Journal of ICSAR
ISSN (print): 2548-8619; ISSN (online): 2548-8600
Volume 7 Number 2; DOI: http://dx.doi.org/10.17977/um005v7i22023p378

The Impact of SDeaf Design Lab on Creative Design Skills of Deaf Students

Joei Ong Suk Mei

SMK SS17, 47500 Subang Jaya, Malaysia.
E-mail: drsmjoei@gmail.com

Abstract: The SDeaf Design Lab was established under the Special Education Integration Program of SMK Taman Sutera, Johor. The lab provides a unique opportunity for deaf students to acquire creative skills in graphic design. It is an interactive, multi-sensory environment that allows students to engage with digital media to best develop their design creativity through assigned projects. This study aimed to investigate the impact of assigned projects on the creative design skills of deaf students. In this study, a qualitative focus group research method was used to explore the opinions, experiences, and attitudes of a group of 8 deaf students by having an in-depth discussion about the assigned projects they had worked on. Data were collected through the discussions with these 8 deaf students and the in-depth interviews with the 2 managers from the related graphic design industry. The results of this study demonstrate that the design projects assigned at the SDeaf Design Lab have a significant positive impact on the creative design skills of deaf students. These projects provide opportunities for self-expression, collaboration, and skill development while boosting confidence and preparing students for future professional endeavors in the field of graphic design.

Keywords: creative skills, graphic design, digital media, deaf students, vocational education

Introduction

Students with Special Educational Needs (SEN) are a group of students with disabilities and learning difficulties who require special teaching resources, exceptional teaching methods, and special facilities (Ministry of Education Malaysia, 2020; Mohd Nasir, 2016). Students with Special Educational Needs (SEN) face challenges in planning their future due to their learning disabilities, which make it difficult for them to further their studies at higher levels of education (Yusof et. al., 2014). Students with disabilities are often excluded from the regular high school curriculum and need to be provided opportunities to gain vocational skills through service learning that can help them integrate into the workforce and community. To address this issue, the Malaysian Ministry of Education has included technical and vocational education and training (TVET) in the curriculum for SEN students (Binti Seman, 2022). TVET education emphasizes skill learning and focuses primarily on industrial practice (Ismail & Hasan, 2013). TVET education should be included in the curriculum for SEN students and provides an opportunity for SEN students to obtain Malaysian Skills Certification after passing the qualification phase in specific vocational courses. Deafness is defined as a state of hearing loss that causes a person to be unable to catch numerous stimuli, particularly through his sense of hearing (Apriliani & Aprilia, 2022; Sany & Wardhani, 2022; Ningsih et al., 2022).

The Special Education Integration Program of SMK Taman Sutera, Johor, is the first school in Malaysia that had successfully recognized by the Department of Skills Development, Malaysia, as an accredited center to implement the Malaysian Skills Certificate Program among the students of SEN. In this regard, the Multimedia Artist - Visual vocational course was one of the implementations of the Malaysian Skills Certificate Program for deaf SEN students in the school (Malle et al., 2015). The SDeaf Design Lab was established in 2019 after the deaf SEN students participated in design skills training for

3 years. The SDeaf Design Lab is a sheltered workshop that enhances the design skills of deaf SEN students and is a bridge between deaf SEN students and local industries in need of digital marketing services such as digital media advertising and short video production. This interactive, multi-sensory environment enables students to engage with digital media and enhance their design creativity through assigned projects (Landmark et. al., 2010). However, the impact of these assigned projects on the creative design skills of deaf students has not been thoroughly explored.

This study aimed to investigate the effects of assigned projects on the creative design abilities of deaf students at the SDeaf Design Lab. By examining the opinions, experiences, and attitudes of the students themselves, as well as gaining insights from industry professionals, researchers can gain a comprehensive understanding of how these projects contribute to the creative development of deaf students (Aulia, 2023). The impact is important to assess the effectiveness of the SDeaf Design Lab in improving the skills and knowledge of SEN graphic design students. In addition, this study provided insight into the specific benefits of the design projects for deaf SEN students, such as improved creativity, problem-solving, and self-esteem (Ahmad et al, 2021). Furthermore, the findings help develop a framework for future SEN design labs, including identifying best practices, potential challenges, and strategies to overcome these challenges with equal opportunities for learning and skill development for SEN students' vocational education (Abdullah, et al., 2015). To achieve the aims, the specific objectives of this research are as follows:

1. To explore the opinions, experiences, and attitudes of deaf students regarding the assigned projects at the SDeaf Design Lab.
2. To examine the impact of assigned projects on the creative design skills of deaf students.
3. To gain insights from industry managers regarding the value of the assigned projects in preparing deaf students for future careers in graphic design.

Method

This study utilizes a qualitative research approach, specifically employing a focus group research method and in-depth interviews. This methodology allows for a comprehensive exploration of the opinions, experiences, and attitudes of deaf students, as well as gaining insights from industry managers (Ochieng et al., 2018). A focus group study is a research method in which individuals participate in a guided discussion about a specific topic. The goal of a focus group is to gather data that is rich, and in-depth, and allows for a range of perspectives to be heard (Krueger, et al., 2000). In this case, a focus group consisting of 8 deaf students from the SDeaf Design Lab is conducted to collect data. Focus groups provide a platform for interactive discussions and allow participants to share their perspectives and experiences openly. The group discussions are guided by a set of predetermined questions related to the assigned projects, and their impact on creativity, collaborative learning, confidence, and self-esteem (Focus Group., 2023). The focus group discussion was conducted for about 4 hours using the sign language communication method and was assisted by two SEN students' Management Assistants in a quiet and private location. The discussions are video-recorded with the participants' consent and transcribed for further analysis.

Meanwhile, an in-depth interview is a research method that involves a face-to-face conversation that was conducted with 2 managers from the graphic design industry who have experience working with deaf individuals or on inclusive design projects. An in-depth interview is more structured to collect detailed and nuanced data, allowing the participant to share their opinions and experiences regarding the work performance of deaf SEN students

(Rutledge, P.B., et al., 2020). These interviews aim to gather insights from industry professionals regarding the value and impact of the assigned projects in preparing deaf students for future careers. The interviews follow a semi-structured format, allowing for flexibility to explore specific topics and themes in detail. The interviews are audio-recorded and the data is then analyzed using content analysis and rendered into narratives (Ochieng, N. T., et al., 2018).

Table 1. Sample and Sampling Technique for Focus Group Discussion

Respondents Identity	Sex	Age	Period Attending Vocational Training Course	Skills	Design Projects Involved
1	M	17	All already 3 years in Multimedia Artist Visual Vocational Training program	All had trained using Adobe Illustrator, Photoshop, and PowerDirector Editor	Graphic Design for Facebook, Shopee, and Lazada advertisements
2	M	18			
3	F	17			
4	M	17			
5	F	18			
6	F	18			YouTube video production
7	M	19			
8	M	18			

Table 2. Sample and Sampling Technique for In-depth Interview

Respondents Identity	Sex	Age	Position	Industries Experiences
A	M	38	Digital Marketing Manager	10 years
B	F	46	Digital Marketing Manager	15 years

RESULTS AND DISCUSSION

The focus group discussion results with the 8 deaf SEN students were analyzed in at least 3 rounds of video recording transcription to fully understand the data and reach meaningful findings. The researcher is satisfied with the answers provided by the 8 deaf SEN students.

1. Can you describe your experience of participating in the SDeaf Design Lab?

The responses #1:
" A very good experience for me because I went through the real process of designing the FB and IG ads using the graphic applications."

The responses #2:
" I am very satisfied because I can practice my design skills and master the design tools in graphic applications."

The responses #6:
"I discovered some design techniques which are easy to apply in my design artworks."

2. How do you think the SDeaf Design Lab impacted your learning experience?

The Responses #3:
"It makes me more alert of applying the colors and the design layout for the ads."

The Responses #4:
"Learn to identify the design specification that must be fulfilled with the requirements of clients"

The Responses #8:
"Knowing the current trend in design and manage to apply the modern design in design projects."

3. In your opinion, what were the most valuable aspects of the SDeaf Design Lab for you as a deaf SEN student?

The Responses #7 :
"The design projects enhanced me to adopt new design skills and techniques."

The Responses #6:
"Knowing the new insights and perspectives on a design challenge."

The Responses #4:
"Learn to refine and improve my design skills through feedback and critique."

4. Were there any challenges or difficulties you faced while working on your assigned project? If so, how did you overcome them?

The Responses #2:
"Yes, cannot think much more, and every design jobs seem to be the same! To overcome this, I try to do a Google search and learn the idea from the other designers and make sense of my own design."

The Responses #5:
"Yes, especially video production needs a lot of ideas and patience with every step of the job in order to produce creative video. I will watch the YouTube video, explore the ready-made video, and get the ideas from the video."

The Responses #6:
"Yes, video production is a tough journey, handling the video camera and the technical issue of shooting quite challenging. Do more practical training, mastering the video editing tools and slowly will overcome the challenge."

5. Do you think the SDeaf Design Lab helped you to develop any new skills or abilities? If so, can you describe them?

The Responses #5:
"Yes, I develop new skills, such as text effects, and generate new ideas according to market demands for graphic design."

The Responses #6:
"Yes, the design project has improved my ability to create content that meets the needs of the audience."

The Responses #8:
"Yes, the new techniques like creating masks and color overlays are very useful in designing the ads."

The findings of this study indicate that the deaf SEN students at the SDeaf Design Lab had positive experiences and gained valuable design-related skills and techniques. Through their participation in the lab, these students had the opportunity to develop hands-on experience and proficiency in using design tools within graphics applications (Landmark et. al., 2010). They were able to acquire knowledge about essential design elements such as colors, layout, addressing specific client needs, and staying up to date with current design trends. While some deaf SEN students initially encountered challenges with creativity and generating new ideas, they demonstrated resilience and resourcefulness in overcoming these difficulties. They found inspiration by exploring the works of other designers, watching videos or tutorials, and seeking additional hands-on training and experience. Through these efforts, they were able to enhance their creative thinking and problem-solving skills, gradually developing their own unique design style (Aulia, 2023).

The SDeaf Design Lab played a crucial role in facilitating these learning experiences and skill development for deaf SEN students. The hands-on approach and practical training provided in the lab environment allowed them to apply theoretical concepts and techniques in real-world design projects. The interactive nature of the lab fostered engagement and active participation, enabling the students to grasp design principles and enhance their technical abilities effectively (Suriati et. al., 2023). Furthermore, the supportive and inclusive atmosphere of the SDeaf Design Lab played a significant role in the student's learning journey. The lab provided a space where the students felt encouraged and comfortable to express themselves creatively, collaborate with their peers, and receive guidance from instructors. This inclusive environment contributed to a positive learning experience, enhancing the students' confidence and motivation to further develop their design skills (Li, J., 2013). It is important for educators, institutions, and stakeholders to recognize the significance of specialized programs like the SDeaf Design Lab and provide continued support and resources to promote the educational and professional development of deaf SEN students in the field of design (Ismail & Hasan, 2013). By doing so, we can create more inclusive opportunities and pave the way for the full integration and success of deaf individuals in the creative industries.

The in-depth interview with the two managers from related graphic industries who were in charge of the design projects resulted in the following responses:

1. **What do you think of the design skills and abilities of the deaf SEN students you have worked with?**

The Responses #A:
"In my experience, deaf SEN students, possess unique strengths and skills that are valuable in the design field. I believe that their communication and problem-solving skills, attention to detail, and creativity are assets that can contribute to the success of design projects."

The Responses #B:
"Overall, I have a positive view of the design skills and abilities of deaf SEN students and believe that they have the potential to excel in the design field with the right support and opportunities."

2. **In your experience, what skills and qualifications are important for a designer to have in order to successfully get hired in your company?**

The Responses #A:
"In my experience, the most important skills for a designer to have to successfully get hired in our company are a strong portfolio demonstrating creativity and technical proficiency, the ability to work collaboratively with others, excellent communication skills, a willingness to learn and adapt to new technologies, and a good understanding of design principles and industry trends."

The Responses #B:
"A strong portfolio of past work demonstrating creativity, technical ability, and a range of skills is essential for any designer to have. In addition, a designer should be proficient in relevant design software and have a strong understanding of design principles and techniques. A strong creative vision and ability to develop innovative ideas are crucial for a designer to succeed."

3. **Do you want to share any other insights or perspectives regarding the SDeaf Design Lab and its potential?**

The Responses #A:
"Yes, I believe that the SDeaf Design Lab has great potential to be an innovative changer in the design industry. Providing opportunities for deaf SEN students to develop their design skills, opens up a whole new pool of talented designers who may have otherwise been overlooked. The design industry can benefit greatly from the diverse perspectives and unique approaches that deaf designers can bring to the table."

The Responses #B:
"For me, the SDeaf Design Lab can help promote inclusivity and diversity in SEN students in the workplace. By hiring deaf designers, companies can create a more diverse and inclusive environment, which can lead to better creativity and problem-solving skills. It can also show the public that the company values diversity and is committed to creating a more inclusive workplace."

The findings of this study indicate a recognition and appreciation for the design skills and abilities of deaf SEN students. The responses from industry professionals acknowledge that given the opportunity, deaf SEN students can excel in the workplace. They emphasize the importance of showcasing a strong portfolio, technical proficiency, and a willingness to learn and adapt in order to be successfully hired in the marketplace (Aulia, 2023). The industry professionals also acknowledge the value of diverse perspectives in the design industry. They believe that the participation of deaf SEN students in the industry can bring about innovative changes and fresh ideas. By providing opportunities for deaf SEN students to develop their skills and contribute to the field, the SDeaf Design Lab can play a crucial role in fostering inclusivity and diversity in the industry. In conclusion, they underscore the belief in the capabilities of deaf SEN students and their potential to thrive in the workplace. The SDeaf Design Lab has the opportunity to bridge the gap by providing deaf SEN students with the skills, knowledge, and practical experiences needed to succeed in the design industry (Ahmad, H., et al., 2021).

CONCLUSIONS

This study has provided valuable insights into the impact of assigned projects on the creative design skills of deaf students at the SDeaf Design Lab. The qualitative focus group discussions and in-depth interviews with both deaf students and industry managers have shed light on several important aspects related to the effectiveness of these projects (Ochieng, N. T., et al., 2018). Firstly, the assigned projects at the SDeaf Design Lab have been found to significantly enhance the creativity of deaf students. Through the multi-sensory environment and engagement with digital media, students are able to express their unique perspectives and develop their artistic talents. The collaborative nature of the projects also promotes teamwork and communication skills, fostering a positive and inclusive learning environment (Yusof et. al., 2014). Moreover, the assigned projects have a positive impact on the confidence and self-esteem of deaf students. By successfully completing design projects and receiving recognition for their work, students gain a sense of pride and belief in their creative abilities. This newfound confidence extends beyond the lab and positively influences their overall academic performance and personal growth (Yusof et. al., 2014). The insights from industry managers highlight the value of the assigned projects in preparing deaf students for future careers in graphic design. These projects equip students with creativity, adaptability, and technical proficiency, making them valuable assets in the industry. The recognition and validation of their work by industry professionals further contribute to their professional development and prospects.

Overall, this study contributes to addressing the treated problems of understanding the impact of assigned projects on the creative design skills of deaf students and the effectiveness of the SDeaf Design Lab. The study highlights the significance of providing opportunities for deaf students to develop their creative abilities, fostering a sense of inclusion and empowerment (Ahmad, et al., 2021). The results also contribute to the broader field of inclusive education and shed light on the potential of deaf individuals in the graphic design industry. In addition, the impact has been beneficial for both teachers and parents, as the sheltered workshop (SDeaf Design Lab) has remarkably created a better future for deaf SEN students in the marketplace. The implications of this study have produced several positive outcomes in which these discussed best practices (SDeaf Design Lab) have empowered deaf SEN students through access to more inclusive and effective vocational education programs; and increased awareness and advocacy for ensuring equal educational and employment opportunities, accessibility, and support for deaf SEN students in various vocational

education settings (Li, 2013). In addition, this study may serve as a model for other vocational education institutions or programs that serve deaf SEN students. It may inspire them to adopt similar best practices and seek continuous improvements in their teaching practices and support systems.

ACKNOWLEDGMENTS

The author wishes to sincerely thank Momentum Motor Sdn Bhd and Jiang Steamboat from Johor Bahru, Malaysia for giving opportunities and support to SDeaf Design Lab by assigning the design projects. Also greatly appreciations to the teachers, SEN students' Management Assistants, and SEN students studying at SMK Taman Sutera, Johor Bahru, Malaysia who assisted in data collection.

REFERENCES

Abdullah, N., Yasin, M. H. M., & Abdullah, N. A. (2015). Implementation of the Inter-Agency Collaboration in Vocational Education of Students with Learning Disabilities Towards Preparation of Career Experience. *Asian Social Science,* 11(18), 183. http://dx.doi.org/10.5539/ass.v11n18p183

Ahmad, H., Mokshein, S. E., Husin, M. R., MatRabi, N., Hamdan, A. R., & Panessai, I. Y. (2021). Developing a Framework to Measure Competency Levels of Students with Special Needs to Attend Advanced /Vocational Courses. *Turkish Journal of Computer and Mathematics Education,* Vol.12 No.5 (2021), 01-09. https://doi.org/10.17762/turcomat.v12i5.725

Aulia, M. N. (2023). The Influence of the Teaching Factory on the Creativity and Innovation of Vocational Learning for Student in Bandung Cicendo Special School*. Journal of Education for Sustainability and Diversity,* 1(2), 195–209. https://doi.org/10.57142/jesd.v1i2.57

Focus group: *What It Is & How to Conduct It + Examples.* Retrieved (2023) from: https://www.questionpro.com/blog/focus-group/

Ismail, A., & Hassan, R. (2013). Issues and Challenges of Technical and Vocational Education & Training in Malaysia for Knowledge Worker Driven. *National Conference on Engineering Technology 2013* (pp. 1-11). Johor: Researchgate.

Krueger., Richard, A. & Casey, Mary Anne (2000). (Third edition) *Focus groups: A practical guide for applied research.* Thousand Oaks, CA: Sage.

Li, J. (2013). *Pre-vocational education in Germany and China: A comparison of curricula and its implications.* In Pre-Vocational Education in Germany and China: A Comparison of Curricula and Its Implications. https://doi.org/10.1007/978-3-531-19440-0

Landmark, L. J., Ju, S., & Zhang, D. (2010). Substantiated best practices in transition: Fifteen plus years later. *Career Development for Exceptional Individuals, 33*, 163-176. http://dx.doi.org/10.1177/0885728810376410

Malle, A. Y., Pirttimaa, R., & Saloviita, T. (2015). Inclusion of students with disabilities in formal vocational education programs in Ethiopia*. International Journal of Special Education,* 30(2).

Ministry of Education Malaysia. (8 January, 2020c*). Program Pendidikan Khas Integrasi [Specialized Integration Education Program].* Retrieved from Program Pendidikan Khas Integrasi: https://www.moe.gov.my/pendidikan/khas/program- pendidikan-khas-integrasi/

Mohd Nasir, S. N. (2016). *Pelaksanaan Program Transisi Kerjaya (PTK) Murid Berkeperluan Pendidikan Khas (MBPK) Masalah Pembelajaran (MP) [Implementation of the Work Transition Program (PTK) Students with Special Educational Needs (MBPK) Learning Problems (MP)]*. UTHM, Skudai, Johor.

Ochieng, N. T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods Ecol Evol*. 2018; 9:20–32. https://doi.org/10.1111/2041-210X.12860

Rutledge, P.B. and Hogg, J.L.C. (2020). *In-Depth Interviews*. In The International Encyclopedia of Media Psychology, J. Bulck (Ed.). https://doi.org/10.1002/9781119011071.iemp0019

Suriati, A., Zuraidah, M., Manaf, A., Talib, Z., & Rahim Bakar, A. (n.d.). *Technical Vocational Education & Training (TVET) in Malaysia: Selected Works.* Retrieved (2023) from: https://mycc.mohe.gov.my/images/Produk_Perkhidmatan/penerbitan/Technical_Vocational_Education__Training_TVET_in_Malaysia_Selected_Works.pdf

Yusof, A. M., Mohd Ali, M., & Mohd Salleh, A. (2013). Pendidikan Vokasional Pelajar Berkeperluan Khas Ke Arah Memenuhi Pasaran Pekerjaan [Vocational Education for Students with Special Needs Toward

Meeting the Job Market]. *Proceeding of the International Conference on Social Science Research, ICSSR (pp. 1189-1196).* Penang: World Conferences.net.

Yusof, A. M., Mohd Ali, M., & Mohd Salleh, A. (2014) Employability of Vocational School Leavers with Disabilities. *Procedia-Social and Behavioral Sciences,* 112, 1064-1069. https://doi.org/10.1016/j.sbspro.2014.01.1270

Sani, Y., & Wardany, O. (2022). Language Acquisition On Early Deaf Children With Cochlear Implants In Inclusion Kindergarten. Journal of ICSAR, 6(1), 50-58. http://dx.doi.org/10.17977/um005v6i12022p050

Apriliani, L., & Aprilia, I. (2022). Learning Media Innovation to Improve the Ability to Remember Hijaiyah Letters for the Deaf. Journal of ICSAR, 6(2), 162-168. http://dx.doi.org/10.17977/um005v6i22022p162

Ningsih, P., Efendi, M., & Samawi, A. (2022). Improving Reading Skills Of Beginning Deaf Students Through Global Reflective Maternal Methods Controlled Learning Motivation. Journal of ICSAR, 6(2), 237-249. http://dx.doi.org/10.17977/um005v6i22022p237

binti Seman, N. (2022). Memperkasakan Program Persijilan Sijil Kemahiran Malaysia Dalam Kalangan Murid Berkeperluan Pendidikan Khas Menerusi Program Berkembar Bersama Pusat Bertauliah [Empowering the Malaysian Skills Certificate Certification Program Among Pupils with Special Educational Needs Through a Twinned Program with an Accredited Center]. *Amalan Terbaik Dalam Pendidikan Khas Dan Inklusif*, 1.

Yusof, A. M., Ali, M. M., & Salleh, A. M. (2014). Employability of vocational school leavers with disabilities. *Procedia-Social and Behavioral Sciences*, 112, 1064-1069. https://doi.org/10.1016/j.sbspro.2014.01.1270