

Benefits of E-Mentoring During Transition to Postsecondary Education for Adolescents with Special Needs

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Engaging in postsecondary education provides opportunities for adolescents to acquire and develop new skills such as higher order thinking and technical skills which can better prepare them for careers that are in demand by the job market. Thus, successful transition from high school to postsecondary education and eventually to employment is a critical process in every adolescent's life. Nevertheless, navigating the transition process can be difficult as many adolescents are not well prepared for the level of responsibility and independence required. This process can be even more challenging for adolescents with special needs, due to their disability which may compound their difficulties. Fortunately, technological advances have opened up a wide range of learning opportunities for individuals with special needs, especially through mentoring. Electronic mentoring, also known as e-mentoring, brings significant positive impact to adolescents with special needs. It allows these adolescents to exchange practical information, receive support and establish accepting relationship with less prejudice that can ultimately improve their transition skills, which allow them to better adapt to postsecondary institutions and work environments. This paper presents the results of a study that explored the benefits of e-mentoring for adolescents with special needs during their transition to postsecondary education, from the viewpoints of adolescents with special needs, their mentors and parents. Using the qualitative research design of phenomenology, the result qualitative data were presented in rich and thick descriptions. The findings of the study provide support for the benefits of e-mentoring for the personal development of adolescents with special needs.

Keywords: *Electronic mentoring, transition, postsecondary education, adolescents with special needs*

Introduction

Making successful transition from high school to postsecondary education is often the key to positive employment and better quality of life for any person (Burgstahler & Cronheim, 2001; Burgstahler & Kim-Rupnow, 2003). Engaging in any form of postsecondary education, including vocational-technical training, brings significant benefits to the life of adolescents (Stodden, Conway, & Chang, 2003). It provides opportunities for adolescents to obtain and develop job

related knowledge and valuable skills such as literacy, interpersonal and communication, creativity, problem-solving and technology (Haq, 2014). Acquisition of these competencies helps to maximize adolescents' level of preparedness for careers that is in line with the demands of the job markets and enable them to integrate into the working environment effectively (Becker & Drake, 2005; Hwang, 2000 as cited in Cheng, 2013; Stodden et al., 2003).

Nevertheless, navigating the transition process can be difficult as many adolescents are not well prepared for the level of responsibility and independence required (Burgstahler & Kim-Rupnow, 2003). The transition process can be even challenging for adolescents with special needs, due to their disability which may compound their difficulties (Eden & Heiman, 2011; Kochhar-Bryant, Bassett, & Webb, 2008; Leake, Burgstahler, & Izzo, 2011; McDonald, Balcazar, & Keys, 2005; Patrick & Wessel, 2013; Powers, Schmidt, Sowers, & McCracken, 2014). Several factors are found to be related with the low postsecondary education enrollment rate among adolescents with special needs, including poor academic preparation, unfavorable environmental condition, limited resources and accommodations that tailor to the needs of adolescents with special needs, and lack of acceptance from others (e.g.: teachers, faculty members and coursemates.) (Abdullah, 2013; Aderon & Durocher, 2007; Stewart, Freeman, Law, Healy, Burke-Gaffney, Forhan, Young, & Guenther, 2010).

Absence of structured support system and limited access to positive role models among adolescents with special needs could be associated with the lack of success in the engagement to postsecondary education (Burgstahler & Cronheim, 2001; Daughtry, Gibson & Abels, 2009; McDonald, Balcazar, & Keys, 2005). Without having a network of supports where adolescents could obtain guidance, supports and encouragement, adolescents with special needs are less likely to be aware of their own personal potential and scope of opportunities; and therefore reducing their chances to integrate into a community and fulfill personal goals (Daughtry et al., 2009).

E-Mentoring for Adolescents with Special Needs

Electronic mentoring (e-mentoring), also known as telementoring, online mentoring, or virtual mentoring, is defined as a mutually beneficial relationship where a mentor, which is a wiser and experienced adult, offer long term learning, advices, encouragements and modeling to a mentee, which is a younger and less experienced person, in a separated time and space, through the use of internet and online apps such as email, Facebook, Whatsapp, Viber and Line. The ultimate aim of e-mentoring is to develop knowledge, skills and confidence of the mentees (Ensher, Heun, & Blanchard, 2003; Miller & Griffiths, 2005; Single & Muller, 2001; Single & Single, 2005). It has been identified as a promising approach to address the lack of role models and promote successful transition from high school to less structured environments of postsecondary education and employment among adolescents with special needs (Burgstahler & Cronheim, 2001; Mammadov & Topcu, 2014; Stumbo, Blegen, & Lindahl-Lewis, 2008; Sword & Hill, 2002).

Previous studies suggest that the innovation of e-mentoring offered new communication and learning opportunities that are not available in traditional face-to-face mentoring, especially for adolescents with special needs (Eden & Heiman, 2011; Leake et al., 2011; Shpigelman, Weiss, & Reither, 2009a, b). In e-mentoring, constraints such as geographical location, scheduling and transportation are eliminated, thereby allowing both mentors and adolescents with special needs

to communicate conveniently (Brown, Takahashi, & Roberts, 2010). In addition, communicate in the virtual world helps to mask off one's disabilities, which in turn enhance the willingness of adolescents with special needs to communicate either through verbal communication or nonverbal written text and establish personal relationships with others confidently (Brown et al., 2010; Burgstahler & Kim-Rupnow, 2008; Shrestha, May, Edirisingha, Burke, & Linsey, 2009).

Benefits of E-Mentoring for Adolescents with Special Needs

The accessibility of e-mentoring allowed adolescents with special needs to connect with people with or without special needs and obtain fruitful academic and/or career related information, tangible assistance and supports (e.g.: network, esteem and emotional) (Braithwaite, Waldron, & Finn, 1999; Sphigelman & Gill, 2012), which eventually contribute positively to the adolescents' social, emotional, cognitive and identity development (Dole & McMahan, 2005; DuBois & Silverthorn, 2005; Herrera, Grossman, Kauh, Feldman, & McMaken, 2007; Rhodes, Spencer, Saito & Sipe, 2006). Typical outcomes of e-mentoring included enhanced academic performance, improved self-worth and self-determination, developed problem solving skills and personal independence, established meaningful social networks with others (Karcher, Nakkula & Harris, 2005; Rhodes, Reddy, Roffman, & Grossman, 2005; Rhodes et al., 2006; Shpigelman et al., 2009b).

Mammadov and Topcu (2014) conducted an e-mentoring program and investigate its roles in the academic life of a group of mathematically gifted adolescents. The findings indicated that adolescents who engaged with e-mentoring program have shown improvement in the level of motivation and desire, and were able to maintain their perseverance to complete required individuals and group tasks; learned effective communication skills while working collaboratively in group; and developed positive identity as the e-mentoring program has serve as a supportive environment for adolescents to think and work as real mathematicians.

An example of a national e-mentoring program: DO-IT (Disabilities, Opportunities, Internetworking & technology) program also demonstrated a wide range of benefits for adolescents with special needs. This program helps adolescents to develop self-determination, social, academic, technology and career skills, through the use of computer, adaptive technology and internet to communicate with mentors and others as well as to obtain information resources (Burgstahler & Cronheim, 2001; Stumbo, Martin, Nordstrom, Rolfe, Burgstahler, Whitney, Langley-Turnbaugh, Lovewell, Moeller, Larry & Misque, 2011). Findings of pass studies indicated that DO-IT has successfully established a favorable environment for adolescents with special needs to gain psychological, academic and career supports. Adolescents in the study revealed that they enjoyed the mentoring journey with mentors. The mentoring relationship helps them to be prepared for college and employment; enhance internet, computer, social, self-advocacy and independent living skills; develop awareness of career options; and increase self-esteem and perseverance (Burgstahler & Crawford, 2007; Burgstahler & Cronheim, 2001; Burgstahler, Moore, & Crawford, 2011).

Research Objective

To date, most studies that revealed benefits of e-mentoring for adolescents with special needs are primarily from overseas. No study has been conducted to explore how e-mentoring can benefit adolescents with special needs in Malaysia. Therefore, in this study, an e-mentoring program had been conducted over a period of six months for a group of adolescents with special needs in Malaysia, during their transition period to postsecondary education. The overall goal of the study was to explore to what extent adolescents with special needs benefited from the e-mentoring program.

Methods

Research Design

This research adopted the phenomenology design to obtain in-depth information about the “lived experiences” of adolescents with special needs in the e-mentoring program and *how* the e-mentoring experiences give meaning to the life of adolescents with special needs (Denzin & Lincoln, 2005).

Participants

Participants were being selected through purposive sampling. They were ten adolescents with special needs, with seven females, and three males, having a mean age of 17.7 years. Of the participants, four were Chinese, four were Malay and two were Indian. In relation to their disabilities, six had hearing impairments, two experienced cognitive disabilities (i.e.: one with Autism and one with William syndrome), and two had visual impairments, which had documented in their medical and school records. They were referred to the e-mentoring program by the special education school teachers based on their need for transitional support and based on five inclusion criteria: (1) demonstrate moderate transition ability; (2) have a basic ability to understand communicate with others through verbal and nonverbal language; (3) proficient at using computer and internet; (4) have a communication device (e.g.: computer, mobile phone or Ipad) and internet connection; (5) showed interest to participate in the e-mentoring program.

Instruments

Data was collected using different instruments, such as:

Interview protocols. Three sets of interview protocols were developed for researcher to conduct semi-structure interviews with different group of participants, included adolescents with special needs, mentors and parents. The research objective of the study served as a framework for researcher to develop the protocol. All interview protocols were verified by experts as well as pilot tested to collect related data.

Observation protocol. It consisted field with pre-defined codes that guide researcher to observe and record important elements of the face-to-face meetings, and also fields for free-text which allowed researcher to record observed developmental outcomes of adolescents with special needs after they participated in the e-mentoring program. The observation protocol was verified by experts to ensure its trustworthiness in collecting the data.

Online Apps. The final instrument of the study was the online apps that mentors and adolescents with special needs applied to communicate with each others throughout the

e-mentoring program, which included Whatsapp, Line, Facebook messenger and Viber. All the conversation messages, shared pictures, audio records and video clips were saved automatically as chat logs and were analyzed after the e-mentoring program ended.

Research Procedures

Prior to and during the e-mentoring program, the researcher invited a trainer who had experience in conducting e-mentoring program for individuals with special needs to conduct two, three hours training workshop for the mentors. The trainings basically focused on mentoring functions, mentoring skills, suggestions for effective communication; relationship do's and don'ts, possible mentoring related problems, problem solving strategies, confidentiality and reporting of abuse (Ensher et al., 2003; Hughes, Welsh, Mayer, Bolay, & Southard, 2009; Snowden, 2003; Stumbo et al., 2008; Thomson & Zand, 2010). The researcher attended all the trainings in order to observe and document this part of the e-mentoring process.

Both mentors and adolescents with special needs were requested to communicate at least twice a week via online apps over a six months period. All participants were free to communicate with other mentors and adolescents with special needs, other than their paired mentors. In addition, all mentors and adolescents were requested to meet face-to-face once in a month to enhance the sense of connection among the participants; to clarify any miscommunication and increase the participants' willingness to self-disclose during the online communication. The researcher was present in all face-to-face meetings and conducted observation to record related data. Between the face-to-face meetings, all participants continue to communicate via internet.

Two parental meeting sessions were conducted for parents. The purposes of gathering the parents periodically were to allow them to share confidentially about their concerns towards their children' transition to postsecondary education and careers; and receive related information and supports to guide their child throughout the transition process as well as to review the adolescents' progress; and to solicit the parents' ideas regarding strategies to support adolescents.

At the end of the e-mentoring program, researcher contacted the participants for interview sessions. Seven adolescents with special needs, four mentors and six parents of adolescents with special needs were interviewed. All interview sessions with parents of adolescents with special needs and mentors were conducted via face-to-face, verbal interviews. The interview sessions were audio recorded for further analysis.

Data Analysis

The researcher first transcribed the recorded interview sessions before verifying the transcripts against the audio tapes to ensure no information has been miss out and no error exists. The researcher then used constant comparative methods to identify meaningful segment of statements, sentences, or quotes that review information about the e-mentoring experiences of the adolescents and label the emerging data under different categories. Researcher repeatedly reviewed the data to identify possible themes.

Findings

The findings of the study showed that majority of the adolescents with special needs revealed mainly positive experiences regarding of having e-mentors as they began to make transition to postsecondary education. A wide range of topics were shared among adolescents with special

needs and their mentors. The communication opportunities offered in the e-mentoring program enabled adolescents with special needs to experience improvements in a number of developmental aspects:

Social Development

Increased opportunities for socializing and networking. Majority of the adolescents with special needs indicated that the e-mentoring experiences had increased their opportunities to socialize and establish network with others, especially with people who are without special needs. One adolescent with hearing impairment revealed that:

I am brave enough to meet with mentors and try to talk with them and other friends who are not deaf (i.e.: friends who are with cognitive disability). I feel like I want to initiate to communicate with mentors while we have meals together or through handphone. For example, like saying hi, good morning and continue chatting until when it is time to sleep I will say goodnight."

(Interview, Adolescent 7)

Parents also agreed that e-mentoring helped to increased opportunities for adolescents to socialize and networking with others. A parent revealed that as her child with autism had participated in e-mentoring program, he had started to have real friends in life rather than having imaginative friends (i.e.: assuming actors and actress from TVB, the commercial television station in Hong Kong, as friends).

The increased of opportunities for socializing and networking of the adolescents with special needs also evident in his newly developed Facebook. The picture (picture 1) above showed that his amount of friends connected in Facebook had increased gradually, from two to a total of 23 friends.



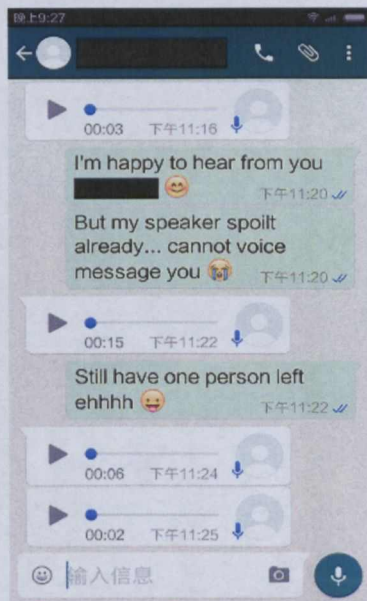
Picture 1. A Facebook's friends list of an adolescent with special needs.

Increased exposure to effective communication methods. Many adolescents with special needs also revealed that communication with mentors in the e-mentoring program allowed them to learn up effective communication methods. For example, adolescents with hearing impairment had found that they could communicate with others through writing, showing of pictures and typing message with any communication devices or use of different languages to communicate understanding. One adolescent with hearing impairment remarked:

"I learn to express a meaning by showing pictures. I write in book and use handphone to type message and show to mentor."

(Interview, Adolescent 9)

While one of the adolescents with cognitive disabilities who was not confident to communicate with mentor through typing messages in online apps had explored a communication method where he felt comfortable with, i.e. through the use of audio record in the online apps.



Adolescent : Hello Sister YK, how are you?

Mentor : I'm happy to hear from you KT
(emoticon)
But my speaker spoilt already...cannot
voice message you(emoticon)

Adolescent : Hello Sister YK, please send my best
regard to Sister C, brother O and
brother K.

Mentor : Still have one person left ehheh...

Adolescent : Another person I remember is ZQ.

Is it correct?

Picture 2. Chat history on an adolescent with autism used audio message to communicate with mentor.

(Document Analysis, Chat logs, Adolescent 5 and Mentor 3)

Academic Development

Improved understanding towards academic contents. Most adolescents with special needs described that their mentors also assisted them in academic learning. One of the common assistances offered by mentors in the aspect of academic were to guide adolescents to understand

statements, sentences or questions asked in text books or homework. An adolescent with hearing impairment acknowledged the following:

"Mentors help me in academic learning in subjects such as: English, Malay, science and mathematics. If I don't understand, I will ask mentors. For example: If I don't understand the mathematics' questions, I will ask mentors for explanation. Mentors teach me on Malay and English language. When I do not understand the message in Malay and English from them, I will ask for explanation. "

(Interview, Adolescent 9)

Mentors and parents of adolescents with special needs also agreed that participation in the e-mentoring program increased the adolescents' understanding towards academic content. Mentors were aware of the importance to have strong academic foundation so that adolescents can transit to postsecondary education successfully. Therefore, mentors made sure that the adolescents understand the academic contents of every subject. One of the mentors highlighted:

"...I feel that what we did is we go through (the syllabus) to understand which chapters they do not understand, and we start from that chapters. Instead of neglecting their needs to understand the contents, and think its ok...we will still go back... go back (to the previous chapter). It is ok for them to learn slowly, the most important thing is that he/she can understand. I feel this...Even though it appeared to be easy, very easy contents, but he/she doesn't understand, so we will go back (to the chapter where they do not understand)...So this is something that I think I can assist them."

(Interview, Mentor 4)

Improved writing skill. In addition, adolescents with special needs also indicated that communicating with mentors helps to improve their writing skills either in Malay or English. Along the e-mentoring, adolescents with special needs treat the communication with mentors via written messages as an opportunity to improve their writing skills. An adolescent with William syndrome highlighted that:

"I learn to write correct English sentences. When I talk to mentor, I write in English. Because at home I speak in mandarin with my daddy, mummy, jiejie and dd (brother)."

(Interview, Adolescents 2)

The assistance that mentors provided to adolescents with special needs to write correctly is evident in a number of chat histories and observation too. Following show a chat history between an adolescent with visual impairment and his mentor. The dialogue illustrated how mentor assist the adolescent to write a correct sentence:

Adolescent: Hehehehe... I'm try my best to reply your message in English...

Mentor: Hehe, can I do correction on your sentence?

Adolescent: Yes, of course can...

Mentor: The previous sentence should be: I will try my best to reply your message in English, not I'm try my best.

Adolescent: Ok... Thanks for your correction...hehehehe

Mentor: You are the most welcome ☺ I hope that we can learn to write good English together!

Adolescent: Hehehe.. I will upgrade my English...

(Document Analysis, Chat history, Adolescent 1 and Mentor 3)

Also, during the third round of face-to-face meeting, researcher also observed and recorded a phenomenon on how a mentor guided a group of adolescents to write a correct sentence.

In this meeting, mentor 3 was having discussion with adolescents 3 and 7 on the use of Facebook. Adolescents 7 wrote her comment towards Facebook with a sentence: Game Facebook with long time also will effect students get the result of the weak at school. After the mentor read through the sentence, she took a pen and did correction for the sentence by writing: Spending too much time playing games in Facebook will affect student's study and caused him/her to get poor results. The mentor showed the sentence to the adolescents and explained the grammar rules to them.

(Observation, Face-to-face meeting 3)

Identity Development

Lastly, through participation in the e-mentoring program, the adolescents with special needs experience gradual development in their identity status. Majority of the adolescents have found to be more confident, independent, responsible and motivated to learn.

Increased confidence. Majority of the adolescents with special needs indicated that the e-mentoring experience had bolstered their level of confidence in a variety ways ranging from performing living skills to engaging in social activities with others who are without special needs. For example, one adolescent with hearing impairment shared:

"I feel braver and confident in doing things by myself. For examples: I can talk to waiter/waitress in a restaurant to buy food. I have become braver to speak and buy tickets for KTM, bus and others. I will ask teacher for help if I do not understand anything in school."

(Interview, Adolescent 7)

The chat histories showed the improvement in the confident level of an adolescent with special needs. Initially, the adolescent appeared to be nervous because of unable to communicate with other normal schoolmates and refuse to join the camp. However, with the advice and supports from the mentor, the adolescent participated in the camp. At the end of the camp, the adolescent contacted the mentor and shared her happiness of being able to overcome the fear as well as being able to establish social network with schoolmates without disabilities.

Adolescent: This month there will be a camp for prefect. But I feel very nervous in my heart because I have to participate in the camp with schoolmates who are without disabilities. Only 2 prefects are

with hearing disabilities in the school. I am afraid to talk with others who are normal

Mentor : *...When you saw me, you straight away brought your phone along and pass to me, so that I can type in message to communicate with you. At that time, I realize that you are kind and brave enough! I hope you don't feel worried...You can take this as an opportunity to practice, to talk with people who are normal.*

Adolescent : *Ok. When I enroll myself to university, there will be a lot of normal people there. I am confident! I want to try to talk to them! [emoticon]*

After the prefect's camp, the adolescent messaged the mentor and shared that she had a great time with schoolmates who are without disabilities. She revealed that she felt good to mix around with peers who are without disabilities.

Learned to be independent. Some adolescents with special needs revealed that through obtaining guidance from mentors, they have learned to be independent, and less dependent on their parents and/or siblings. An adolescent with William syndrome highlighted that:

"I learn to be independent. I learn to write email alone without waiting mummy and jiejie (sisters) to remind me. I learn to take care of my own things. Cxxxx jiejie(sister) and Kxx jiejie (sister) asked me to take care of my own IC and OKU card. So, everytime I go out, I must check IC and OKU cards in the bag and before I leave any place, I must make sure I take the bag. But sometimes I will still forget."

(Interview, Adolescent 2)

Through observation, researcher also discovered that some participants have learned to be independent such that they had requested to travel back home by public transport without being accompanied by the mentors, and they managed to do that!

Emotional development

Happy Feeling. Majority of the adolescents with special needs revealed that the e-mentoring experiences had brought positive impacts to the emotional development. They viewed the mentors as someone who accepted them regardless of their disability, cared about them and willing to provide assistance whenever they face problems. They were happy to have this meaningful supporting relationship on the internet. One adolescent with hearing impairment remarked why she felt happy to have a mentor:

"I feel happy because mentors are helpful (example: help us to do revision for SPM together), can chit-chat with me (example: travel to oversea, hair dressing and jokes), understand me well (example: I have difficulty to express my idea but mentor will try to understand without feeling angry) and cooperative (example: all mentors arrange outing properly and bring us out to places like time square)."

(Adolescent 3, Interview)

Mentors and parents also commented on the positive changes in the adolescents' emotional development. For example, a parent reflected that after her daughter participated in the e-mentoring program, her emotion has changed positively. The mother believe that the acceptance and guidance from the mentors bring joys to her daughter's life and her daughter has now gradually open up to others and be hopeful to her future.

In addition, the positive changes on the emotion of adolescents with special needs were observed and recorded during a face-to-face meeting:

"During the last face-to-face meeting, adolescents with special needs showed expression of happiness. As compared to the first and second face-to-face meeting, in this meeting, they were more comfortable to communicate and be with mentors. They were more willing to walk side by side with mentors than walking at the back of mentors. Also, they showed enjoyment in chatting and making jokes with mentors through different communication methods, such as facial expression, body movements, writing or sign languages."

(Observation, Face-to-face meeting 6)

Discussion

To date, relatively little research has focus on e-mentoring as an intervention to promote postsecondary education success among adolescents with special needs (Leake et al., 2011), and in particular no research has specifically focused on its benefits for adolescents with special needs in Malaysia. The present study aimed to characterize the unique contributions of the e-mentoring program for adolescents with special needs in Malaysia. In accordance with the findings from pass studies, the results of this study added layer of support to the potential benefits of e-mentoring for this population (Burgstahler & Cronheim, 2001; Leake et al., 2011; Powers et al., 2014; Shpigelman et al., 2009a, 2009b). The intervention was generally well accepted by adolescents with special needs and their parents and mentors of the study, with majority of the participants acknowledged the positive contributions of e-mentoring to the adolescents' social, academic, identity and academic developments.

Findings of present study highlight that e-mentoring have helps to improve the social development of adolescents with special needs. Participation in the e-mentoring program increased their opportunities for socializing and networking with others. Remarkably, the advancement of internet and technology have helps users to overcome barriers that imposed by time and distances, thereby allow adolescents with special needs to better establish a meaningful relationship with mentors and other peers who are far apart (Brown et al., 2010; Spigelman et al., 2009a, b; Shrestha et al., 2009).

In addition, the findings of the study also revealed that participation in e-mentoring program exposed adolescents with special needs to effective communication methods. E-mentoring has found to be particularly helpful for adolescents with special needs to overcome disability-related barriers that appeared in other forms of communication (Leake et al., 2011). With the creation of assistive technology and innovation of online apps, adolescents with special needs are enabled to practice communication skills by applying different communication channels which allow them

to establish personal networks with others effectively (Burgstahler & Cronheim, 2001; Burgstahler & Doyle, 2005; Shpigelman et al., 2009 a,b). For example, in this study, adolescents with hearing impairment can communicate with mentors via written text and adolescents with cognitive disabilities can communicate via audio records. For the first time, adolescents with special needs are able to develop social networks with mentors and other peers in a way that make them less prejudiced and feeling more comfortable (Mammadov & Topcu, 2014; Shpigelman et al., 2009 a,b).

Majority of the participants revealed that they had experienced positive development in their academic learning. In particular, they shared that they are able to understand academic content better and write proper sentences. Powers et al. (2014) suggested that the improvements of academic performance among adolescents with special needs are due to the information support and tangible assistant offered by mentors. With individualized guidance provided by mentors, adolescents with special needs are motivated to persist through challenging tasks and are more likely to develop in-depth understanding towards the subjects (Leake et al., 2011; Mammadov & Topcu, 2014).

Most of the adolescents in the study shared that they are more confident and have learned to be independent. Daughtry et al. (2009) explained that mentoring relationship with mentors help adolescents with special needs challenge negative thoughts of having a disability. Through providing information, resources and coping techniques, a mentor can help adolescents with special needs to resolve a challenging tasks effectively which eventually brought up the awareness of adolescents with special needs on the potential of creating positive sense of self.

Lastly, majority of the adolescents evaluated that participation in the e-mentoring program appeared to be an enjoyable experience. They felt happy and satisfied with the new relationships with mentors that developed in the internet. This finding is consistent with pass studies where e-mentoring relationship allowed adolescents with special needs to receive supports, guidance, cares as well as being accepted by others without prejudiced, which in turn had positively affected their emotion development (Patrick & Wessel, 2013; Shpigelman et al., 2009b).

Conclusion

The findings of the study provided good support for the conclusion that an e-mentoring program brings significant benefits for adolescents with special needs during their transition from high school to postsecondary education. Through interview, observation and document analysis on chat logs, the resulting qualitative data of the study revealed a number of positive developmental outcomes that experienced by adolescents with special needs, including increased opportunity for networking and socializing, increased exposure to effective communication methods; improved in academic learning which in turn, led to enhancement in personal identity development and positive emotional development.

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