A STUDY ON RELATIONSHIP BETWEEN SOCIAL INTELLIGENCE AND ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS

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Abstract

The study aimed to identify the relationship between social intelligence and academic achievement of higher secondary students. The investigator adopted survey method to study the social intelligence between students from selected government, private and aided school. For this study a sample of 300 school students from eight various schools which are situated in Palakkad district selected by the investigator using simple random sampling technique. The findings revealed that there is no significant relationship between social intelligence and academic achievement. This study shows that students do not find healthy environment in schools for developing their social intelligence. The schools fail to provide a proper environment to develop better relationship, positive behavior, social skills positive attitudes and good mental health in students.

Keywords: Social Intelligence; Academic Achievement.

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1. Introduction

Socially intelligent people are more probable to flourish in everything they undertake in their life. Contrasting what is demanded to I.Q one can learn and improve some vital social capabilities, flagging the way for growing their social intelligence and thus creating their life more healthy, enjoyable, successful and satisfied in the upcoming days. The concept of social intelligence is to be highly praised, not because it is new but because it seizures the essence of work. The present investigation is an attempt to study the relationship between social intelligence and academic achievement of the higher secondary school students from selected government,
aided and private schools located in Palakkad district. The findings of the study help to discover the social intelligence and relationship with academic achievement in English.

1.1. Objectives of the Study

There are two main types of objectives undertaken by the investigator in this study work.

1.1.1. General Objectives

- To find the relation between social intelligence and academic achievement in English among higher secondary school students.
- To adopt questionnaire on social intelligence and achievement in English among higher secondary school students.

1.1.2. Specific Objectives

- To find out the social intelligence among higher secondary school students.
- To find out the achievement in English among higher secondary school students.
- To find out the impact of personal variables like Medium of Instruction, Gender, Location of the School, Type of the School, Educational qualification of father, Educational qualification of mother, Occupation of Father, Occupation of Mother on social intelligence and achievement in English among higher secondary school students.

2. Research Design

The investigator adopted survey method to study the social intelligence and academic achievement in English among higher secondary school students. For the study about social intelligence and academic achievement in English, the sample size is 300 higher secondary students from 8 various schools which are situated in and around Palakkad district in Kerala.

Table 1: Distribution of Samples based on Variables

| S.NO | Category | Subgroups       | Number | %   | Total |
|------|----------|----------------|--------|-----|-------|
| 1.   | Medium of Instruction | Malayalam | 159    | 53% | 300   |
|      |          | English       | 141    | 47% |       |
| 2.   | Gender   | Male          | 150    | 50% | 300   |
|      |          | Female        | 150    | 50% |       |
| 3.   | Location of the School | Urban | 150    | 50% | 300   |
|      |          | Rural         | 150    | 50% |       |
| 4.   | Type of the School | Govt. | 98     | 32.7%| 300   |
|      |          | Aided         | 111    | 37% |       |
|      |          | Private       | 91     | 30.3%|       |
| 5.   | Educational Qualification of father | Below 10th | 53    | 17.7%| 300   |
|      |          | UG            | 134    | 44.7%|       |
|      |          | PG            | 57     | 19% |       |
|      |          | Professional  | 56     | 18.7%|       |
6. Educational Qualification of mother

| Level     | No. of Cases | Percentage |
|-----------|--------------|------------|
| Below 10th| 65           | 21.7%      |
| UG        | 122          | 40.7%      |
| PG        | 56           | 18.7%      |
| Professional| 57        | 19%        |

7. Occupation of Father

| Occupation    | No. of Cases | Percentage |
|---------------|--------------|------------|
| Daily Wagers  | 44           | 14.7%      |
| Farmer        | 89           | 29.7%      |
| Govt. Job     | 65           | 21.7%      |
| Private       | 44           | 14.7%      |
| Business      | 58           | 19.3%      |

8. Occupation of Mother

| Occupation    | No. of Cases | Percentage |
|---------------|--------------|------------|
| Daily Wagers  | 55           | 18.3%      |
| Farmer        | 65           | 21.7%      |
| Govt. Job     | 44           | 14.7%      |
| Private       | 25           | 8.3%       |
| Business      | 13           | 4.3%       |
| Home maker    | 98           | 32.7%      |

Table 2: Scoring of Each item

| S.No | Dimension                                      | Question no.         | Scoring |
|------|-----------------------------------------------|----------------------|---------|
|      |                                               |                      | Yes     | No     | Sometimes |
| 1.   | Social Intelligence Scale                     | 1 to 15              | 3       | 1      | 2         |
| 2.   | Academic Achievement in English (for Positive Questions) | 1 to 5, 7, 11, 12, 14, 15 | 3       | 1      | 2         |
| 3.   | Academic Achievement in English (for Negative Questions) | 6, 8, 9, 10, 13      | 1       | 3      | 2         |

Table 3: Ranks assigned for the Social Intelligence Scale

| Social Intelligence Scale | Rank |
|---------------------------|------|
| 15 to 25                  | Low  |
| 26 to 35                  | Moderate |
| 36 to 45                  | High |

Table 4: Ranks assigned for the Academic Achievement in English scores

| Academic Achievement in English Scores | Rank |
|---------------------------------------|------|
| 15 to 25                              | Low  |
| 26 to 35                              | Moderate |
| 36 to 45                              | High |

HYPOTHESIS 1:

There will be a significant mean score difference towards social intelligence between medium of instruction among higher secondary school students.
Table 5: Frequency and percentage difference towards social intelligence between medium of instruction among higher secondary school students.

| Medium of Instruction | Low | Moderate | High |
|-----------------------|-----|----------|------|
|                       | N   | %        | N    | %    | N    | %    | Total |
| Malayalam             | 1   | 0.62     | 36   | 22.64| 122  | 76.73| 159   |
| English               | 2   | 1.42     | 30   | 21.28| 109  | 77.30| 141   |

From the table 5 that amid the malayalam medium, 76.73% of them have high Level, 22.64% of them have moderate Level and 0.62% of them have low level of social intelligence. Similarly, amid the English medium, 77.30% of them have high Level, 21.05%of them have moderate Level and 1.42% of them have low level of social intelligence.

Table 6: ‘t’ values towards social intelligence between medium of instruction among higher secondary school students.

| Medium of Instruction | Number | Mean  | S.D  | df    | t value | p-value | Remarks |
|-----------------------|--------|-------|------|-------|---------|---------|---------|
| Malayalam             | 159    | 2.76  | 0.44 | 300   | 0.73    | 0.23    | Not significant |
| English               | 141    | 2.75  | 0.46 |       |         |         |         |

(at 0.05 significant level the table value of ‘t’ is 1.64)

From the table 6 the calculated value (0.73) is less than the table value of ‘t’ (1.64), the null hypothesis is accepted. It is inferred from the above table that there is no significant difference towards social intelligence between medium of instruction among higher secondary school students.

HYPOTHESIS 2:

There will be a significant mean score difference towards achievement in English between medium of instruction among higher secondary school students.

Table 7: Frequency and percentage difference towards achievement in English between medium of instruction among higher secondary school students.

| Medium of Instruction | Low | Moderate | High |
|-----------------------|-----|----------|------|
|                       | N   | %        | N    | %    | N    | %    | Total |
| Malayalam             | 23  | 14.47    | 136  | 85.53| 0    | 0    | 159   |
| English               | 20  | 14.18    | 121  | 85.82| 0    | 0    | 141   |

From the table 7 that amid the malayalam medium, 85.53% of them have moderate Level and 14.47% of them have low level of achievement in English. Similarly, amid the English medium, 85.82% of them have moderate Level and 14.18% of them have low level of achievement in English.
Table 8: ‘t’ values towards achievement in English between medium of instruction among higher secondary school students.

| Medium of Instruction | Number | Mean | S.D  | df  | t value | p-value | Remarks    |
|-----------------------|--------|------|------|-----|---------|---------|------------|
| Malayalam             | 159    | 1.855| 0.352| 300 | 3.18    | 0.0008  | Significant|
| English               | 141    | 1.858| 0.350|     |         |         |            |

(at 0.05 significant level the table value of ‘t’ is 1.64)

From the table 8 the calculated value (3.18) is greater than the table value of ‘t’ (1.64), the null hypothesis is rejected. It is inferred from the above table that there is a significant difference towards achievement in English between medium of instruction among higher secondary school students.

HYPOTHESIS 3:

There will be a significant mean score difference towards social intelligence between gender among higher secondary school students.

Table 9: Frequency and percentage difference towards social intelligence between gender among higher secondary school students.

| Gender | Low | Moderate | High |
|--------|-----|----------|------|
|        | N   | N        | N    | %  | %  | %  | Total |
| Male   | 3   | 30       | 117  | 2  | 20 | 78 | 150   |
| Female | 0   | 36       | 114  | 0  | 24 | 76 | 150   |

From the table 9 that amid the male students, 78% of them have high Level and 20% of them have low level in Social intelligence. Similarly, amid the female students, 76% of them have high Level and 24% of them have low level in social intelligence.

Table 10: ‘t’ values towards social intelligence between gender among higher secondary school students.

| Gender | Number | Mean | S.D  | df  | t value | p-value | Remarks   |
|--------|--------|------|------|-----|---------|---------|-----------|
| Male   | 150    | 2.76 | 0.473| 300 | 0.93    | 0.17    | Not significant |
| Female | 150    | 2.76 | 0.428|     |         |         |            |

(at 0.05 significant level the table value of ‘t’ is 1.64)

From the table 10 the calculated value (0.93) is less than the table value of ‘t’ (1.64), the null hypothesis is accepted. It is inferred from the above table that there is no significant difference towards social intelligence between gender among higher secondary school students.
HYPOTHESIS 4:

There will be a significant mean score difference towards achievement in English between gender among higher secondary school students.

Table 11: Frequency and percentage difference towards achievement in English between gender among higher secondary school students.

| Gender | Low | Moderate | High | Total |
|--------|-----|----------|------|-------|
|        | N   | %        | N    | %    | N    | %    |
| Male   | 23  | 15.33    | 127  | 84.67| 0    | 0    |
| Female | 20  | 13.33    | 130  | 86.67| 0    | 0    |

From the table 11 that amid the male students, 84.67% of them have moderate level and 15.33% of them have low level in achievement in English. Similarly, amid the female students, 86.67% of them have moderate level and 13.33% of them have low level in achievement in English.

Table 12: ‘t’ values towards achievement in English between gender among higher secondary school students.

| Gender | Number | Mean | S.D  | df   | t value | p-value | Remarks |
|--------|--------|------|------|------|---------|---------|---------|
|        |        |      |      |      |         |         |         |
| Male   | 150    | 1.846| 0.361| 300  | 10.239  | 0.00001 | Significant |
| Female | 150    | 1.866| 0.341|      |         |         |         |

(at 0.05 significant level the table value of ‘t’ is 1.64)

From the table 12 the calculated value (10.239) is greater than the table value of ‘t’ (1.64), the null hypothesis is rejected. It is inferred from the above table that there is a significant difference towards achievement in English between gender among higher secondary school students.

HYPOTHESIS 5:

There will be a significant mean score difference towards social intelligence between location of the school among higher secondary school students.

Table 13: Frequency and percentage difference towards social intelligence between location of the school among higher secondary school students.

| Location of School | Low | Moderate | High | Total |
|-------------------|-----|----------|------|-------|
|                   | N   | %        | N    | %    | N    | %    |
| Urban             | 2   | 1.33     | 34   | 22.67| 114  | 76   | 150  |
| Rural             | 1   | 0.67     | 32   | 21.33| 117  | 78   | 150  |

From the table 13 that amid the urban school students, 76% of them have high level, 22.67% of them have moderate level and 1.33% of them have low level in social intelligence. Similarly,
amid the rural school students, 78% of them have high level, 21.33% of them have moderate Level and 0.67% of them have low level in social intelligence.

Table 14: ‘t’ values towards social intelligence between location of the school among higher secondary school students.

| Location of School | Number | Mean | S.D | df  | t value | p-value | Remarks            |
|--------------------|--------|------|-----|-----|---------|---------|--------------------|
| Urban              | 150    | 2.74 | 0.46| 300 | 0.80    | 0.21    | Not Significant    |
| Rural              | 150    | 2.77 | 0.43|     |         |         |                    |

(at 0.05 significant level the table value of ‘t’ is 1.64)

From the table 14 the calculated value (0.80) is less than the table value of ‘t’ (1.64), the null hypothesis is accepted. It is inferred from the above table that there is no significant difference towards social intelligence between location of the school among higher secondary school students.

HYPOTHESIS 6:

There will be a significant mean score difference towards achievement in English between location of the school among higher secondary school students.

Table 15: Frequency and percentage difference towards achievement in English between location of the school among higher secondary school students.

| Location of School | Low | Moderate | High | Total |
|--------------------|-----|----------|------|-------|
|                    | N   | %        | N    | %     | N  | %  |       |       |
| Urban              | 18  | 12       | 132  | 88    | 0  | 0  | 150   |       |
| Rural              | 25  | 16.67    | 125  | 83.33 | 0  | 0  | 150   |       |

From the table 15 that amid the urban school students, 88% of them have moderate level and 12% of them have low level in achievement in English. Similarly, amid the rural school students, 83.33% of them have moderate Level and 16.67% of them have low level in achievement in English.

Table 16: ‘t’ values towards achievement in English between location of the school among higher secondary school students.

| Location of School | Number | Mean | S.D | df  | t value | p-value | Remarks            |
|--------------------|--------|------|-----|-----|---------|---------|--------------------|
| Urban              | 150    | 2.06 | 0.10| 300 | 0.87    | 0.192   | Not Significant    |
| Rural              | 150    | 2.05 | 0.11|     |         |         |                    |

(at 0.05 significant level the table value of ‘t’ is 1.64)

From the table 16 the calculated value (0.87) is less than the table value of ‘t’ (1.64), the null hypothesis is accepted. It is inferred from the above table that there is no significant difference
towards achievement in English between location of the school among higher secondary school students.

**HYPOTHESIS 7:**

There will be a significant difference towards social intelligence between the types of school among higher secondary school students.

Table 17: Means score difference towards social intelligence between the types of school among higher secondary school students.

| Variable            | Type of School  | N  | Mean | Std. Deviation |
|---------------------|-----------------|----|------|----------------|
| Social Intelligence | Government      | 98 | 2.78 | 0.436          |
|                     | Aided           | 111| 2.79 | 0.407          |
|                     | Private School  | 91 | 2.69 | 0.509          |
|                     | Total           | 300| 2.76 | 0.450          |

The table 17 concluded that the mean value of government school is 2.78 whereas the mean value of aided school students is 2.79, the mean value of private school students is 2.69. The result inferred that the mean value for aided school students is better than others.

Table: 18: F-ratio towards social intelligence between the types of school among higher secondary school students.

| Source of variance | df | Sum square | Mean square | F  | Remarks       |
|--------------------|----|------------|-------------|----|---------------|
| Between Group      | 2  | 0.601      | 0.301       | 1.49| Not Significant |
| With in group      | 297| 60.119     | 0.202       |     |               |

The table 18 concluded that the calculated value of “F” (1.49) is less than the table value of “F” (0.05) which holds 3.04, the Null hypothesis is accepted .It is inferred from the above table that there is no significant difference towards social intelligence between the types of school among higher secondary school students.

**HYPOTHESIS 8:**

There will be a significant difference towards social intelligence between the educational qualification of father among higher secondary school students.

Table 19: Means score difference towards social intelligence between the educational qualification of father among higher secondary school students.

| Variable            | Educational Qualification of father | N  | Mean | Std. Deviation |
|---------------------|-------------------------------------|----|------|----------------|
| Social Intelligence | Below 10th                           | 53 | 3.00 | 0.00           |
|                     | UG                                   | 134| 2.72 | 0.44           |
|                     | PG                                   | 57 | 2.77 | 0.42           |
| Variable | Educational Qualification of Father | N | Mean | Std. Deviation |
|----------|------------------------------------|---|------|---------------|
| Social Intelligence | Below 10<sup>th</sup> | 53 | 3.00 | 0.00 |
| | UG | 134 | 2.72 | 0.44 |
| | PG | 57 | 2.77 | 0.42 |
| | Professional | 56 | 2.60 | 0.59 |
| | Total | 300 | 2.76 | 0.45 |

The table 19 concluded that the mean value of Below 10<sup>th</sup> qualified father’s student is 3.00 whereas the mean value of UG is 2.72, the mean value of PG is 2.77 and the mean value of professional is 2.60. The result inferred that the mean value of Below 10<sup>th</sup> qualified father’s student is high compare to others.

Table 20: F-ratio towards social intelligence between the educational qualification of father among higher secondary school students.

| Source of variance | df  | Sum square | Mean square | F    | Remarks     |
|--------------------|-----|------------|-------------|------|-------------|
| Between Group      | 3   | 4.54       | 1.515       | 7.97 | Not Significant |
| With in group      | 296 | 56.176     | 0.190       |      |             |

The table 20 concluded that the calculated value of “F” (7.97) is less than the table value of “F” (0.05) which holds 2.65, the Null hypothesis is accepted .It is inferred from the above table that there is no significant difference towards social intelligence between the educational qualification of father among higher secondary school students.

**HYPOTHESIS 9:**

There will be a significant difference towards social intelligence between the educational qualification of mother among higher secondary school students.

Table 21: Means score difference towards social intelligence between the educational qualification of mother among higher secondary school students.

| Variable | Educational Qualification of Mother | N | Mean | Std. Deviation |
|----------|-------------------------------------|---|------|---------------|
| Social Intelligence | Below 10<sup>th</sup> | 65 | 3.00 | 0.00 |
| | UG | 122 | 2.66 | 0.47 |
| | PG | 56 | 3.00 | 0.00 |
| | Professional | 57 | 2.45 | 0.599 |
| | Total | 300 | 2.76 | 0.45 |

The table 21 concluded that the mean value of Below 10<sup>th</sup> qualified mother’s student is 3.00 whereas the mean value of UG is 266, the mean value of PG is 3.00 and the mean value of
professional is 2.45. The result inferred that the mean value of Below 10th qualified and PG qualified mother’s student is high compare to others.

Table 22: F-ratio towards social intelligence between the educational qualification of mother among higher secondary school students.

| Source of variance | df | Sum square | Mean square | F     | Remarks |
|--------------------|----|------------|-------------|-------|---------|
| Between Group      | 3  | 13.35      | 4.45        | 27.81 | Significant |
| With in group      | 296| 47.36      | 0.160       |       |          |

The table 22 concluded that the calculated value of “F” (27.81) is greater than the table value of “F” (0.05) which holds 2.65, the Null hypothesis is rejected. It is inferred from the above table that there is a significant difference towards social intelligence between the educational qualification of mother among higher secondary school students.

HYPOTHESIS 10:

There will be a significant difference towards social intelligence between the occupation of father among higher secondary school students.

Table 23: Means score difference towards social intelligence between the occupation of father among higher secondary school students.

| Variable          | Occupation of Father | N   | Mean | Std. Deviation |
|-------------------|-----------------------|-----|------|----------------|
| Social Intelligence| Daily Wagers          | 44  | 2.72 | 0.45           |
|                   | Farmer                | 89  | 2.71 | 0.45           |
|                   | Govt.Job              | 65  | 3.00 | 0.00           |
|                   | Private               | 44  | 2.40 | 0.49           |
|                   | Business              | 58  | 2.84 | 0.48           |
|                   | Total                 | 300 | 2.76 | 0.45           |

The table 23 concluded that the mean value of daily wagers’ student is 2.72 whereas the mean value of Farmer is 2.71, the mean value of Govt. Job is 3.00, the mean value of Private is 2.40 and the mean value of Business is 2.84. The result inferred that the mean value of Government job father’s student is high compare to others.

Table 24: F-ratio towards social intelligence between the occupation of father among higher secondary school students.

| Source of variance | df | Sum square | Mean square | F     | Remarks |
|--------------------|----|------------|-------------|-------|---------|
| Between Group      | 4  | 9.775      | 2.44        | 14.15 | Significant |
| With in group      | 295| 50.945     | 0.17        |       |          |

The table 24 concluded that the calculated value of “F” (14.15) is greater than the table value of “F” (0.05) which holds 2.42, the Null hypothesis is rejected. It is inferred from the above table...
that there is a significant difference towards social intelligence between the occupation of father among higher secondary school students.

**HYPOTHESIS 11:**

There will be a significant difference towards social intelligence between the occupation of mother among higher secondary school students.

Table 25: Means score difference towards social intelligence between the occupation of mother among higher secondary school students.

| Variable          | Occupation of Mother | N  | Mean | Std. Deviation |
|-------------------|----------------------|----|------|----------------|
| Social Intelligence | Daily Wagers         | 55 | 2.76 | 0.42           |
|                   | Farmer               | 65 | 2.61 | 0.49           |
|                   | Govt.Job             | 44 | 3.00 | 0.00           |
|                   | Private              | 25 | 2.48 | 0.50           |
|                   | Business             | 13 | 3.00 | 0.00           |
|                   | Home maker           | 98 | 2.78 | 0.48           |
|                   | Total                | 300| 2.76 | 0.45           |

The table 25 concluded that the mean value of daily wagers’ student is 2.76 whereas the mean value of Farmer is 2.61, the mean value of Govt.Job is 3.00, the mean value of Private is 2.48, the mean value of Business is 3.00 and the mean value of Home maker is 2.78. The result inferred that the mean value of Government job and business doing mother’s student is high compare to others.

Table 26: F-ratio towards social intelligence between the occupation of mother among higher secondary school students.

| Source of variance | df  | Sum square | Mean square | F    | Remarks |
|--------------------|-----|------------|-------------|------|---------|
| Between Group      | 5   | 6.66       | 1.33        | 7.38 | Significant |
| With in group      | 294 | 54.05      | 0.18        |      |          |

The table 26 concluded that the calculated value of “F” (7.38) is greater than the table value of “F” (0.05) which holds 2.26, the Null hypothesis is rejected. It is inferred from the above table that there is a significant difference towards social intelligence between the occupation of mother among higher secondary school students.

**HYPOTHESIS 12:**

There will be a significant relationship between social intelligence and achievement in English among higher secondary school students.
Table 27: Correlation(r) value between social intelligence and achievement in English among higher secondary school students.

| S.No | Variable                              | N   | r- value | Sig.             |
|------|---------------------------------------|-----|----------|------------------|
| 1    | Social Intelligence                    | 300 | -0.218   | Significant At 0.05 level |
| 2    | Academic Achievement in English        |     |          |                  |

The table 27 concluded that the calculated r-value -0.218 is less than the tabulated r-value 0.811 at 0.05 level. Hence the correlation is not significant. The result inferred that there is no significant relationship between social intelligence and achievement in English among higher secondary school students.

3. Conclusion

- There is no significant difference towards social intelligence between medium of instruction among higher secondary school students.
- There is a significant difference towards achievement in English between medium of instruction among higher secondary school students.
- There is no significant difference towards social intelligence between gender among higher secondary school students.
- There is a significant difference towards achievement in English between gender among higher secondary school students.
- There is no significant difference towards social intelligence between location of the school among higher secondary school students.
- There is no significant difference towards achievement in English between location of the school among higher secondary school students.
- There is no significant difference towards social intelligence between the types of school among higher secondary school students.
- There is no significant difference towards social intelligence between the educational qualification of father among higher secondary school students.
- There is a significant difference towards social intelligence between the educational qualification of mother among higher secondary school students.
- There is a significant difference towards social intelligence between the occupation of father among higher secondary school students.
- There is a significant difference towards social intelligence between the occupation of mother among higher secondary school students.
- There is no significant relationship between social intelligence and achievement in English among higher secondary school students.

The investigator found that majority of higher secondary school students social intelligence is low, but the academic achievement is moderate to high. Then the correlation study reveals the relationship between the social intelligence and academic achievement is low. There is no significant relationship between social intelligence and academic achievement. This study shows that students do not find healthy environment in schools for developing their social intelligence.
The schools fail to provide a proper environment to develop better relationship, positive behavior, social skills, positive attitudes, and good mental health in students.

References

[1] Nikose, R. L. (2010). Academic achievement of secondary school tribal students in relation to mental health and intelligence: A correlation study. CTE National Journal, VII (2), 99-104

[2] Pantic, Natasa; Wubbels, Theo (2011). “Competence Based Teacher Education: A Change from ‘Didaktik to Curriculum Culture?” Journal of Curriculum Studies, 44(1), 61-87

[3] Bruhwiler, Christian; Blatchford, Peter (2011). “Effects of Class Size and Adaptive Teaching Competency on Classroom Processes and Academic Outcome”. Institute of Education Sciences, 21(1), 95-108

[4] Thomas, Jeff (2011). “Pre-service Teachers’ Perceptions of Learning Science Methods through Hybridizing Asynchronous and Traditional Experiences”. Contemporary Issues In Technology And Teacher Education, 11(3).