

STUDY-AID BOOKS, WORKBOOKS, AND IT EQUIPMENT AS NEW MATERIALS FOR SCHOOL STUDENTS IN JAPANESE PUBLIC LIBRARIES

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Abstract

Japan is no longer a rich country. The poverty rate for “a single adult household with at least one child” is the third highest among the 44 countries of OECD. Public libraries should provide study-aid books, workbooks, and IT equipment to poor students. Based of this idea, we first identified 129 study-aid books and workbooks for junior high and high school students. Next, we investigated whether public libraries of all 1,392 Japanese local governments held them. Then, we asked 631 students whether they wanted public libraries to hold the books and IT equipment such as Nintendo Switch and iPad. Furthermore, we gathered three students, provided books and IT equipment, and asked whether they wanted public libraries to hold them. It was shown that poor students wanted public libraries to have study-aid books and workbooks for English. Video games were desired by many students. Japanese public libraries should consider providing them.

Keywords: Study-aid Books, Workbooks, IT Equipment, School Students, Public Libraries

I. INTRODUCTION

Japan is no longer a rich country. According to the OECD, the poverty rate is 15.7%, the 10th highest among 41 countries (OECD, 2022). Furthermore, the poverty rate for “a single adult household with at least one child” in Japan is 48.3%, the third highest among the 44 countries listed by the OECD. Only Brazil (54.8%) and South Africa (49.8%) have a higher rate (OECD, 2021). The Japan Institute for Labour Policy and Training (2019) described that the percentage of households with disposable income below the poverty line published by the Ministry of Health, Labor and Welfare was 5.9% for two-parent households, compared to 22.9% for father-child households and 51.4% for mother-child households.

The motivation and background for this study is the increase in the number of children from such poor families. Public libraries in poor Japan areas should provide more resources than ever to help them learn and grow. Specifically, study-aid books and workbooks for school lessons and entrance

examinations and IT equipment for accessing various types of information and for video games.

Video games are often talked about in a negative light. However, they improve children's cognitive abilities and improve their collaborative skills, especially in games played by multiple players. They are effective for children's growth.

Based on this background, the following three investigations were conducted in this study.

- (1) Investigation on public libraries' holdings of study-aid books and workbooks for junior and senior high school students.
- (2) A questionnaire survey of what junior and senior high school students want public libraries to have.
- (3) Asking high school students whether they want Nintendo Switch, Oculus Quest2, XP-PEN, iPad, study-aid books, and workbooks to be in public libraries after we asked them to use or browse them.

II. INVESTIGATION OF PUBLIC LIBRARIES' HOLDINGS OF STUDY-AID BOOKS AND WORKBOOKS

Emichi (2017) states that many public libraries do not have workbooks. The reasons are: (1) they are not practical, (2) they are at high risk of being lost and damaged, and (3) they place a financial burden on libraries. On the other hand, Yamaga City Library (2021) states that they provide study-aid books and workbooks and such libraries are rare in Japan. Min2-fly (2007) summarizes negative and positive views on public libraries providing study-aid books and workbooks. He suggests countermeasures to the problems caused by providing the books.

Then, to what extent do public libraries have study-aid books/workbooks in their collections? Are there any particular study-aid books/workbooks held in many libraries? If there is, their bibliographic information would be helpful for public libraries that are thinking of providing study-aid books and workbooks in the future.

A. Method

According to the Japan Library Association, 1,392 local governments (prefectures, cities, wards, towns, and villages) have public libraries in Japan as of April 1, 2021 (Japan Library Association, 2022). Based on the above questions, we investigated public libraries in these municipalities from September 5 to 9, 2022, to see whether they have study-aid books and workbooks for junior and senior high school students. The investigation was conducted using Calil's "Library API," which can automatically search almost all OPACs in Japan.

Sample study-aid books and workbooks were those with four or more stars on Amazon rating hit by entering the keywords "high school," "junior high school," "English," "mathematics," "physics," "chemistry," and "science." Furthermore, some of the books recommended in the following Web pages

with four or more stars on Amazon were also added to the sample.

- 1) <https://study-search.jp/columns/424>
(Study-aid books and study tips for the college entrance exam!)
- 2) <https://rank-king.jp/article/14966>
(30 recommended study-aid books for university entrance exams)
- 3) <https://ieben.gakken.jp/chugakusei-sankosho/>
(7 recommended study-aid books for junior high school students)

B. Results

The total number of study-aid books and workbooks for junior and senior high school students surveyed was 129, of which 50 were for English, 52 for mathematics, and 27 for physics, chemistry, and junior high school science as shown in Tables 1, 2, and 3.

The most widely held book on English was "世界一覚えやすい 中学の英単語 1800 (The World's Easiest to Remember Book for 1800 English Words for Junior High School)" (eight libraries), followed by "Junior High School English Words and Idioms 400" and "Comprehensive English Evergreen" both of which were held by six libraries. As for mathematics, the "数学ガールの秘密ノート (Math Girl's Secret Notebooks)" series was the most widely held book in most libraries. As for physics, chemistry, and junior high school science, the most popular books were "宇宙一わかりやすい高校物理 (電磁気・熱・原子) (The Most Easy-to-Understand High School Physics in the Universe (Electromagnetism, Heat, Atoms))."

Regardless of the subject (i.e. English, mathematics, physics, chemistry, and science) the number of libraries holding study-aid books and workbooks with the word "問題集 (workbook)" or "演習 (drill)" in the title was minor, partly confirming the tendency that public libraries do not have workbooks.

TABLE 1. STUDY-AID BOOKS AND WORKBOOKS FOR ENGLISH

Title	Publisher	Year	ISBN	Amazon Rating	Holding Libraries
世界一覚えやすい 中学の英単語 1800	KADOKAWA	2019	9784046045539	4.3	8
高校入試 での順ターゲット 中学英熟語 400 (無料音声アプリ対応)	旺文社	2019	9784010218006	4.4	6
総合英語 Evergreen	いっずな書店	2017	9784864602426	4.5	6
中 2 英語をひとつひとつわかりやすく。	学研プラス	2021	9784053052452	4.5	5
出る順で最短合格! 英検準 1 級 語彙問題完全制覇 (MP3 音声無料 DL つき)	ジャパンタイムズ出版	2019	9784789017374	4.3	4
高校入試 での順ターゲット 中学英単語 1800 (無料音声アプリ対応)	旺文社	2019	9784010217993	4.3	4
新基本英文 700 選 (CD 付)	駿台文庫	2002	9784796110440	4.2	4
7 日間完成 英検準 1 級 予想問題ドリル (CD3 枚付・音声アプリ対応)	旺文社	2019	9784010948927	4.4	3
キクタン (Advanced) 6000 語レベル (音声 DL・赤シート付)	アルク	2019	9784757433489	4.2	3
ニューコース参考書 中 1 英語	学研プラス	2021	9784053052087	4.4	3
ニューコース参考書 中 2 英語	学研プラス	2021	9784053052131	4.2	3
ボレボレ英文読解プロセス 50	代々木ライブラリー	1993	9784896803389	4.3	3
世界一覚えやすい 中学の英熟語 430	KADOKAWA	2016	9784046001900	4.0	3
最短合格! 英検準 1 級 リスニング問題 完全制覇 (CD-ROM1 枚&無料音声 DL つき)	ジャパンタイムズ出版	2019	9784789017299	4.4	2
2022 年度版 英検準 1 級 過去 6 回全問題集	旺文社	2022	9784010937112	4.5	2
大学入試 関正生の英語リスニング プラチナルール (CD2 枚付)	KADOKAWA	2016	9784046018137	4.2	2
Next Stage 英文法・語法問題: 入試英語頻出ポイント 218 の征服	桐原書店	2014	9784342431203	4.4	2
やってきたい英語長文 500	河合出版	2005	9784777201556	4.3	2
英検 CBT/英検 S-CBT 専用 英検準 1 級 予想問題ドリル	旺文社	2020	9784010949795	4.4	2
英検のプロと一緒に! つきっきり英検準 1 級	旺文社	2021	9784010950715	4.2	2
英単語ターゲット 1900	旺文社	2020	9784010346464	4.5	2
出る順で最短合格! 英検準 1 級 単熟語 EX	ジャパンタイムズ	2016	9784789016414	4.3	2
中 1 英語が面白いほどわかる本	KADOKAWA	2021	9784046047687	4.5	2
中 1 英語をひとつひとつわかりやすく。	学研プラス	2021	9784053052445	4.4	2
中 2 英語が面白いほどわかる本	KADOKAWA	2021	9784046047694	4.4	2
最短合格! 英検準 1 級 英作文問題完全制覇 (MP3 音声無料 DL つき)	ジャパンタイムズ	2017	9784789016780	4.3	1
チャート式 中学英語 1 年	数研出版	2021	9784410151552	4.3	1
チャート式 中学英語 2 年	数研出版	2021	9784410151651	4.4	1
英検分野別ターゲット 英検準 1 級 単語・熟語問題	旺文社	2018	9784010948521	4.2	1
鉄緑会東大英単語熟語 鉄壁	KADOKAWA	2020	9784046044112	4.5	1
大学入試 英語長文ハイパートレーニングレベル 2 標準編	桐原書店	2020	9784342206924	4.3	1
大学入試問題集 関正生の英語長文ボラリス	KADOKAWA	2016	9784046016898	4.3	1
中学版システム英単語	駿台文庫	2021	9784796111539	4.3	1
カード英熟語ターゲット 1000	旺文社	2021	9784010346600	4.4	0
チャート式 中学英語 1 年 準拠ドリル	数研出版	2021	9784410150579	4.3	0
チャート式 中学英語 2 年 準拠ドリル	数研出版	2021	9784410150586	4.6	0
できた! 中 1 英語 単語・読解	くもん出版	2021	9784774331102	4.2	0
できた! 中 1 英語 文法	くもん出版	2021	9784774331096	4.3	0
できた! 中 2 英語 単語・読解	くもん出版	2021	9784774331126	4.6	0
できた! 中 2 英語 文法	くもん出版	2021	9784774331133	4.4	0
ニューコース問題集 中 1 英語	学研プラス	2021	9784053052926	4.1	0
ニューコース問題集 中 2 英語	学研プラス	2021	9784053052971	4.6	0
英文法・語法 Vintage	いっずな書店	2018	9784864603751	4.3	0
鉄緑会東大英単語熟語 鉄壁 CD	KADOKAWA	2020	9784044005252	4.4	0
高校入試 での順ターゲット 中学英単語 1800 練習ノート	旺文社	2019	9784010218051	4.2	0
速読英単語 必修編 CD [改訂第 7 版対応]	Z 会	2019	9784865312294	4.3	0
中学 10 分間復習ドリル 英語 1 年:サクサク基礎トレ!	増進堂・受験研究社	2021	9784424636182	4.0	0
中学 10 分間復習ドリル 英語 2 年:サクサク基礎トレ!	増進堂・受験研究社	2021	9784424636199	4.5	0
中学 10 分間復習ドリル 英単語 1 年:サクサク基礎トレ!	増進堂・受験研究社	2021	9784424636212	4.0	0
中学 10 分間復習ドリル 英単語 2 年:サクサク基礎トレ!	増進堂・受験研究社	2021	9784424636229	4.2	0

TABLE 2. STUDY-AID BOOKS AND WORKBOOKS FOR MATHEMATICS

Title	Publisher	Year	ISBN	Amazon Rating	Holding Libraries
数学ガールの秘密ノート/丸い三角関数	SB クリエイティブ	2014	9784797375688	4.5	492
数学ガールの秘密ノート/数列の広場	SB クリエイティブ	2014	9784797375695	4.7	485
数学ガールの秘密ノート/微分を追いかけて	SB クリエイティブ	2015	9784797382310	4.6	474
数学ガールの秘密ノート/積分を見つめて	SB クリエイティブ	2017	9784797391381	4.4	473
数学ガールの秘密ノート/ベクトルの真実	SB クリエイティブ	2015	9784797382327	4.3	455
工学博士が教える高校数学の「使い方」教室	ダイヤモンド社	2020	9784478108154	4.4	212
気持ちよくわかる数列	ベレ出版	2013	9784860641719	4.8	58
マンガでわかる中学数学 中1	学研プラス	2021	9784053049216	4.4	13
中1数学が面白いほどわかる本	KADOKAWA	2021	9784046047717	4.4	7
中2数学が面白いほどわかる本	KADOKAWA	2021	9784046047724	4.8	5
中3数学が面白いほどわかる本	KADOKAWA	2021	9784046047731	4.5	5
坂田アキラの 数列が面白いほどわかる本	KADOKAWA/中経出版	2014	9784046007315	4.4	4
中1数学をひとつひとつわかりやすく。	学研プラス	2021	9784053052407	4.3	4
中2数学をひとつひとつわかりやすく。	学研プラス	2021	9784053052421	4.3	4
ニューコース参考書 中1 数学	学研プラス	2021	9784053052094	4.4	3
ニューコース参考書 中2 数学	学研プラス	2021	9784053052148	4.6	3
マンガでわかる中学数学 中2	学研プラス	2022	9784053049223	5.0	3
坂田アキラの 2次関数が面白いほどわかる本	KADOKAWA/中経出版	2014	9784046007322	4.2	3
坂田アキラの ベクトルが面白いほどわかる本	KADOKAWA	2017	9784046016188	4.3	3
坂田アキラの 場合の数・確率・データの分析が面白いほどわかる本	KADOKAWA	2017	9784046018762	4.4	3
チャート式 基礎からの数学 3	数研出版	2018	9784410105562	4.4	2
坂田アキラの 円と直線が面白いほどわかる本	KADOKAWA	2018	9784046020222	4.4	2
中学数学 図形の証明がらくらく解ける。	学研プラス	2010	9784053031051	4.1	2
チャート式 中学数学 1年	数研出版	2021	9784410150166	4.6	1
チャート式 中学数学 2年	数研出版	2021	9784410150265	4.3	1
坂田アキラの 数 II の微分積分が面白いほどわかる本	KADOKAWA/中経出版	2014	9784046007308	4.6	1
坂田アキラの 数 III の微分積分が面白いほどわかる本	KADOKAWA/中経出版	2015	9784046007346	4.3	1
数学 I・A 基礎問題精講 五訂版	旺文社	2020	9784010347065	4.3	1
数学 II・B 基礎問題精講 五訂版	旺文社	2020	9784010347072	4.4	1
数学 III 基礎問題精講 四訂新装版	旺文社	2020	9784010347089	4.5	1
NEW ACTION LEGEND 数学 1+A—思考と戦略	東京書籍	2016	9784487379910	4.7	0
NEW ACTION LEGEND 数学 2+B—思考と戦略 数列・ベクトル	東京書籍	2016	9784487379927	4.4	0
NEW ACTION LEGEND 数学 3—思考と戦略	東京書籍	2019	9784487379934	4.3	0
チャート式 基礎からの数学II+B	数研出版	2019	9784410105876	4.5	0
チャート式 基礎からの数学 I+A	数研出版	2019	9784410105777	4.5	0
チャート式 中学数学 1年 準拠ドリル	数研出版	2021	9784410151422	4.7	0
チャート式 中学数学 2年 準拠ドリル	数研出版	2021	9784410151439	4.0	0
できた! 中1 数学 関数・図形・データの活用	くもん出版	2021	9784774331041	4.5	0
できた! 中1 数学 計算	くもん出版	2021	9784774331034	4.2	0
できた! 中2 数学 計算・関数	くもん出版	2021	9784774331058	4.4	0
できた! 中2 数学 図形・データの活用	くもん出版	2021	9784774331065	4.4	0
ニューコース問題集 中1 数学	学研プラス	2021	9784053052933	4.4	0
ニューコース問題集 中2 数学	学研プラス	2021	9784053052988	4.7	0
ハイレベル精選問題演習数学 1+A+2+B	旺文社	2009	9784010335475	4.1	0
ハイレベル精選問題演習数学 3+C	旺文社	2010	9784010335482	5.0	0
教科書だけでは足りない大学入試攻略数列	河合出版	2013	9784777213832	4.3	0
中2 数学の図形の証明—定期テストに自信がもてる!	くもん出版	2012	9784774321257	4.5	0
中学 10分間復習ドリル 数学 1年: サクサク基礎トレ!	増進堂・受験研究社	2021	9784424636120	4.1	0
中学 10分間復習ドリル 数学 2年: サクサク基礎トレ!	増進堂・受験研究社	2021	9784424636137	4.0	0
日本一わかりやすい 坂田アキラの 図形と方程式が面白いほどとける本	KADOKAWA/中経出版	2011	9784046029003	4.0	0
理系数学の良問プラチカ 数学 1・A・2・B	河合出版	2014	9784777214884	4.5	0
理系数学の良問プラチカ 数学 3	河合出版	2014	9784777214891	4.5	0

TABLE 3. STUDY-AID BOOKS AND WORKBOOKS FOR PHYSICS, CHEMISTRY, AND JUNIOR HIGH SCHOOL SCIENCE

Title	Publisher	Year	ISBN	Amazon Rating	Holding Libraries
宇宙一わかりやすい高校物理（電磁気・熱・原子）	学研プラス	2013	9784053038555	4.4	15
中学理科が面白いほどわかる本	KADOKAWA	2021	9784046047755	4.1	8
中1理科をひとつひとつわかりやすく。	学研プラス	2021	9784053052353	4.5	4
中2理科をひとつひとつわかりやすく。	学研プラス	2021	9784053052360	4.2	4
ニューコース参考書 中1理科	学研プラス	2021	9784053052100	4.6	3
ニューコース参考書 中2理科	学研プラス	2021	9784053052155	4.9	3
鉄緑会物理攻略のヒント よくある質問と間違い例	角川学芸出版	2008	9784046213846	4.4	3
物理のエッセンス 熱・電磁気・原子	河合出版	2013	9784777213566	4.4	3
大学入試 漆原晃の 物理基礎・物理[力学・熱力学編]が面白いほどわかる本	KADOKAWA/中経出版	2014	9784046001382	4.3	2
物理のエッセンス 力学・波動	河合出版	2013	9784777213559	4.4	2
理系大学受験 化学の新演習—化学基礎収録	三省堂	2013	9784385261256	4.4	2
理系大学受験 化学の新研究	三省堂	2018	9784385260938	4.5	2
チャート式 中学理科1年	数研出版	2021	9784410150647	4.6	1
チャート式 中学理科2年	数研出版	2021	9784410150746	5.0	1
大学入試 坂田アキラの 物理基礎・物理[力学・熱力学編]の解法が面白いほどわかる本	中経出版	2013	9784046000576	4.3	1
大学入試 漆原晃の 物理基礎・物理[電磁気編]が面白いほどわかる本	KADOKAWA/中経出版	2014	9784046001399	4.3	1
大学入試 漆原晃の 物理基礎・物理[波動・原子編]が面白いほどわかる本	KADOKAWA/中経出版	2014	9784046001405	4.4	1
チャート式 中学理科1年 準拠ドリル	数研出版	2021	9784410153556	4.8	0
チャート式 中学理科2年 準拠ドリル	数研出版	2021	9784410153563	4.7	0
できた! 中1理科 物質・エネルギー (1分野)	くもん出版	2021	9784774331201	4.3	0
できた! 中2理科 物質・エネルギー (1分野)	くもん出版	2021	9784774331225	4.0	0
ニューコース問題集 中1理科	学研プラス	2021	9784053052940	4.5	0
ニューコース問題集 中2理科	学研プラス	2021	9784053052995	4.6	0
大学受験 Do シリーズ 鎌田の有機化学の講義	旺文社	2019	9784010346167	4.4	0
大学受験 Do シリーズ 鎌田の理論化学の講義	旺文社	2019	9784010346150	4.4	0
大学受験 Do シリーズ 福間の無機化学の講義	旺文社	2019	9784010346174	4.4	0
良問の風物理頻出・標準入試問題集	河合出版	2013	9784777213658	4.4	0

III. SURVEY OF RESOURCES JUNIOR AND SENIOR HIGH SCHOOL STUDENTS WANT PUBLIC LIBRARIES TO HAVE

As mentioned earlier, the background for this study is the increase in the number of children from low-income (poor) families. We think public libraries should provide more resources than ever before to help them learn and grow. The candidate resources are study-aid books and workbooks for school classes and entrance examinations, IT equipment for obtaining various types of information and for video games.

We investigated whether children from low-income (poor) families want study-aid books, workbooks, games, and other resources in public libraries. The questionnaire survey was conducted using LINE Research, a research service provided by LINE Corporation. The number of respondents was 631 as we mention later.

A. Games as a New Resource for Public Libraries

Do libraries need games? We will introduce papers below to answer this seemingly persistent question. Firstly, Kritikou (2019) states that games are common in public libraries stating as follows:

The idea of a silent library, filled only with books, should be a picture of the past. CDs, Nintendo Wii, and other calm electronic games, electronic media but especially events for all kinds of library's possible customers should be a part of the services in modern libraries.

Nicholson (2009) randomly selected 400 public libraries in the United States and asked them by telephone if they offered games. The results showed that 78% of public libraries offered some kind of games, and 20% even checked them out. Buchanan & Elzen (2012) stated that Nintendo Wii was impressive in encouraging and rewarding physical play, including games designed to be played standing up with large body movements. Nicholson (2013) describes the types of games offered in North

American public libraries from the 1850s to the present day. Public libraries in North America have offered some type of game to their patrons since their beginning. Schneider (2014) surveyed public libraries in the United States and reported that 84 (45.3%) out of 106 responding libraries had some video games. The most common were Nintendo's Wii, Nintendo DS, and Microsoft's Xbox. Inoue (2016) showed examples of Japanese libraries which introduced games and other countries' trends. National Diet Library (2018) described that Ozu Town Ozu Library started lending board games outside the library. Lindsey et al. (2018) described the utility and ways in which public libraries offered video games to attract new patrons; the Boston Public Library began lending video games in 2010, and the St. Louis Library has nearly 200 Xbox games. Templeton (2021) conducted a survey to determine how familiar public librarians were with games to attract new patrons by offering gaming devices such as PlayStation, Nintendo, and Xbox. Leorke & Wyatt (2022) discussed the history and utility of new public libraries as places to play games.

B. Method

Now, let us return to the questionnaire survey we conducted. We listed the following ten resources and asked whether children would like to have them in the public library.

- a) Study-aid books and workbooks for English
- b) Study-aid books and workbooks for mathematics
- c) Study-aid books and workbooks for the Japanese language
- d) Study-aid books and workbooks on physics, chemistry, biology, geology, etc.
- e) Study-aid books and workbooks on history, geography, civics, etc.
- f) Entertainment Manga such as Kimetsu-no-Yaiba, SPY x FAMILY, etc.

- g) A tablet such as iPad
- h) Game consoles such as the Nintendo Switch and PlayStation
- i) VR devices such as Oculus Quest2
- j) Drawing tablets such as XP-PEN

The questionnaire survey was conducted using LINE Research. As most children cannot answer their parent's annual income, we decided to judge whether or not children are poor by the number and gender of parents they live with and whether or not they have a part-time job. As shown in the results of the OECD, single-parent households in which only one parent lives with the child tend to be poorer than two-parent households in which both parents live with the child.

LINE Research distributed questionnaires to registered respondents between the ages of 15 and 19 from September 20 to 21, 2022. The number of respondents was set at 600 due to our budget constraints, but 631 responses were obtained. Among the 631 respondents, the number of responded junior high and high school students, etc. was 448. The number of students with single/no parents was 78. 15 out of 78 children had some kind of part-time job as we mention later. In this study, we focus on these 15 and 78 students as those who are more likely to be poor than others.

C. Results

Of the above-mentioned 631 respondents, 324 (51.3%) were male and 307 (48.7%) were female. The results of the first question about the grade (occupation) are shown in Table 4. For example, Table 4 shows 121 respondents in the second year of high school, accounting for 19.2% of the total.

For convenience, we refer to the 448 junior high school students, high school students, and Ronin students in Table 4 as "children" in this study. We may need to include working adults and university students as poor minors in the survey, but this is an issue to be addressed in the future.

TABLE 4. GRADE (OCCUPATION) OF THE RESPONDENTS

Category	Ratio	N
Junior High School Student	6.2	39
High School Freshman	24.9	157
High School Sophomore	19.2	121
Senior High School Student	19.3	122
College Student	18.9	119
Ronin	1.4	9
Working People	2.7	17
I don't want to answer.	6.5	41
Other	1.0	6
Total	100.0	631

1) *Family Structure and Part-time Jobs*

Fig. 1. The family structure of the above 448 junior high and high school students or Ronin students is shown in Table 5. Table 5 shows, for example, that there were 51 children in single-parent families,

accounting for 11.4% of the 448 students. The number of hours of part-time jobs per week for the previously-mentioned 78 children is shown in Table 6. 15 out of 78 children, excluding 63 children, had some kind of part-time job.

TABLE 5. FAMILY STRUCTURE OF JUNIOR HIGH AND HIGH SCHOOL STUDENTS, AND RONIN STUDENTS

Category	Ratio	N
Mother and Children (including Grand Parents)	11.4	51
Father and Children (including Grand Parents)	2.7	12
Grand Parents Only and Children	0.7	3
No Parent and No Grand Parent and Children	2.7	12
Single-or-No Parent and Children	17.4	78
Mother and Father (including Grand Parents) and Children	82.6	370

TABLE 6. WORKING HOURS PER WEEK OF "SINGLE-OR-NO PARENT" OF JUNIOR HIGH AND HIGH SCHOOL STUDENTS, AND RONIN STUDENTS

Category	Ratio	N
More than 30 Hours	6.4	5
20 to 29 Hours	2.6	2
15 to 19 Hours	3.8	3
10 to 14 Hours	3.8	3
5 to 9 Hours	0.0	0
1 to 4 Hours	2.6	2
Not Working	80.8	63
Total	100.0	78

2) *Do You Use Public Libraries?*

Fig. 2. Table 7 shows the degree of use of public libraries by 448 junior high and high school students. Among the 15 students who had a single-or-no parent and had a part-time job, 26.7% used the public library at least once a week, which was significantly higher than the 3.6% of the total 448 students at the 0.01 level. Among the 78 students who had a single-or-no parent, 9.0% used the public library at least once a week, which was significantly higher than the above-mentioned 3.6% at the 0.05 level. If "poverty" can be inferred from the number of parents living together and engaging in part-time jobs, the poorer the children were, the more they used the public library.

TABLE 7. FREQUENCY OF USE OF PUBLIC LIBRARIES

Category	Students with Single-or-No Parent with Part-time Job		Students with Single-or-No Parent		Students	
	Ratio	N	Ratio	N	Ratio	N
Once a Week or More	26.7	4	9.0	7	3.6	16
Two or Three Times a Month	0.0	0	2.6	2	6.7	30
Once a Month	6.7	1	7.7	6	8.0	36
Once every Three Months	0.0	0	7.7	6	12.5	56
Once every Six Months	13.3	2	6.4	5	11.8	53
Once a Year	13.3	2	16.7	13	14.5	65
Never	40.0	6	50.0	39	42.9	192
Total	100.0	15	100.0	78	100.0	448

3) *Resources You Want to See in Public Libraries*

The results concerning the question “What books or IT equipment would make you want to visit a public library if it had them? (Multiple answers allowed)” are shown in Table 8.

TABLE 8. BOOKS AND IT EQUIPMENT THAT MAKE YOU WANT TO VISIT PUBLIC LIBRARIES

Category	Students with Single-or-No Parent with Part-time Job		Students with Single-or-No Parent		Students	
	Ratio	N	Ratio	N	Ratio	N
Study-aid Books and Workbooks for English	33.3	5	34.6	27	35.0	157
Study-aid Books and Workbooks for mathematics	13.3	2	25.6	20	32.6	146
Study-aid Books and Workbooks for the Japanese language	0.0	0	17.9	14	23.9	107
Study-aid Books and Workbooks on Physics, Chemistry, Biology, Geology, etc.	20.0	3	23.1	18	31.0	139
Study-aid Books and Workbooks on History, Geography, Civics, etc.	6.7	1	14.1	11	25.4	114
Entertainment Manga such as Kimetsu-no-Yaiba, SPY x FAMILY, etc.	13.3	2	33.3	26	44.4	199
A Tablet such as iPad	13.3	2	24.4	19	32.6	146
Games such as Nintendo Switch and PlayStation	0.0	0	25.6	20	29.7	133
VR Devices such as Oculus Quest2	13.3	2	12.8	10	12.5	56
Drawing Tablets such as XP-PEN	0.0	0	12.8	10	13.2	59
Other	0.0	0	3.8	3	2.9	13
None	13.3	2	24.4	19	17.0	76

There was no tendency for “poor” children to choose study-aid books and workbooks more often than all children. However, it should be noted that the most common choice among the 448 junior high, high school students, and Ronin students was “Entertainment Manga such as Kimetsu-no-Yaiba and SPY x FAMILY,” (chosen by 44.4% of them), while only 13.3% of the 15 students with a single-or-

no parent and with part-time jobs chose this. The same is true for the 78 students with a single-or-no parent. The most frequently selected item by the above-mentioned 15 students was “Study-aid books and workbooks for English,” which accounted for 33.3%.

In general, 15 students were more likely to choose study-aid books and workbooks than Manga and

electronic devices, compared with 448 junior high, high school students, and Ronin students. The tendency of “poor” children to want study-aid books and workbooks at public libraries is relatively strong. Of the above-mentioned 15 students, four answered that they used the public library at least once a week. Two of them chose “Study-aid books and workbooks for English.” This indicates that poor children who already use public libraries frequently also want study-aid books and workbooks for English.

Although video games such as Nintendo Switch and PlayStation were not needed by the 15 students, they were relatively needed by 78 students and total 448 students (25.6% and 29.7% of them, respectively). The same was true for tablets such as the iPad. As mentioned earlier, video games are becoming popular in public libraries in the United States. Japanese public libraries might be better to consider holding and providing them. Tablets such as iPad can be used as video games and reading devices such as Kindle. They can also be used for various purposes, such as writing, calculating, and drawing.

The percentage of those who chose “VR device such as Oculus Quest2” was not high, in the 10% range. However, this may be because it is not well-known yet. VR may become the center of electronic devices in the future, not to mention the so-called “Metaverse.” For example, the Virtual Reality Education and Research Center at the University of Tokyo aims to introduce VR into education and dramatically increase educational efficiency

(<https://vr.u-tokyo.ac.jp/>). There is a possibility that the number of educational environments which students cannot access without VR equipment will increase.

Finally, the proportion of respondents who wanted a “Drawing tablet such as XP-PEN” was not very high. However, it seems that even if there are not many needs among junior high and high school students, small children might be pleased with them. We would like to examine the needs in the children’s corner in the future.

4) *Study-aid Books and Workbooks that were Helpful*

Fig. 3. If public libraries provide study-aid books and workbooks, it is more effective to provide highly rated ones. When asked about English, mathematics, and science, the results are shown in Tables 9, 10, and 11, respectively. For English, “*でる順ターゲット 中学英単語 1800*” and “*中 2 英語をひとつひとつわかりやすく。*” were selected most frequently. For mathematics, “*チャート式 中学数学*” and “*中 2 数学をひとつひとつわかりやすく。*” and for science, “*中 2 理科をひとつひとつわかりやすく。*” and “*チャート式 中学理科*” were selected most. In the previous investigation on holding books, many libraries had English vocabulary books. Here, too, vocabulary books ranked high. Public libraries should consider holding and providing them.

TABLE 9. MOST SELECTED STUDY-AID BOOKS AND WORKBOOKS FOR ENGLISH

Title	Ratio	N
でる順ターゲット 中学英単語 1800	10.5	66
中2英語をひとつひとつわかりやすく。	5.9	37
チャート式 中学英語	4.1	26
中2英語が面白いほどわかる本	2.9	18
ニューコース参考書 英語	2.7	17
ニューコース問題集 英語	2.7	17
中学 10分間復習ドリル 英語	2.7	17
チャート式 中学英語 準拠ドリル	2.1	13
中学版システム英単語	2.1	13
世界一覚えやすい中学の英単語 1800	1.6	10
できた!中2英語 文法	1.3	8
None	75.1	474

TABLE 10. MOST SELECTED STUDY-AID BOOKS AND WORKBOOKS FOR MATHEMATICS

Title	Ratio	N
チャート式 中学数学	11.6	73
中2数学をひとつひとつわかりやすく。	5.5	35
チャート式 中学数学 準拠ドリル	4.3	27
中学 10分間復習ドリル 数学	4.3	27
マンガでわかる中学数学	4.0	25
中2数学が面白いほどわかる本	3.3	21
ニューコース問題集 数学	2.2	14
ニューコース参考書 数学	2.1	13
できた!中2数学 計算・関数	2.1	13
中学数学 図形の証明がらくらく解ける。	1.3	8
中2数学の図形の証明—定期テストに自信がもてる!	1.0	6
None	73.5	464

TABLE 11. MOST SELECTED STUDY-AID BOOKS AND WORKBOOKS FOR SCIENCE

Title	Ratio	N
中2理科をひとつひとつわかりやすく。	4.9	31
チャート式 中学理科	4.0	25
中学理科が面白いほどわかる本	3.3	21
できた!中2理科 物質・エネルギー	3.0	19
ニューコース参考書 理科	2.2	14
チャート式 中学理科 準拠ドリル	1.9	12
ニューコース問題集 理科	1.9	12
None	86.2	544

IV. INTERVIEW WITH HIGH SCHOOL STUDENTS

On September 23, 2022, we asked three high school students to use Nintendo Switch, Oculus Quest2, XP-PEN, and iPad and asked whether they would prefer to have them in the public library. As a result, two respondents evaluated the Nintendo Switch and its games as “It would be better if the public library had these,” one respondent said, “I already have the Nintendo Switch. So, I want libraries to provide games for the Switch.” One respondent said, “It would be better if the public library had these, but I do not go to libraries alone to play games. I will go with my friends.” Therefore, by offering video games, libraries may be able to obtain new users as friends of the existing users.

As for the Oculus Quest2 games, all three evaluated it as “very immersive and should be available in public libraries.” Regarding the Ring Fit Adventure for physical training, two rated that it is not needed in public libraries, but the other noted that it would be better to have, especially for children’s libraries. As for the XP-PEN, two evaluated that it was fine without it in the library, but one said that it was better to have it in the library because it was helpful for people who draw on their smartphones. Regarding iPads, all three stated that they should be in public libraries and be eligible to be checked out. However, one pointed out that since schools provide iPads to all students now, it may not be necessary for public libraries to provide them.

V. CONCLUSIONS

In this study, we investigated new resources that public libraries should provide in the future with a view to children from poor families. It was shown that poor students wanted public libraries to have study-aid books and workbooks for English. Games were desired by many students. Public libraries in Japan should consider holding and providing them.

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