Adaptation of students to professional-oriented activities based on media technologies

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Abstract

Media technologies make it simple for students to access accurate information wherever and whenever they want at a lower cost, however, many studies show that children do not see a difference between the real world and the fictional media world until they reach the age of 12. This study aims to determine primary school students' professional activity adaptation based on media technologies. The study was conducted in the spring term of 2020 - 2021, with 339 elementary school students voluntarily participating. The "Media technologies" questionnaire developed by the researchers was applied to primary school students. The questionnaire was developed and edited by experts in the field. Collected data were analyzed using an SPSS program. Frequency, percentage, average, standard deviation, minimum and maximum values, One Way Anova, and T-test were applied to analyze the data obtained from the media technologies survey. According to the results of the study, it was concluded that elementary school students have high results in determining media technologies concepts.

Keywords: Media technologies, Distance Education, Primary School Students, Performance, Adaptation

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1. Introduction

From the past to the present, technology is thought to be another of the opposing forces of change in humans, but in the process until the invention of the printing press, the effect of technology events on life has generally been limited to the increase of human physical abilities and work capacity. The printing press, considered the first mass communication technology, was the first technology to have a direct impact on the perception of the individual (Navarro et al., 2021).

For centuries, the human, who has shaped his perception and lifestyle in line with the requirements of verbal communication, has moved from the auditory area where the sense of the ear is in the foreground to the visual field with the printing press. It is a known fact that the messages presented by the media are carefully selected, arranged, and constructed structures (Naro et al., 2020). These days, when we are surrounded by media messages, two different worlds are mentioned, namely the real world and the media world. While the real world is based on the personal experiences of individuals directly experienced in their lives. The media world is based on experiences, and experiences conveyed by the media (Lin et al., 2021). In addition to these, the education system in the information society is shaped for students and educators depending on information and communication technologies.

With media technologies, it is now very simple for students to access the most accurate information wherever and whenever they want, and cost, time, and space losses can be prevented with the media technology system (Amera & Dagnew, 2020). Many studies show that children do not see a difference between the real world and the fictional media world until they reach the age of 12. It is known that there are children who think that he is a cartoon hero and lost their lives by jumping from rooftops (Li et al., 2021). It is stated that the factors of "establishing identity" and "providing social benefit" are effective based on the perception of reality. It can be said that a message/product presented in the media means that individuals think that it will benefit them or that individuals establish an identity with the individuals in the message, which may cause individuals to feel that the messages or characters in question are "true/real" (Lai et al., 2018).

Media technologies, media messages, media literacy, these contexts are important in the literature, and while continuing with the introduction, these contexts will be addressed as well, while media technologies are expected to aid primary school students as a balance, it is also important to identify and maintain adaptation and performance situations. (Gençalp, 2019). It should not be forgotten that the perceptions of primary school students are more exciting and more dynamic than other students, so primary school students were selected in the study. The introduction continues with other explanations.

1.1. Literature review

1.1.1. Media Literacy

Today, the positive role of mass media and media in children's socialization is obvious. In this context, it can even be said that parents and media play similar roles. Caliskan, Uzunboylu, and Tunun (2018) stated that in mobile technologies, students' ability to read by using social networks was improved because it was impossible to reach the desired messages in real life, and it was simpler to reach messages through media. During this obligation, it is necessary to realize that media messages are not the truth itself, but an illusion of the truth. The fictional structure created by hiding the facts replaces real-life through communication (Lusdoc et al., 2019).

These fictional structures, which shape the knowledge structures of individuals and limit their life experiences, undertake the function of adopting media experiences by discouraging the individual from his / her experiences (Aslan, 2016). Being media literate at the point of choosing between media experiences and life experiences requires understanding that the messages are not real and being aware of the elements of "identity" and "social benefit". This situation affects the most fundamental stone of media literacy, it should not be forgotten that the students are an empty information center, when we convey these concepts correctly to them, the correct information will continue continuously between generations.

1.1.2. Media Technologies

Media technologies are defined as the ability to access, analyze, evaluate and transmit messages in different formats (television, video, cinema, advertisements, internet, etc.) covers all other new digital media (Adebayo et al., 2019). Media literacy, which aims to realize that everything that is read, observed, and heard in the media is primarily fictional, emphasizes that the content of the media is not natural and points out that this content can be changed (Salama et al., 2018). Media technologies have now taken place in all areas of daily life and have had a great impact on the development of social, cultural, political, and economic life. The world is now aware of the power of new media technologies. New media technology is adapted to action, requires the organization to take advantage of it properly, and the nature of this technology makes it possible.

1.2. Related Research

Crawley (2020), arguing that the use of media technology is mixed, aimed to investigate the effect on children studying in a secondary school between the ages of 11 and 16, concluding that media technology can both improve well-being and harm it. In this context, it is also important to choose the method well and for what it is used for. In their study, Jorge, Marôpo, and Carvalho (2020) investigated whether media technologies are beneficial for access to health information, social support, and peers, among the reported benefits for sick children and their families, the result is the use of media technologies, sick children and their families concluded that sharing personal experiences can invalidate expert knowledge and also create education and awareness about the experience of living with or surviving a disease, in this context media technologies can be said to positively affect the motivation of young children.

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The sources in the related research section are current and new sources, but when the research is taken into consideration, it is seen that there are very old studies in years. Media technologies have entered our lives with the development of technology and are an important dimension. In this context, it is thought that performing these studies daily is both important for the subject and will be useful for students.

1.3. Purpose of the study

This study aims to determine primary school students' professional activity adaptation based on media technologies. In line with the purpose of the study, the following questions were sought in the study:

1. What are the media technology satisfaction levels of primary school students in general?

2. Is there a difference between the media technology satisfaction levels of primary school students according to their gender?

3. Is there a difference between the media technologies adaptation levels of primary school students according to their course attendance?

4. Is there a difference between primary school students' media technologies and performance levels?

5. Is there a difference between primary school students' levels of following mobile devices and media technologies?

2. Materials and Methods

2.1. Data collection instrument

A quantitative research method was used in the study, the questionnaire developed by the researchers was applied to primary school students with the online form method in the company of their families. When we collected data about the quantitative research method from the literature, it was seen that this method yielded results based on superficial and numerical data. In addition, since this method is based on numbers, it is necessary to determine the sample representing the event or phenomenon completely and to ask the right questions (Uzunboylu et al., 2017).

2.2. Participants

The research was conducted in the 2020-2021 spring academic year. The data of the research consisted of 339 volunteer students studying at the primary school level in Kazakhstan randomly. All of these students take their courses by connecting them to distance education and media technologies.

2.3. Data collection tool

In the process of collecting the data, the reliability coefficient was found to be $\alpha = .95$ with the questionnaire form, which was developed by the researchers, with the scope validity of the questionnaire, which was developed by taking the opinions of 7 different field experts who had the title of Professors in the fields of Media Technologies and Informatics and who have worked on these fields. In addition, the tool we call the "media technologies" survey was used in the name of the interview form. It is planned to go from the general to the specific by compiling the questions in the research one by one.

2.4. Application

Live lessons in a total of 7 sections were arranged for 339 primary school students continuing their education in Kazakhstan. During the 7-week training, technology lessons were given to determine students' media technologies and professional activity situations. How to use the combination of media technologies and professional activity, how to relate with time, what is knowledge adaptation, etc., after the 7-week training, the students were presented with the

questionnaire, and the data were given in tables in the findings section. Each section is limited to 50 people over the Zoom Meeting program, which is preferred by most elementary schools, and each section is distributed over weeks, each lesson is taught in 40 minutes. In the case of online education, primary school students were expected to attend the class with video and microphone from their smart devices. The interview form applied to the students was taken with their families thanks to the Google form.

2.5. Data analysis

The data collected with the online questionnaire were analyzed using the SPSS IBM 24.0 program. Analysis results were given by percentage, frequency, and descriptive, T-test (independent - samples t-test), Kruskal Wallis H - Test, one-way ANOVA. The data relating to numerical developments were made into tables and interpreted, and whether there was a significant difference between independent variables was tested at the level of $\alpha = .04$.

Limits Used in Data Analysis

Table 1: *Limitations*

Weight	Limits	Option
1	1.00 - 1.80	I strongly disagree
2	1.81 - 2.60	I don't agree with that.
3	2.61 - 3.40	I'm undecided.
4	3.41 - 4.20	Agree
5	4.21 - 5.00	I totally agree with that.

Among the above values, the values in the findings section were interpreted and shared in the findings section in tables.

3. Results

In this section, the results regarding the determination of the professional activity adaptation of primary school students based on media technologies and the findings of the goals are included.

3.1. Demographic information

Gender

Table 2 : *Distribution of University Students by Gender*

Gender	F	%
Boy	176	51.91
Girl	163	48.09
Total	**339**	**100**

As seen in Table 2, 51.91% (176 people) of the study group students are boys and 48.09% (163 people) are girl primary school students. Findings in the gender section reflect the actual gender distribution.

Class: The distribution of the students participating in the research according to the departments is given in Table 3.

Table 3: *Distribution of the Students Participating in the Study According to their Classes*

Class	ƒ	%
4th Class	280	82.59
3rd Class	59	17.41
Total	**339**	**100.0**

As seen in Table 3, 82.59% of the study group students (280 people) consist of 4th-grade students, while 17.41% (59) of them are 3rd-grade students. Findings in the Classroom Division reflect the actual Division distribution.

3.2. The question of whether encountering media technologies in the classroom affects performance:

The answer to the question of whether seeing media technologies in the classroom affects your performance was sought to the elementary school students participating in the study and their distribution is given in Table 4.

Table 4 : *Media technologies performance status*

Related Question	F	%
Yes	7	2.07
No	332	97.93
Total	**339**	**100**

When Table 4 is examined, among the distribution of media technologies that affect their performance in the classroom environment, 2.07% (7 people) answered yes, while 97.93% (332 people) answered no. it can be said that even a negative result will not come.

3.3. Descriptive Statistics Results of Media Technologies Satisfaction Levels in Technology Lessons of Primary School Students

Descriptive statistics regarding the determination of media technology satisfaction levels in technology lessons of primary school students are given in Table 5.

Table 5 : *Descriptive Statistics Results of Primary School Students' Media Technologies Satisfaction Levels in Technology Lesson*

Size	Course Name	N	*M*	S
Registration to Media Technologies System	Technology Lesson	339	3.80	.55435
Media Technologies Technical Support	Technology Lesson	339	4.33	.70074
Media Technologies Assessment	Technology Lesson	339	4.12	.93169

As seen in Table 5, it is seen that primary school students have an average of *M* = 3.80 according to their enrolment status in the media technology system for determining the media technology satisfaction levels in the technology lesson. In addition, it is seen that the media technologies technical support status has an average of *M* = 4.33, and finally, media technologies evaluation scores are *M* = 4.12. In the light of these findings, it can be said that primary school students have a high level of satisfaction in media technologies courses, and the dimensions of registration, technical support, and evaluation are appropriate.

3.4. T-Test Analysis Results of Primary School Students' Satisfaction Levels by Gender Variable

Data on the independent-samples t-test results applied to determine whether there is a significant difference between the genders in the satisfaction levels of primary school students are given.

Table 6: *T-Test Analysis Results of Primary School Students' Satisfaction Levels by Gender Variable*

Size	Gender	N	*M*	SS	Sd	t	p	Explanation
Registration to Media Technologies System	Girl	163	3.50	.63852	107	.253	.801	p> 0.05 difference is insignificant
	Boy	176	3.52	.68960				
Media Technologies Technical Support	Girl	163	3.70	.60835	107	.037	.971	p <0.05 the difference is significant
	Boy	176	3.60	.74684				
Media Technologies Assessment	Girl	163	3.43	.84029	107	.439	.661	p> 0.05 difference insignificant
	Boy	176	3.50	.81052				

As seen in Table 6, according to gender variable, arithmetic mean and standard deviation scores (*M* = 3.50, SD = .638) of female students according to the enrolments in the media technology system, and the arithmetic mean and standard deviation scores of male students' enrolment in the media technology system (*M* = 3.52, SS = .689). It can be said from the obtained findings that there is no difference between male and female students. In addition, when another finding was examined, the arithmetic mean and standard deviation scores (*M* = 3.70, SD = .608) of the media technologies technical support department of the female students and the media technologies technical support arithmetic mean and standard deviation scores of the male students (*M* = 3.60, SD =. 746). From the findings, it can be said that there is no difference between male and female students according to the technical support department of the media technologies system. Finally, in table 6, the media technologies assessment feature of female students are determined as the arithmetic mean and standard deviation scores (*M* = 3.43, SS = .840) and male students' system assessment arithmetic mean and standard deviation scores (*M* = 3.50, SD = .810). . From the findings obtained, it can be said that there is no difference between male and female students according to the media technologies evaluation feature.

3.5. T-Test Analysis Results According to the Course Participation of Primary School Students According to Media Technologies Adaptation Levels

To determine whether there is a difference between the media technologies adaptation levels according to the course attendance of primary school students, data on the independent-samples t-test results were given.

Table 7: *T-Test Analysis Results According to Media Technologies Adaptation Levels According to Course Participation of Primary School Students*

Size	Criterion	N	M	SS	sd	t	p	Explanation
Registration to Media Technologies System	Yes	210	3.62	.66276				p> 0.05 difference is insignificant
	No	129	3.40	.66836	339	.427	.670	
Media Technologies Technical Support	Yes	210	3.88	.67162				p <0.05 the difference is significant
	No	129	3.50	.67347	339	2.129	.036	
Media Technologies	Yes	210	3.51	.86259				p> 0.05 difference insignificant
	No	129	3.39	.79092	339	1.381	.170	

As seen in Table 7, the arithmetic mean and standard deviation scores of the students who answered Yes according to the course participation variable (M = 3.62, SS = .662) and the arithmetic mean and standard deviation scores of the students who answered "no" according to the course participation variable. (M = 3.40, SS = .668). From the findings obtained, it can be said that there is no difference between the students according to the course participation variable during the enrolment to the media technologies system. In addition, as seen in Table 7, media technologies technical support arithmetic mean and standard deviation scores of the students who answered Yes according to the course participation variable (M = 3.88, SS = .671) and the students who answered "no" according to the course participation variable media technologies system technical support arithmetic mean and standard deviation scores (M = 3.50, SD = .673). From the findings obtained, it can be said that there is a significant difference between the students according to the course participation variable of the media technologies technical support department. Finally, as seen in Table 7, media technologies assessment arithmetic mean and standard deviation scores (M = 3.51, SS = .862) of the students who answered Yes according to the course participation variable and the media technologies assessment arithmetic mean and standard deviation scores (M = 3.39, SD = .790). From the findings obtained, it can be said that there is no difference between the students according to the media technologies evaluation feature and the course participation variable.

3.6. T-Test Analysis Results of Primary School Students' Media Technologies and Performance Levels

T-test analysis results of the media technology level and performance levels of primary school students. The data about the independent-samples t-test results applied to determine whether there is a difference according to the media technologies variable of university students are given.

Table 8: *T-Test Analysis Results of Media Technologies and Performance Levels of Primary School Students*

Size	Criteria	N	*M*	SS	sd	t	p	explanation
Media Technologies	Yes	240	3.60	.66276				p>0.05
	No	99	3.55	.66836	339	.549	.584	difference meaningless
Performance	Yes	240	3.61	.67162				p>0.05
	No	99	3.52	.67347	339	.931	.354	difference meaningless

As can be seen in Table 8, the arithmetic mean and standard deviation scores of the students who answered Yes according to the media technologies variable (M = 3.60, SS = .662) and the arithmetic mean and standard deviation scores of the students who answered "no" according to the media technologies variable (M = 3.55). SS = .668). From the findings obtained, it can be said that there is no difference between the students according to the media technologies variable. In addition, as seen in Table 8, the arithmetic mean and standard deviation scores of the performance value of the students who answered Yes according to the performance variable (M = 3.61, SS = .671) and the performance value of the students who answered "no" according to the learning variable, the arithmetic mean and standard deviation scores (M = 3.52, SS = .673). When both dimensions are considered from the findings, it can be said that there is no significant difference.

3.7. One Way ANOVA Results of Primary School Students' Mobile Device and Media Technologies Tracking Levels

To determine whether there is a difference according to the mobile device and media technologies tracking levels of primary school students, data on the values and One Way ANOVA results were given.

Table 9: *One Way ANOVA Results of Primary School Students' Mobile Device and Media Technologies Tracking Levels*

Size	Source of Variance	Sum of Squares	Sd	Squares Average	F	p	Explanation
Mobile Device	Cross-group	9.899	3	3.300			p<0.05
	In-groups	37.689	336		9.192	.000	difference makes sense
	Total	47.587	339	.359			
Media Technologies	Cross-group	18.109	3	6.036			p<0.05
	In-groups	32.377	336		19.576	.000	difference makes sense
	Total	50.486	339	.308			

As can be seen in Table 9, it is seen that there is a statistically significant difference between primary school students' mobile device tracking levels and their "Mobile Device" tracking views. According to the findings, it can be said that the mobile device tracking dimension of the students is effective according to their performance. Finally, as can be seen in table 9, it is seen that there is a statistically significant difference between primary school students' views of following "media technologies". According to the findings, it can be said that the media technologies follow-up dimension of the students is effective.

4. Discussion

Nowadays, it is obvious that media technologies are important in every aspect, from this perspective, media technologies are important, from the motivation of students to their performances. Adalikwu, Achagh, and Milcah's (2020) study, the application of educational media in Childhood Education, motivates children to pay attention to the lesson, researched and as a result concluded that educational media technology is indispensable for teaching and learning activities in Early Childhood Education. Based on these comments, when the results of the research are taken into consideration, it is concluded that media technologies increase the performance and adaptation of primary school students and media is important for students. It can be said that it is seriously important in the education of students, both early and primary school.

Nabela, and Rianto (2020) in their study, aimed to find out how the presence of new media technology affects communication closeness over the existence of new media technology. As a result, they found that the presence of new media technology affects the proximity of children in terms of communication, trust, and alienation, and also that the use of smartphones can increase the communication distance between children. When this evaluation is taken into consideration, it is concluded that media technologies and technology course registration, technical support, and media evaluation conditions are high according to the results of the research. It can be said that media technologies improve the communication network of students, and their learning performance is of great importance. The study conducted by Hurwitz and Schmitt (2020), aimed to find out whether Internet use and digital skills in early childhood predicted academic performance in early childhood and as a result, it was concluded that digital skills in early childhood positively affect early childhood academic performance. The study, conducted by Fitriana, Hendriyanto, Sahara, and Akbar (2021), aimed at analyzing students' needs for educational game-based learning media in the age of industrial revolution 4.0 using descriptive research with a descriptive qualitative approach, and as a result, they found that they met educational needs as a solution to learning media needs. In this context, when the results of this current study conducted with primary school students are considered, it is seen that the performance of technology lessons is good, and it is the result that elementary school students have been successful.

The concept of satisfaction is thought to increase its usability in research. Satisfaction in research is important in the chosen subject because among the targeted goals, students are expected to be happy in their education life, while it is concluded that the satisfaction levels of primary school students in technology lessons are high, while the dimensions of registration, technical support and evaluation are in place. This result can be said to be in a positive sense for the first purpose of the study. When gender concepts are examined in the literature, it is important to be equal in every sense. In this context, it was determined that there would be 176 male and 163 female primary school students in this study. Gender concepts also keep the ideas in the research in balance. When another result of their research is considered, there is no difference between the genders in the technology lesson. It was examined that there was no difference and as a result, it was found that there is no difference between male and female students according to the feature evaluating technologies, this is a strong result for this research and based on the problem raised, the subject of media technologies is thought to be effective in both genders. This finding is similar to the finding of Schmid et al., (2021).

Based on the discussion part of the research, it can be said that media technologies are beneficial for primary school and other group students and that these lessons should be applied to students at an early age rather than at an early age. Each research contributes to the literature, it is thought that this study on media technologies will benefit both the literature and the students.

5. Conclusion

Technology and education are important in every sense, it is always difficult and difficult to be a voice to a wide audience, but it is thought that the field will benefit the students who are studying when all the information is used properly and correctly. This study, it was aimed to determine the professional activity adaptation of primary school students based on media technologies, and in this context, 339 students were reached in the results of the study. Student numbers are the pillar of research and it is very important, it is thought that the more we get feedback from students, the better education and learning will be.

The word adaptation seems to be important for getting used to and having a good time in the literature, which is directly proportional to success. In this context, the adaptation processes were examined among the results of the study, and it was concluded that there was a significant difference between the enrolment, technical support, and evaluation dimensions, according to the course participation variable of the media technologies technical support department, which means that students only experienced problems in the field of technical support in the adaptation processes in the field of media technologies. In this context, it can be said that this dimension should be better prepared and applied to students.

The word performance is directly proportional to success in the literature, high performances also include the adaptation process, so students have fun and learn thanks to these two concepts. Among the results of the study, the performance levels were examined in two dimensions, these dimensions consist of media technologies and performance situations, and when both dimensions are considered from the findings, it is concluded that there is no significant difference. Finally, it is the ability to follow and use all these expressions, if the questions sought in the aims of the research are not followed by the students, the results of the research may turn into different dimensions. In this context, the status of following the concept of mobile devices and media technologies among the last results of the research is researched. The size was found to be effective. It is among the recommendations of the research that, this study, which is applied to primary school students with media technologies, should be carried out in another period and section.

References

Adalikwu, M. E. T., Achagh, W. I., & Milcah, T. S. (2020). Relevance of Educational Media Technology for Effective Service Delivery in Early Childhood Education. *Capital-Journal of Educational Studies (CAJES)*, *6*(2), 139-147. http://fctcoezjournals.org/index.php/cajes/article/view/115

Adebayo, D. O., Ninggal, M. T., & Bolu-Steve, F. N. (2019). Influence of motivations for social media use on cyberbullying behaviours among undergraduates in Malaysian public universities. *Global Journal of Guidance and Counseling in Schools: Current Perspectives*, *9*(1), 36–47. https://doi.org/10.18844/gjgc.v9i1.4252

Amare, Y., & Dagnew, A. K. (2020). Teachers' perceptions, practices, and challenges of active learning strategies utilisation at secondary schools in Ethiopia: Active Learning Strategies Utilization at Secondary Schools, Ethiopia. *Contemporary Educational Researches Journal*, *10*(3), 97–108. https://doi.org/10.18844/cerj.v10i3.4846

Aigul, A., Perizat, S., Tolkyn, Z., Zhanar, A., Sabira, A., & Bagdat, A., (2022). Adaptation of Students to Professional-Oriented Activities Based on Media Technologies. *Cypriot Journal of Educational Science*. *17*(1), 310-322. https://doi.org/10.18844/cjes.v17i1.6717

Aslan, S. (2016). The Views of University Students Regarding Internet Addiction. *Contemporary Educational Researches Journal*, *6*(3), 88–94. https://doi.org/10.18844/cerj.v6i3.992

Caliskan, S., Uzunboylu, H. & Tugun, N. (2018). Pre-service teachers' views on the use of social network sites. Journal for Educators, Teachers, and Trainers, Vol. 9(2), pp. 109 – 117. https://jett.labosfor.com/article_887.html

Crawley, C. A. (2020). *A case study exploring the impact of social media technology on students in a UK secondary school* (Doctoral dissertation, The Open University). https://doi.org/10.21954/ou.ro.000116d9

Fitriana, L., Hendriyanto, A., Sahara, S., & Akbar, F. N. (2021). Digital Literacy: The Need for Technology-Based Learning Media in the Revolutionary Era 4.0 for Elementary School Children. *International Journal of Progressive Sciences and Technologies*, *26*(1), 194-200. http://www.ijpsat.es/index.php/ijpsat/article/view/2954

Gençalp, H. (2019). Social Media Messages in the Context of Visual Culture, Multi-Literacy, and Multiformity. *Global Media Journal TR Edition*, *10*(19), 52-75. https://globalmediajournaltr.yeditepe.edu.tr/sites/default/files/03_huseyin_gencalp.pdf

Güney, Z . (2020). A Study on Children's Use of Social Media. Gümüşhane University Institute of Social Sciences Electronic Journal, 11 (1), 188-199. Retrieved from https://dergipark.org.tr/en/pub/gumus/issue/52805/665536

Hurwitz, L. B., & Schmitt, K. L. (2020). Can children benefit from early internet exposure? Short-and long-term links between internet use, digital skill, and academic performance. *Computers & Education*, *146*, 103750. https://doi.org/10.1016/j.compedu.2019.103750

Jorge, A., Marôpo, L., & de Carvalho, R. (2020). Sick children and social media. In *The Routledge Companion to Digital Media and Children* (pp. 414-423). Routledge. https://doi.org/10.4324/9781351004107

Lai, P., & Zou, W. (2018). The application of virtual reality technology in medical education and training. *Global Journal of Information Technology: Emerging Technologies*, *8*(1), 10–15. https://doi.org/10.18844/gjit.v8i1.3335

Li, S., Liu, M., Zhao, N., Xue, J., Wang, X., Jiao, D., & Zhu, T. (2021). The impact of family violence incidents on personality changes: An examination of social media users' messages in China. *PsyCh Journal*. https://doi.org/10.1002/pchj.429

Lin, X. Y., & Lachman, M. E. (2021). Daily Stress and Affect Across Adulthood: The Role of Social Interactions via Different Communication Modes. *Technology, Mind, and Behavior*, *2*(1). https://tmb.apaopen.org/pub/daily-stress-and-affect/release/1

Lusdoc, C. S., & Namoco, R. A. (2019). Selecting a SPA (special program in the arts) major for high school students using AHP combined with an interest inventory. *International Journal of Innovative Research in Education*, *6*(1), 1–11. https://doi.org/10.18844/ijire.v9i1.4118

Nabela, H. R., & Rianto, P. (2020). The Use of New Media Technology in Families and Its Impact on Intimacy. *Asian Journal of Media and Communication (AJMC)*, *4*(2). https://journal.uii.ac.id/AJMC/article/view/17745

Aigul, A., Perizat, S., Tolkyn, Z., Zhanar, A., Sabira, A., & Bagdat, A., (2022). Adaptation of Students to Professional-Oriented Activities Based on Media Technologies. *Cypriot Journal of Educational Science*. *17*(1), 310-322. https://doi.org/10.18844/cjes.v17i1.6717

Naro, W., Abubakar, A., Yani, A., Kurniati, K., Amiruddin, M. M., & Syatar, A. (2020). Developing learning method on post-graduate program: a blended learning based on web-blog and print technology design. *Cypriot Journal of Educational Sciences*, *15*(5), 1404–1421. https://doi.org/10.18844/cjes.v15i5.5178

Navarro , E. R., Guerra-Ayala, M. J., Casimiro-Urcos, W. H., Vélez-Jiménez , D., Casimiro-Urcos, N. C., Salazar-Montoya, E. O., Casimiro-Urcos, J. F., & Callejas Torres, J. C. (2021). Relevance of the mass media in Prevention, Education and Contextual Management of COVID-19. *World Journal on Educational Technology: Current Issues*, *13*(1), 129–146. https://doi.org/10.18844/wjet.v13i1.5423 (Original work published February 2, 2021)

Salama, R., Qazi, A., & Elsayed, M. (2018). Online programming language—Learning management system. *Global Journal of Information Technology: Emerging Technologies*, *8*(3), 114–123. https://doi.org/10.18844/gjit.v8i3.4051

Schmid, M., Brianza, E., & Petko, D. (2021). Self-reported technological pedagogical content knowledge (TPACK) of pre-service teachers in relation to digital technology use in lesson plans. Computers in Human Behavior, 115, 106586. https://www.sciencedirect.com/science/article/pii/S0747563220303332

Uzunboylu, H., & Karagözlü, D. (2017). The emerging trend inverted classroom: A content analysis of articles published between 2010 and 2015. Revista de Educación a Distancia (RED), 17(54). Recovered from https://revistas.um.es/red/article/view/298821