet the required criteria, where around 70% of the schools claim that they do not have special rooms equipped with all the criteria listed in the checklist. Even though the average of the 10 private inclusive schools that do not meet the requirements is less than the public schools, they still lack almost all the criteria for meeting the necessities for learners with special needs. Similar results can also be drawn from

the equipment in class and other devices. The average of schools in the public sector, even with intervention programs, indicates that the school facilities do not meet the criteria. We can conclude from this that even though some public schools have intervention programs, yet they lack almost the major criteria for accessibility for learners with special needs. It is worth mentioning that the 10 private inclusive schools' findings show more promising data because fewer schools lack the essential criteria. To elaborate more, looking with an eagle eye into the data collected, the private inclusive schools are better equipped with hallways suitable for walking and wheeling, field or court adapted and corridor connection between buildings that most of the public schools, even those with intervention. Even though the average (see Fig. 1) between the samples is close to the second section of the checklist, private schools are better equipped with seats and desks, technology, and cafeterias. While looking horizontally at the data retrieved from the three samples, we can interpret that 50% of the private schools have adapted students' desks whereas most of the public schools do not. Moreover, the private inclusive schools have more devices related to technology than in the public schools knowing that the assisting technology is a priority in teaching and including learners with special needs in schools.

## **CONCLUSION AND RECOMMENDATION**

### **Recommended Criteria for inclusive school**

Table 1 highlights the significant criteria to consider

**Table 1:** The major criteria to be taken into consideration based on the previous literature attained from different resources

<b>Criterion 1:</b> Physical access and circulation	<ul style="list-style-type: none"> <li>➤ Pathways should allow free circulations around the school.</li> <li>➤ No physical barrier such as heavy doors should be available.</li> <li>➤ Special doorknobs should be designed.</li> <li>➤ All floor and walls should include signs.</li> <li>➤ All numbers should also have braille to adapt with visual impaired learners' needs such as in the elevator.</li> <li>➤ Corridor's size should be adequate, so easy circulation is achieved.</li> <li>➤ Parking should include a special place for vehicles of parents of learners with special needs.</li> <li>➤ All entrance should have ramps.</li> <li>➤ Stairs indoors and outdoors should include ramps and a small space with barriers for learners to hold.</li> <li>➤ Elevators should have a braille button keypad.</li> <li>➤ Exits in case of emergency should not be hindered by the safety equipment as fire doors that are considered to block their escape.</li> </ul>
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<b>Criterion 2: Interior spaces</b>	<ul style="list-style-type: none"> <li>➤ It is essential to have sufficient size inside the school to accommodate the school with the new teaching methodology such as the Constructive Theory, active learning, Socio-Constructive Theory ect... and be able to implement different learning activities and grouping.</li> <li>➤ Bigger space means more than responsibility on teachers in order for them to be able to guide and facilitate the work of each group.</li> <li>➤ The furniture used should reflect and support the type of learning and teaching.</li> <li>➤ Easy access to different learning spaces affects the learners indirectly.</li> <li>➤ Less furniture shifting should be taken into consideration because this distracts the learners.</li> <li>➤ Furniture and equipment should be adaptable to the learners with special needs.</li> <li>➤ Table and chairs legs should be covered with rubber balls.</li> <li>➤ Equipment such as drinking fountains, lab stations which are required to be lowered to be accessible to learners with special needs should be located in strategically places.</li> <li>➤ Lighting             <ul style="list-style-type: none"> <li>○ Natural light is preferable.</li> <li>○ Teachers should be aware of the importance of the controllability of lighting.</li> <li>○ Windows must                 <ul style="list-style-type: none"> <li>• Prevent any distractions from outside.</li> <li>• Minimize any source of outer solar heat.</li> <li>• Prevent strong light contrast which may impair vision.</li> <li>• Should be placed higher than learners' seats.</li> </ul> </li> </ul> </li> <li>➤ Color can be used as a visual aid in order to mark pathways and routs which define spaces or objects.</li> <li>➤ Storage spaces should be spacious.</li> </ul>
<b>Criterion 3: Outdoor spaces</b>	<ul style="list-style-type: none"> <li>➤ Positive and pleasant outdoor spaces boost learners' motivation.</li> <li>➤ All outdoor facilities should be accessible to all learners.</li> <li>➤ Outdoor equipment should be selected to be safe and accessible to all learners with different needs.</li> <li>➤ Outdoor playground should be covered.</li> <li>➤ All games should be adapted with learners' special needs.</li> </ul>
<b>Criterion 4: Temperature, air quality and toilets</b>	<ul style="list-style-type: none"> <li>➤ A heating source should be controlled from inside the classroom.</li> <li>➤ Poor indoor air quality should be improved.</li> <li>➤ Spacious toilets for learners on wheelchairs.</li> </ul>
<b>Criterion 5: Acoustics</b>	<ul style="list-style-type: none"> <li>➤ Poor acoustics also affect the teacher's proficiency.</li> <li>➤ Better quality acoustics in classrooms and corridors lead to a better and calmer place.</li> <li>➤ Double walls and windows are preferable.</li> </ul>
<b>Criterion 6: Technology</b>	<ul style="list-style-type: none"> <li>➤ Technology is beneficial in several aspects that enhances learners with special needs' outcomes, motivate them, and lead to fewer drop-out of schools.</li> <li>➤ Buildings should be future proofed by being hard wired and networked and with provision for charging personal devices safety.</li> </ul>

based on the previous literature attained from different resources.

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