

## INDEX

CONTENT		Page No.
<b>Declaration</b>		<b>i</b>
<b>Certificate</b>		<b>ii</b>
<b>Acknowledgement</b>		<b>iii</b>
<b>Dedication</b>		<b>vii</b>
<b>Index</b>		<b>viii - xvi</b>
<b>List of Tables</b>		<b>xvii - xviii</b>
<b>List of Figures</b>		<b>xix</b>
<b>List of Frames</b>		<b>xix</b>
<b>List of Graphs</b>		<b>xx</b>
<b>List of Appendices</b>		<b>xxi</b>
<b>Abbreviation</b>		<b>xxii</b>
<b>Chapter I: Introduction</b>		<b>1-20</b>
<b>1.0.</b>	Introduction	<b>1</b>
<b>1.1.</b>	Wholistic Education	<b>2</b>
<b>1.2.</b>	Wholistic Approach	<b>4</b>
<b>1.3.</b>	Need of Wholistic Approach	<b>6</b>
<b>1.4.</b>	Wholistic Achievement	<b>7</b>
<b>1.5.</b>	Teacher Education	<b>8</b>
<b>1.5.1.</b>	Pre-Service Teacher Education	<b>9</b>
<b>1.5.2.</b>	Objectives of Pre-Service Teacher Education Programmes	<b>9</b>
<b>1.6.</b>	Importance of Teaching of Science at B.Ed. level	<b>11</b>
<b>1.7.</b>	Present Scenario of Science Education and Science Teaching	<b>11</b>
<b>1.8.</b>	Wholistic ApproachTeacher	<b>12</b>
<b>1.9.</b>	Skills required for Teachers to teach through Wholistic Approach	<b>13</b>
<b>1.10.</b>	Science Education	<b>14</b>
<b>1.11.</b>	Nature of Science	<b>14</b>
<b>1.12.</b>	Aims of Science Education	<b>15</b>
<b>1.13.</b>	Importance of Science in Everyday Life	<b>16</b>

<b>1.14.</b>	Wholistic Approach in Teaching of Science	<b>16</b>
<b>1.15.</b>	Rationale for the Present Study	<b>16</b>
<b>1.16.</b>	Specification of the Problem	<b>18</b>
<b>1.16.1.</b>	Statement of the Problem	<b>18</b>
<b>1.16.2.</b>	Objectives of the Study	<b>18</b>
<b>1.16.3.</b>	Hypotheses of the Study	<b>18</b>
<b>1.16.4.</b>	Operational Definition of the Terms	<b>19</b>
<b>1.16.5.</b>	Explanation of the Term	<b>20</b>
<b>1.16.6.</b>	Delimitations of the study	<b>20</b>
<b>Chapter II: Review of Related Literature</b>		<b>21-71</b>
<b>2.0.</b>	Introduction	<b>21</b>
<b>2.1.</b>	Studies conducted abroad	<b>21</b>
<b>2.1.1.</b>	Studies related to Wholistic Education	<b>21</b>
<b>2.1.2.</b>	Studies related to Wholistic Development	<b>32</b>
<b>2.1.3.</b>	Studies related to Wholistic Approach	<b>37</b>
<b>2.2.</b>	Studies conducted in India	<b>41</b>
<b>2.2.1.</b>	Studies related to Wholistic Education	<b>41</b>
<b>2.2.2.</b>	Studies related to Wholistic Development	<b>43</b>
<b>2.2.3.</b>	Studies related to Wholistic Approach	<b>45</b>
<b>2.3.</b>	Review of Related Studies: Emerging Scenario	<b>47</b>
<b>2.4.</b>	Implications of Reviewed Related Literature for the Present Study	<b>69</b>
<b>Chapter III: Methodology of the Study</b>		<b>72-84</b>
<b>3.0.</b>	Introduction	<b>72</b>
<b>3.1.</b>	Design of the study	<b>72</b>
<b>3.2.</b>	Population of the study	<b>72</b>
<b>3.3.</b>	Sample of the study	<b>73</b>
<b>3.4.</b>	Plan and Procedure of the study	<b>73</b>
<b>3.5.</b>	Phases of the study	<b>75</b>
<b>3.5.1.</b>	Preparation of Knowledge and Skill Check up	<b>75</b>
<b>3.5.2.</b>	Selection of Story	<b>75</b>
<b>3.5.3.</b>	Preparation of Crossword Puzzle	<b>75</b>

3.5.4.	Development of Orientation Programme	76
3.5.5.	Development of Intervention Programme	77
3.5.6.	Implementation of the Intervention Programme	77
3.6.	Tools and Techniques for Data Collection	80
3.6.1.	Knowledge and Skills Check up	80
3.6.2.	Story	80
3.6.3.	Crossword Puzzle	80
3.6.4.	Group Discussion	80
3.6.5.	Observation Schedule	81
3.6.6.	Focused Group Discussion	81
3.6.7.	Interview Schedule	81
3.6.8.	Reaction Scale	81
3.6.9.	Tools and Techniques Objective-wise	82
3.7.	Data Collection	82
3.8.	Data Analysis	83
3.8.1.	Data Analysis Techniques Employed Objective-wise	83
<b>Chapter IV:Development and Implementation of Orientation Programme and Intervention Programme</b>		<b>85-137</b>
4.0.	Introduction	85
4.1.	Development of Orientation Programme	85
4.2.	Orientation Programme	85
4.2.1.	What is the meaning of ‘Whole’?	85
4.2.2.	What is the meaning of ‘Wholistic’?	86
4.2.3.	What is Wholistic Education?	86
4.2.4.	What is all round development / Wholistic Development?	87
4.2.5.	How can you develop a child as a whole?	87
4.2.6.	Need of Wholistic Approach	87
4.2.7.	What is Wholistic Approach?	88
4.2.8.	Skills required for Teacher to teach through Wholistic Approach	88
4.2.8.1.	Perception Skill	88
4.2.8.2.	Cognitive skill	88

4.2.8.3.	Psychomotor skill	88
4.2.8.4.	Life skill	88
4.2.8.5.	Health and Environment Awareness Skill	89
4.2.8.6.	Skill of Spiritual Development	89
4.2.9.	Elements of Wholistic Approach for Wholistic Education	89
4.2.10.	Taxonomy of Educational Objectives: Cognitive Domain	90
4.2.11.	Taxonomy of Educational Objectives: Affective Domain	94
4.2.12.	Taxonomy of Educational Objectives: Psychomotor Domain	95
4.2.13	Taxonomy of Educational Objectives: Spiritual Domain	96
4.2.14.	Taxonomy of Educational Objectives: Health & Environment	96
4.3.	Development of Intervention Programme	96
4.4.	Implementation of Orientation Programme	97
4.4.1.	Objectives of Orientation Programme	97
4.4.2.	Orientation Programme	97
4.5.	Implementation of Intervention Programme	98
4.6	Format for lesson plans designed through Wholistic Approach	135
<b>Chapter V:Data Analysis and Interpretation</b>		<b>138-177</b>
5.0.	Introduction	138
5.1.	Objective wise Analysis and Interpretation	138
5.1.1.	Objective No. 2	138
5.1.2.	Hypotheses of the Study	138
5.1.3.	Knowledge and Skill Check up	138
5.1.4.	Data Collection	138
5.1.5.	Data Analysis	139
5.1.5.1.	Analysis of close ended items of Knowledge and Skill Check up of the Student Teachers of Navrachana School of Science and Education	139
5.1.5.2.	Interpretation of close ended items of Knowledge and Skill Check up of the Student Teachers of Navrachana	139

	School of Science and Education	
<b>5.1.5.3.</b>	Analysis of close ended items of Knowledge and Skill Check up of the Student Teachers of Waymade College of Education	<b>140</b>
<b>5.1.5.4.</b>	Interpretation of close ended items of Knowledge and Skill Check up of the Student Teachers of Waymade College of Education	<b>140</b>
<b>5.1.5.5.</b>	Analysis of open ended items of Knowledge and Skill Check up of the Student Teachers	<b>141</b>
<b>5.1.5.5.1.</b>	Define Spiritual Education in your words	<b>141</b>
<b>5.1.5.5.2.</b>	Which Spiritual Qualities should be inculcated in a child?	<b>142</b>
<b>5.1.6.</b>	Objective No. 2	<b>142</b>
<b>5.1.7.</b>	Story	<b>142</b>
<b>5.1.8.</b>	Data Collection	<b>142</b>
<b>5.1.9.</b>	Data Analysis	<b>143</b>
<b>5.1.9.1.</b>	Spiritual Attributes and Moral of the story	<b>143</b>
<b>5.1.10.</b>	Objective No. 2	<b>143</b>
<b>5.1.11.</b>	Crossword Puzzle	<b>143</b>
<b>5.1.12.</b>	Data Collection	<b>144</b>
<b>5.1.13.</b>	Data Analysis	<b>144</b>
<b>5.1.13.1.</b>	Scores obtained of the Student Teachers of Navrachana School of Science and Education on Crossword Puzzles	<b>144</b>
<b>5.1.13.2.</b>	Mean, Mode, Median of the Student Teachers on Crossword Puzzle of Navrachana School of Science and Education	<b>145</b>
<b>5.1.13.3.</b>	High and Low Scores of the Student Teachers on Crosswords Puzzles of Navrachana School of Science and Education	<b>145</b>
<b>5.1.13.4.</b>	Q1, Q2, Q3, and Q4 values of the Student Teachers on Crossword Puzzles of Navrachana School of Science and Education	<b>145</b>
<b>5.1.13.5.</b>	O-give Curve of the Student Teachers on Crossword Puzzle of Navrachana School of Science and Education	<b>146</b>

<b>5.1.13.6.</b>	Interpretation on Crossword Puzzle of the Student Teachers of Navrachana School of Science and Education	<b>147</b>
<b>5.1.13.7.</b>	Scores obtained of the Student Teachers of Waymade College of Education on Crossword Puzzles	<b>147</b>
<b>5.1.13.8.</b>	Mean, Mode, Median of the Student Teachers on Crossword Puzzle of Waymade College of Education	<b>148</b>
<b>5.1.13.9.</b>	High and Low Scores of the Student Teachers on Crosswords Puzzles of Waymade College of Education	<b>148</b>
<b>5.1.13.10.</b>	Q1, Q2, Q3, and Q4 values of the Student Teachers on Crossword Puzzles of Waymade College of Education	<b>149</b>
<b>5.1.13.11.</b>	O-give Curve of the Student Teachers on Crossword Puzzle of Waymade College of Education	<b>149</b>
<b>5.1.13.12.</b>	Interpretation on Crossword Puzzle of the Student Teachers of Waymade College of Education	<b>150</b>
<b>5.1.14.</b>	Objective No. 2	<b>151</b>
<b>5.1.15.</b>	Group Discussion	<b>151</b>
<b>5.1.16.</b>	Data Collection	<b>151</b>
<b>5.1.17.</b>	Data Analysis	<b>151</b>
<b>5.1.18.</b>	Objective No. 2	<b>151</b>
<b>5.1.19.</b>	Observation Schedule	<b>151</b>
<b>5.1.20.</b>	Data Collection	<b>152</b>
<b>5.1.21.</b>	Data Analysis	<b>152</b>
<b>5.1.21.1.</b>	Scores obtained, Percentage and % Mean Score of the Student teachers on Cognitive, Affective, Psychomotor, Spiritual, Health & Environment Domains, Total on all Domains and Wholistic Flow of the Student Teachers of Navrachana School of Science and Education on Observation Schedule	<b>152</b>
<b>5.1.21.2.</b>	Graph of % Cognitive, % Affective, % Psychomotor, % Spiritual and % Health & Environment Domains of the Student Teachers of Navrachana School of Science and Education on Observation Schedule	<b>154</b>
<b>5.1.21.3.</b>	Graph of % Total on all domains and % Wholistic Flow	<b>155</b>

	ofthe Student Teachers of Navrachana School of Science and Education on Observation Schedule	
<b>5.1.21.4.</b>	Interpretation of the Student Teachersof Navrachana School of Science and Education onObservation Schedule	<b>156</b>
<b>5.1.21.5.</b>	Scores obtained, Percentage and % Mean Score of Cognitive, Affective, Psychomotor, Spiritual, Health & Environment Domains, Total on all Domains and Wholistic Flow of the Student Teachersof Waymade College of Education on Observation Schedule	<b>156</b>
<b>5.1.21.6.</b>	Graph of % Cognitive, % Affective, % Psychomotor, % Spiritual and % Health & Environment Domains of the Student Teachersof Waymade College of Education on Observation Schedule	<b>158</b>
<b>5.1.21.7.</b>	Graph of % Total on all domains and % Wholistic Flow ofthe Student Teachersof Waymade College of Education on Observation Schedule	<b>159</b>
<b>5.1.21.8.</b>	Interpretation of Observation Schedule ofthe Student Teachers of Waymade College of Education	<b>160</b>
<b>5.1.22.</b>	Objective No. 2	<b>160</b>
<b>5.1.23.</b>	Focused Group Discussion	<b>160</b>
<b>5.1.24.</b>	Data Collection	<b>160</b>
<b>5.1.25.</b>	Data Analysis	<b>160</b>
<b>5.1.25.1.</b>	Content Analysis of Focused Group Discussion	<b>161</b>
<b>5.1.26.</b>	Objective No. 2	<b>162</b>
<b>5.1.27.</b>	Interview Schedule	<b>162</b>
<b>5.1.28.</b>	Data Collection	<b>162</b>
<b>5.1.29.</b>	Data Analysis	<b>162</b>
<b>5.1.30.</b>	Objective No. 3	<b>165</b>
<b>5.1.31.</b>	Hypothesis	<b>166</b>
<b>5.1.32.</b>	Reaction Scale	<b>166</b>
<b>5.1.33.</b>	Data Collection	<b>166</b>
<b>5.1.34.</b>	Data Analysis	<b>166</b>
<b>5.1.34.1.</b>	Frequency, Percentage and chi-square on Reaction	<b>166</b>

	Scale of the Student Teachers with respect to Navrachana School of Science and Education	
<b>5.1.34.2.</b>	Interpretation of the Data Collected of the Student Teachers of Navrachana School of Science and Education through the Reaction Scale	<b>171</b>
<b>5.1.34.3.</b>	Frequency, Percentage and chi-square on Reaction Scale of the Student Teachers with respect to Waymade College of Education	<b>172</b>
<b>5.1.34.4.</b>	Interpretation of the Data Collected of the Student Teachers of Waymade College of Education for data collected through Reaction Scale	<b>177</b>
<b>Chapter VI: Summary, Discussion and Implication</b>		<b>178 – 207</b>
<b>6.0.</b>	Introduction	<b>178</b>
<b>6.1.</b>	Wholistic Education	<b>179</b>
<b>6.2.</b>	Wholistic Approach	<b>180</b>
<b>6.3.</b>	Need of Wholistic Approach	<b>182</b>
<b>6.4.</b>	Wholistic Achievement	<b>183</b>
<b>6.5.</b>	Teacher Education	<b>184</b>
<b>6.6.</b>	Importance of Teaching of Science at B.Ed. level	<b>185</b>
<b>6.7.</b>	Present Scenario of Science Education and Science Teaching	<b>185</b>
<b>6.8.</b>	Wholistic Approach Teacher	<b>187</b>
<b>6.9.</b>	Skills required for Teachers to teach through Wholistic Approach	<b>187</b>
<b>6.10.</b>	Science Education	<b>188</b>
<b>6.11.</b>	Nature of Science	<b>189</b>
<b>6.12.</b>	Aims of Science Education	<b>189</b>
<b>6.13.</b>	Importance of Science in Everyday Life	<b>190</b>
<b>6.14.</b>	Wholistic Approach in Teaching of Science	<b>190</b>
<b>6.15.</b>	Implications of Reviewed Related Literature for the Present Study	<b>191</b>
<b>6.16.</b>	Rationale for the Present Study	<b>193</b>



<b>6.17.</b>	Present Study	<b>195</b>
<b>6.18.</b>	Objectives of the Study	<b>195</b>
<b>6.19.</b>	Hypotheses of the Study	<b>195</b>
<b>6.20.</b>	Operational Definition of the Terms	<b>195</b>
<b>6.21.</b>	Explanation of the Term	<b>196</b>
<b>6.22.</b>	Delimitations of the Study	<b>196</b>
<b>6.23.</b>	Methodology of the Study	<b>197</b>
<b>6.23.1.</b>	Design of the Study	<b>197</b>
<b>6.23.2.</b>	Population of the Study	<b>197</b>
<b>6.23.3.</b>	Sample of the Study	<b>197</b>
<b>6.24.</b>	Plan and Procedure of the Study	<b>198</b>
<b>6.25.</b>	Tools and Techniques for Data Collection	<b>199</b>
<b>6.25.1.</b>	Knowledge and Skills Check up (KSC)	<b>199</b>
<b>6.25.2.</b>	Story	<b>200</b>
<b>6.25.3.</b>	Crossword Puzzle	<b>200</b>
<b>6.25.4.</b>	Group Discussion	<b>200</b>
<b>6.25.5.</b>	Observation Schedule	<b>200</b>
<b>6.25.6.</b>	Focused Group Discussion	<b>201</b>
<b>6.25.7.</b>	Interview Schedule	<b>201</b>
<b>6.25.8.</b>	Reaction Scale	<b>201</b>
<b>6.26.</b>	Data Collection	<b>201</b>
<b>6.27.</b>	Data Analysis	<b>202</b>
<b>6.27.1.</b>	Tools /Techniques for Data Analysis and Analysis Techniques Employed Objective-wise	<b>203</b>
<b>6.28.</b>	Findings of the Study	<b>203</b>
<b>6.29.</b>	Discussion	<b>204</b>
<b>6.30.</b>	Implications of the Present Study	<b>206</b>
<b>6.31.</b>	Suggestions for Further Research	<b>206</b>
<b>6.32.</b>	Conclusion	<b>207</b>
<b>Bibliography</b>		<b>xxiii – xxx</b>
<b>Webliography</b>		<b>Xxxi</b>
<b>Appendices</b>		