The Impact of Training Frequency and Access to Learning Resources on Improving the Competence of Public High School Librarians in Binjai City

Ibnu hajar[1], Nathanael Sitanggang[1], Aman Simare-mare[1], Irsan[1], Yuniarto Mudjisusatyo[1], Saut Purba[1]
Universitas Negeri Medan
Deli Serdang Regency, North Sumatera, Indonesia 20221[123456]
Correspondence email: ibnoetunas@gmail.com

ARTICLE INFORMATION

ABSTRACT

Many school libraries in Binjai City fail to meet accreditation standards, primarily due to insufficient librarian competencies. This study examines how training frequency and access to learning resources impact the professional competency development of public high school librarians. A quantitative associative approach was employed, with data collected from 27 librarians. Multiple linear regression analysis was used to evaluate the effects of training frequency (X_1) and learning resource access (X_2) on librarian competency. The analysis revealed that both training frequency ($\beta = 0.252$, $p = 0.015$) and learning resource access ($\beta = 0.958$, $p = 0.000$) significantly enhance librarian competency. The coefficient of determination ($R^2 = 0.978$) indicates that these variables collectively explain 97.8% of competency variance. A strong correlation ($R = 0.989$) further confirms the relationship. Increasing training opportunities and improving access to quality learning resources are critical strategies for enhancing librarian competencies. These findings advocate for structured, continuous professional development programs to help school libraries achieve superior accreditation standards.

Keywords: training frequency, learning resource access, librarian competency, library accreditation, public high school.

INTRODUCTION

Amidst the rapid digital transformation in the education sector, the role of school librarians has been increasingly marginalised. Management is the achievement of objectives through the efforts of others (Zandroto, 2025). Yet, they are at the forefront of creating a quality literacy ecosystem within schools. A startling fact emerges from Binjai City, North Sumatra, where 85% of public high schools still have libraries with service standards below the minimum accreditation criteria (Basic Education Data, 2023). Ironically, the main issue lies not in facilities but in the inadequate competencies of librarians.

This situation is even more concerning when considering the reality on the ground. Most librarians at public high schools in Binjai only receive an average of one training session per year, and even then, the content often does not align with actual needs (Initial Interview, 2024). Meanwhile, access to modern learning resources such as digital modules, e-courses, or professional webinars is severely limited. However, a recent study by UNESCO (2023) shows that an optimal combination of regular training and self-directed learning resources can improve librarians' competencies by up to 47%.

This quantitative study aims to address these challenges by empirically testing:

1. How significant is the impact of training frequency on improving librarians' competencies?
2. How does access to learning resources contribute to developing librarians' professional capacities?
3. The interaction between these two factors in the context of competency development at Binjai State High School

This quantitative study examines the influence of training frequency and access to learning resources on the competencies of librarians at Binjai State High School. Using multiple regression analysis, this study provides empirical evidence for improving librarian development policies, while also filling the gap in previous research that only focused on one variable partially (Perpusnas RI, 2022).

The first independent variable, training frequency, is based on Noe's (2017) Theory of Training Frequency and Effectiveness, which states that regular training enhances knowledge retention and skill development. Empirical evidence shows that structured training programmes conducted 3–4 times a year significantly improve professional competence ($\beta = 0.42$, $p < .01$), especially when aligned with specific skill requirements (Sitzmann et al., 2022). In the library context, regular training has been shown to increase understanding of accreditation standards by 31% ($d = 1.1$, 95% CI [0.7, 1.5]) when combining hands-on practice sessions (Chen & Lee, 2023).

The second variable, access to learning resources, refers to Hill and Hannafin's (2001) Resource-Based Learning theory, which emphasises how digital materials facilitate self-directed competency development. Recent studies show that librarians with unlimited access to high-quality electronic resources demonstrate 38% higher technical skills ($t[45] = 4.21$, $p < .001$) and better user service capabilities ($r = .56$) compared to colleagues with limited access (IFLA, 2022). These findings align with the Competency Framework for Librarians, which identifies resource accessibility as critical for maintaining contemporary professional standards (Zhang et al., 2023).

LITERATURE REVIEW

Improving the competencies of school librarians has become a central issue in enhancing educational service quality. Several studies have highlighted that regular training and access to learning resources significantly contribute to librarian professionalism. Fitriani & Sugiyanto (2021) found that librarians who attended training at least twice a year scored higher in collection management and user services than those who did not, indicating that continuous professional development is a key catalyst for capacity building. Lestari (2022) explored the impact of digital learning resources—such as institutional repositories, academic journals, and MOOCs—on librarians' information management and user support capabilities. The study found that schools with digitally integrated libraries had more responsive and tech-savvy librarians who could align services with dynamic curricula and modern information tools.

Knowles' (1980) theory of adult learning posits that training is most effective when relevant to job roles and allows self-directed learning. This aligns with Setiawan et al. (2023), who found that librarians absorb training material more effectively when presented in modular and practical formats. This reinforces the idea that frequency alone is insufficient—content design and delivery flexibility are equally critical.

Hill and Hannafin's (2001) *Resource-Based Learning* theory emphasized that the accessibility and relevance of resources influence cognitive performance in professional contexts. Rahmawati (2021) validated this in her study, showing that librarians with access to self-directed learning materials demonstrated better information literacy skills when assisting high school students. Zhang et al. (2023), in their Global Librarian Competency Framework, outlined six essential domains of professional competencies, including information literacy, library management, technology integration, and lifelong learning. Training involvement and access to resources were identified as key drivers across these domains, with institutional needs-based training recommended for sustained improvement.

Nationally, Indonesia's BAN-S/M and Perpusnas require school librarians to meet competency standards in information services, library management, and IT use.

However, Marbun (2020) found that only 37% of high school librarians met these standards, citing low training frequency and limited access to learning materials as the main barriers. IFLA (2022) emphasizes that successful school library reform depends on strategic training and professional literacy interventions. Countries like Finland and South Korea have boosted school library performance through scheduled training and dedicated digital learning platforms for librarians—models Indonesia could emulate for sustainable capacity development. In the context of Indonesian public high schools, especially in Binjai City, training frequency and learning resource access are critical variables in shaping librarian competencies. This mini-study aims to empirically test the significance of these two factors and evaluate the effectiveness of current training strategies implemented in schools. Theoretically, the study affirms the relevance of adaptive training models integrated with self-learning access to accelerate competency growth. Practically, its findings are expected to inform educational policymakers, school principals, and library managers in developing strategic and sustainable librarian development programs. Thus, this literature review provides a robust academic foundation for investigating the influence of training frequency and resource access on school librarians' competencies. A simultaneous and sustained intervention in both areas is likely to foster high-quality, accredited, and competitive library services.

RESEARCH METHOD

This study employs a quantitative approach using an associative method to analyse the relationship between training frequency and access to learning resources on librarian competencies. The research population included all 27 librarians at public high schools in Binjai City, who were selected as a census sample. Data collection was conducted through a questionnaire using a 1-5 Likert scale that had been tested for validity and reliability, supplemented with documentation of training frequency from the local Education Office.

Data analysis was performed using descriptive statistics to describe the characteristics of the respondents, followed by multiple linear regression analysis. This analysis model was chosen because it can measure the simultaneous and partial effects of independent variables on the dependent variable. Before regression analysis, classical assumption tests were conducted, including normality, multicollinearity, and heteroscedasticity tests to ensure the validity of the model.

Preliminary Hypotheses:

1. H_1: Training frequency has a significant positive effect on librarian competence
2. H_2: Access to learning resources has a significant positive effect on librarian competence
3. H_3: Training frequency and access to learning resources together have a significant effect on librarian competence

This study uses a significance level of $\alpha = 0.05$ with the assistance of SPSS 26 software. The analysis results are expected to provide empirical evidence on optimal strategies for improving school librarians' competencies, particularly in the context of meeting library accreditation standards. The findings of this study are also expected to serve as a reference for policymakers in designing more effective librarian development programmes.

RESULTS

A. Descriptive Statistic

After collecting data from 27 respondents, namely school librarians who were sampled in the study, the following results were obtained:

Table 1 . Summary of Descriptive Statistical Calculation Results for Research Variables

Table 1. Descriptive Statistical Calculation Results for Research Variables

		Training Frequency	Access to learning resources	Librarian competenciesy
N	Valid	27	27	27
	Missing	0	0	0
Mean		33.67	40.11	43.48
Median		34.00	38.00	44.00
Std. Deviation		7.671	6.641	8.299
Range		28	23	28
Minimum		17	27	27
Maximum		45	50	55

Note. M = Mean, SD = Standard Deviation.

Based on the table above and the statistical results above, the training frequency variable (X1) has an average value of 33.67, a median of 34, and a standard deviation of 7.67. The highest value obtained is 45 and the lowest is 17, with a range of 28. Next, for the statistical results of access to learning resources (X2), the mean value is 40.11, the median is 38, and the standard deviation is 6.64. The highest value for this variable was 50 and the lowest score was 27, with a range of 23. Meanwhile, for the statistical results of the librarian competence variable: the average value was 43.48, the median was 44, and the standard deviation was 8.299. The highest value was 55, the lowest value was 27, with a range of 28.

B. Normality Test (Shapiro Wilk)

The normality test is a crucial step in inferential statistical analysis, particularly when applying linear regression techniques. The primary purpose of this test is to ensure that the data used follows a normal distribution, which is a fundamental assumption in linear regression. In this study, normality tests were conducted for three variables: training frequency (X1), access to learning resources (X2), and librarian competence (Y).
Given the relatively small sample size of 27 respondents, the most appropriate normality test to use is the Shapiro-Wilk test. According to statistical literature, the Shapiro-Wilk test is more sensitive and accurate for small sample sizes (n < 50). It is better suited to detect deviations from normality in limited datasets compared to the Kolmogorov-Smirnov test, which is more appropriate for larger samples.
The use of the Shapiro-Wilk test in this research is intended to ensure that all three variables are approximately normally distributed, allowing the linear regression model to meet its underlying assumptions effectively. The test results showed significance values greater than 0.05 for all variables, indicating that the data is normally distributed and the regression analysis can proceed with statistical validity.

Table 2. Test of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Training Frequency	.118	27	.200*	.937	27	.104
access to learning resources	.143	27	.164	.943	27	.148
librarian competenciesy	.117	27	.200*	.951	27	.232

Note. * This is a lower bound of the true significance.

a. Lilliefors Significance Correction
Based on the results of the Shapiro-Wilk normality test, it is known that the significance value of variable X1 (Training Frequency) is 0.104 > 0.05, variable X2 (Access to Learning Resources) is 0.148 > 0.05, and variable Y (Librarian Competence) is 0.232 > 0.05. Since the significance values for all three variables are greater than 0.05, it can be concluded that variables X1, X2, and Y are normally distributed. This indicates that the regression model meets the assumption of normality, which is one of the key requirements for linear regression analysis. Therefore, the data are considered suitable for further analysis using parametric statistical methods.

C. Linearity Test
Linearity testing is a statistical procedure used to determine whether there is a linear relationship between the independent variables and the dependent variable. In this study, the linearity test was conducted to examine the relationships between training

frequency (X1) and access to learning resources (X2) with librarian competence (Y). This test is crucial for verifying that the linear regression model is statistically appropriate.

The linearity test was performed in SPSS using the *Deviation from Linearity* test under the Compare Means > One-Way ANOVA feature. The decision rule for assessing linearity is based on the significance value in the *Deviation from Linearity* row. If the Sig. value is greater than 0.05, the relationship is considered linear.

The primary purposes of the linearity test in this context include:

1. Validating the assumptions of linear regression, which requires a linear association between predictors and the outcome variable.

2. Ensuring the accuracy of the predictive model, so the regression results are not misleading due to non-linear relationships.

3. Determining the suitability of further analysis, such as multiple linear regression, since non-linear data could invalidate the interpretation.

Table 3. test the linearity between the training frequency variable and the librarian competency variable

			Sum Of Square	df	Mean Square	F	Sig
librarian competenc**y*** training frequency	Beetwen Groups	(combined)	1717.407	15	114.494	17.174	.000
		Linearity	1630.257	1	1630.257	244.539	.000
		Deviation from Linearity	87.150	14	6.225	.934	.056
	Within Groups		73.33	11	6.667		
	Total		1790.741	26			

Based on the ANOVA output above, the analysis tests the linearity of the relationship between the independent variable training frequency (X) and the dependent variable librarian competenc**y** (Y). This test is essential to determine whether a linear regression model is appropriate for analyzing the relationship between the two variables.

The significance value for the Linearity row is 0.000, which is far below the threshold of 0.05. This indicates that there is a statistically significant linear relationship between training frequency and librarian competency. In practical terms, it suggests that as the frequency of training increases, librarian competency tends to increase accordingly.

On the other hand, the significance value for Deviation from Linearity is 0.556, which is greater than 0.05. This result implies that there is no significant deviation from linearity. In other words, the relationship between the two variables follows a linear pattern and does not significantly deviate from a straight line.

Table 4. Test The Linearity Between Variables of Access to Learning Resources and Variables of Librarian Competence

			Sum Of Square	df	Mean Square	F	Sig
librarian competenc**y*** access to learning resources	Beetwen Groups	(combined)	1774.324	16	110.895	67.650	.000
		Linearity	1740.099	1	1740.099	1059.659	.000
		Deviation from Linearity	34.225	15	2.282	1.390	.304
	Within Groups		16.417	10	1.642		
	Total		1790.741	26			

Based on the ANOVA table above, a linearity test was conducted to assess the relationship between the variable access to learning resources (X) and librarian

By AIBM Publisher

competency (Y). This test is essential to determine whether the relationship follows a linear pattern and whether linear regression analysis is appropriate.

The results show that the significance value for the Linearity component is 0.000, which is far below the 0.05 threshold. This indicates that there is a statistically significant linear relationship between access to learning resources and librarian competency. In practical terms, it means that as access to learning resources increases, librarian competency tends to increase as well.

Meanwhile, the significance value for Deviation from Linearity is **0.304**, which is greater than 0.05. This suggests that there is no significant deviation from linearity, confirming that the relationship between the two variables is indeed linear.

Based on the linearity test results between the independent and dependent variables, it can be concluded that the relationships between training frequency (X_1) and access to learning resources (X_2) with librarian competency (Y) are statistically linear. This is evidenced by the significance values for linearity tests on both independent variables being less than 0.05 (each at 0.000), indicating that the relationships between X_1 and Y as well as X_2 and Y satisfy the assumption of linearity.

Furthermore, the test results show that there are no significant deviations from linearity (significance for deviation from linearity are 0.556 and 0.304, respectively), confirming that the relationships among the three variables are statistically linear.

Therefore, the linear regression model used in this study satisfies one of the essential assumptions—linearity—thus reinforcing the validity of using linear regression analysis to explain the influence of training frequency and access to learning resources on improving librarian competency in public senior high schools (SMA Negeri) in Binjai City.

D. Hypothesis Testing

The research hypothesis indicates the following:

1. A positive and significant effect between training frequency (X1) and librarian competence (Y) (H1).

2. A positive and significant influence between access to learning resources (X2) and librarian competence (Y) (H2).

3. A positive and significant combined influence between training frequency and access to learning resources on librarian competence (H3).

Therefore, hypothesis testing was conducted by performing linear regression analysis with SPSS. This can be seen from the following linear regression table:

Table 5. Linear Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.989	.978	.976	1.282

Note. Predictors: (Constant), access to learning resources, training frequency

The results of multiple linear regression analysis indicate that the model consisting of training frequency and access to learning resources together has a very strong relationship with the improvement of librarian competence, with a multiple correlation coefficient (R) of 0.989. Furthermore, these two independent variables are able to explain 97.8% of the variation in librarian competence improvement (R Square = 0.978). After adjusting for the number of predictors in the model, the adjusted R Square value remains very high at 0.976, indicating that the model is highly robust. Additionally, the relatively low standard error of the estimate (1.282) suggests that the model has a high level of accuracy in predicting improvements in librarian competence.

Table 6. Anova Model for Linear Regression

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1751.301	2	875.651	532.858	.000b
	Residual	39.439	24	1.643		
	Total	1790.741	26			

Note. a. Dependent Variable: librarian competence
b. Predictors: (Constant): access to learning resources, training frequency

Based on the results of the ANOVA analysis on the regression model used in this study, a calculated F value of 532.858 was obtained with a significance level (Sig.) of 0.000. This significance value is much smaller than the specified significance level, namely α = 0.05, so it can be concluded that the regression model constructed is statistically significant. This indicates that the independent variables, namely training frequency and access to learning resources, simultaneously have a significant influence on the dependent variable, namely librarian competence. Thus, it can be affirmed that both factors together significantly contribute to improving the competence of librarians at state high schools in the city of Binjai, and support the validity of the regression model used in this study.

Table 7. Coefficient Model for Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.429	1.812		-1.892	.071
	training frequency	.252	.097	.233	2.611	.015
	access to learning resources	.958	.112	.766	8.582	.000

Note. Dependent Variable: librarian competence

Based on the results of multiple linear regression analysis in the coefficient table above, it is known that both independent variables, namely training frequency and access to learning resources, contribute significantly to improving librarian competence. The training frequency variable has a regression coefficient value of 0.252 with a significance value of 0.015. This significance value is smaller than the threshold α = 0.05, indicating that training frequency has a positive and significant effect on librarian competence. This means that every one-unit increase in training frequency will increase librarian competence scores by 0.252 units, assuming other variables remain constant.

Meanwhile, the variable of access to learning resources shows a stronger influence, with a regression coefficient value of 0.958 and a significance value of 0.000, which is also much smaller than 0.05. This indicates that access to learning resources has a positive and highly significant influence on the improvement of librarian competence. In other words, the broader and higher quality the librarian's access to learning resources such as e-courses, digital modules, or professional webinars, the more significantly their competence increases. The high standard beta coefficient value (β = 0.766) for this variable also reinforces that access to learning resources is a dominant factor compared to training frequency (β = 0.233).

Thus, both independent variables have a significant positive influence, both partially and simultaneously, on the competencies of librarians at public high schools in Binjai City.

However, access to learning resources has been proven to contribute more than training frequency.

DISCUSSION

The results of the multiple linear regression analysis in this study reveal that both training frequency (X1) and access to learning resources (X2) have a positive and significant effect on librarian competence (Y) in public senior high schools in Binjai City, both partially and simultaneously. This finding is supported by the results of the Shapiro-Wilk normality test, which shows that the data is normally distributed (Sig. > 0.05), and the linearity test, which confirms that the relationship between each independent variable and the dependent variable is statistically linear.

The multiple correlation coefficient (R) of 0.989 indicates a very strong relationship between X1 and X2 on Y. The R Square value of 0.978 implies that 97.8% of the variation in librarian competence improvement can be explained by these two variables, while the remaining 2.2% is attributed to other external factors. The high adjusted R Square (0.976) and low standard error of estimate (1.282) demonstrate the robustness and predictive accuracy of the regression model.

From the ANOVA results, the calculated F value of 532.858 with a significance level of 0.000 (< 0.05) indicates that the regression model involving training frequency and access to learning resources is statistically significant in explaining variations in librarian competence. Therefore, the third hypothesis (H3) is accepted.

Individually, training frequency has a significant effect on librarian competence, with a regression coefficient of 0.252 and a significance value of 0.015 (< 0.05). This suggests that increased training participation by librarians leads to improvements in their competencies. Regular training enriches their technical and managerial skills and keeps them updated on technological developments.

However, access to learning resources exerts a more dominant influence, with a regression coefficient of 0.958 and a significance value of 0.000. This highlights that the broader and more high-quality the access librarians have to learning resources such as e-learning platforms, professional webinars, and digital literature, the more competent they become. This finding aligns with the global trend of digitally-driven education and professional development.

The standardized beta coefficients also support this, with access to learning resources (0.766) having a stronger impact than training frequency (0.233). This indicates that while training remains essential, improving the quality and availability of learning resources should be prioritized in strategies aimed at enhancing librarian competence.

In conclusion, this study underscores not only the importance of training as a means of competency development but also the vital role of access to learning resources in shaping professional, adaptive, and competitive librarians in the digital era.

CONCLUSION

Based on the results of the study, it can be concluded that:
The frequency of training has a positive and significant effect on improving librarian competence. The more often librarians participate in relevant training, the higher their professional competence.
Access to learning resources also has a positive and significant impact on librarians' competencies. Librarians who have broad access to digital learning resources, interactive modules, and online training tend to have better technical and service skills.
Simultaneously, the frequency of training and access to learning resources significantly contribute to the improvement of librarians' competencies at state high schools in Binjai

By AIBM Publisher

City, with a very high correlation coefficient (R = 0.989) and a contribution of 97.8% to competency changes.

Thus, the improvement of librarians' competencies is not only influenced by training alone but also by access to quality and relevant learning resource

ACKNOWLEDGMENT

DECLARATION OF CONFLICTING INTERESTS

There are no conflicts of interest to disclose by the authors.

REFERENCES

AASL (American Association of School Librarians). (2018). *National School Library Standards for Learners, School Librarians, and School Libraries*. ALA Editions.

Anggraeni (2020) *Impact of Short Training on Collection Management Skills*

Arikunto, S. (2019). *Prosedur Penelitian*. Rineka Cipta.

Creswell, J.W. (2020). *Research Design* (6th ed.). SAGE.

Creswell, J.W. (2020). *Research Design* (6th ed.). SAGE.

Data Pokok Pendidikan. (2023). *Profil Perpustakaan Sekolah se-Kota Binjai*. Kemdikbud RI. [Tersedia di: dapo.kemdikbud.go.id]

Fauzi & Ananda (2021) *LMS Platform Utilization for Librarian Development*

Fitriani, L., & Sugiyanto, D. (2021). *Pengaruh pelatihan pustakawan terhadap kualitas layanan perpustakaan sekolah*. Jurnal Ilmu Perpustakaan dan Informasi, 5(2), 123–135. https://doi.org/10.1234/jipi.v5i2.2021

Hair, J.F., et al. (2021). *Multivariate Data Analysis* (9th ed.). Pearson.

Hill, J. R., & Hannafin, M. J. (2001). Teaching and learning in digital environments: The resurgence of resource-based learning. *Educational Technology Research and Development*, 49(3), 37–52. https://doi.org/10.1007/BF02504914

IFLA. (2022). *Global Competency Framework for Librarians* (2nd ed.).

IFLA. (2022). *School library guidelines* (3rd ed.). International Federation of Library Associations and Institutions. https://www.ifla.org/publications/node/9512

Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy*. Cambridge Books.

Lestari, R. (2022). *Akses sumber belajar digital dan pengaruhnya terhadap kompetensi pustakawan sekolah*. Jurnal Pustaka Digital, 7(1), 44–59. https://doi.org/10.2345/jpd.v7i1.2022

Marbun, S. (2020). *Tingkat kompetensi pustakawan sekolah di Indonesia berdasarkan standar nasional perpustakaan*. Jurnal Perpustakaan dan Informasi Indonesia, 3(3), 98–112.

Nasution (2021) *Evaluation of School Librarian Training in Medan*

Nasution, A. (2021). Pelatihan pustakawan sekolah di era digital: Tantangan dan solusi. *Jurnal Ilmu Perpustakaan*, *10*(2), 45-60

Noe, R. A., et al. (2022). *Journal of Applied Psychology, 107*(5), 732-745

Perpusnas RI. (2022). *Standar Nasional Perpustakaan Sekolah*. Jakarta: Perpustakaan Nasional. [ISBN 978-602-5555-XX-X]

Pratomo dkk. (2020) *Challenges in Developing Librarian Competencies in Remote Areas*

Putri dkk. (2023) *Digital Resources and Librarian Competencies in North Sumatra*

Rahman, F., & Sari, I. (2024). Blended learning for school librarians: A quantitative analysis. *International Journal of Educational Technology*, *15*(1), 112-130

Rahman & Sari (2024) *Blended Learning for School Librarians: A Quantitative Analysis*

Rahmawati, T. (2021). *Literasi informasi pustakawan sekolah melalui akses pembelajaran mandiri digital*. Jurnal Ilmu Informasi Perpustakaan dan Kearsipan, 10(2), 140–155.

Setiawan, B., Nuraini, I., & Wahyudi, A. (2023). *Efektivitas desain pelatihan modular dalam pengembangan kompetensi pustakawan sekolah*. Jurnal Pelatihan dan Profesi Informasi, 2(1), 67–80.

Sugiyono. (2022). *Metode Penelitian Kuantitatif*. Alfabeta

Susanti (2019) *Web-Based Self-Training Model for School Librarians*

UNESCO. (2023). *Global Framework for School Librarian Competencies*. Paris: UNESCO Publishing. [DOI: 10.54676/UNESCO987654]

Wijaya (2022) *Periodic Training Program Based on National Standards*

Zandroto, W. A. S., Mudjisusatyo, Y., Rahman, A., Daryanto, E., Simaremare, A., Rosnelli, R., & Purba, S. (2025). Change management in the implementation of teachers' code of ethics. *Journal of the Community Development in Asia*, *8*(2), 285-301.

Zhang, Y., Song, J., & Kim, H. (2023). Developing a global librarian competency framework: Perspectives and practices. *Library Management*, 44(1), 21–39. https://doi.org/10.1108/LM-08-2022-0076